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COMPETITION IN THE NEW ELECTRONIC MARKET

HEARINGS

BEFORE THE

SUBCOMMITTEE ON FINANCE AND HAZARDOUS MATERIALS

OF THE

COMMITTEE ON COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTH CONGRESS

SECOND SESSION

PART I—MARCH 29, 2000
PART II—MAY 11, 2000

Serial No. 106–111

Printed for the use of the Committee on Commerce

U.S. GOVERNMENT PRINTING OFFICE
63–803CC WASHINGTON : 2000

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COMPETITION IN THE NEW ELECTRONIC MARKET: PART I

WEDNESDAY, MARCH 29, 2000

HOUSE OF REPRESENTATIVES,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON FINANCE AND HAZARDOUS MATERIALS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2123, Rayburn House Office Building, Hon. Michael G. Oxley (chairman) presiding.

Members present: Representatives Oxley, Tauzin, Gillmor, Bilbray, Ganske, Shimkus, Wilson, Fossella, Ehrlich, Towns, Engel, Barrett, Luther, Capps, Markey, and Rush.

Also present: Representatives Burr and Rogan.

Staff present: David Cavicke, majority counsel, Linda Dallas Rich, majority counsel; Brian McCullough, professional staff; Robert Simison, legislative clerk; and Consuela Washington, minority counsel.

Mr. OXLEY. The subcommittee will come to order. The Chair will recognize himself for an opening statement.

Technology is changing our lives dramatically as our economy continues to evolve into an information-based society. In one decade, we realize the tangible benefits of the convergence of telecommunications, the computer industry and the emergence of the Internet. Wireless technology allows us to communicate, conduct commerce through cell phones or hand-held PCs and perform other tasks with breathtaking efficiency. Information is easier to access than we could have ever imagined just a few years back. The Internet is providing global competition that has lowered cost to consumers and businesses.

Our capital markets are experiencing a similar technological evolution. Better and more readily available information is changing the composition of the markets. Self-directed investors now have access to securities professionals research analysis graphs and quotes from which they can make informed decisions. Not to commend any particular market participants' TV commercials, but you know the world has changed when you see Ringo Starr talking about asset allocation and portfolio diversification.

Today we begin a series of hearings on competition in the new electronic marketplace. This is a subject that is as challenging and as interesting as anything we have examined in this subcommittee heretofore. Just a couple of years ago, electronic communication by the Internet and through the proprietary systems of electronic communications networks, or ECNs, began a revolutionary and aston-

ishingly rapid transformation of our financial markets. Even before the advent of the Internet, technology fostered competition within the markets. Technology led to the development of the dealer market, which was conceived as an alternative to the traditional auction market of the exchanges. That competition has served the markets well.

More recently, the emergence of ECNs has provided additional competition in the markets and a possible glimpse into the future. ECNs vary in their business models, but all offer an alternative trading mechanism for investors to execute their trades. ECNs provide investors with many benefits, including reduced trading costs, faster execution and more choices of where to trade stock. Some commentators have raised concerns that multiple venues competing for order flow will fragment the market, but couldn't fragmentation be just another word for competition? This is an issue that we will learn more about through the hearing.

The markets will determine the best price available for a stock. One of our jobs here in Congress is to make sure that the rules that govern our markets allow price discovery to happen in the fairest and most efficient way. I believe competition should determine the best structure for the financial markets. The government is notoriously bad at predicting the future and designing marketplace or picking winners and losers. What we can do is make sure that the rules we have put into place foster competition, not monopolistic behavior.

I look forward to learning about how ECNs are reshaping our markets. One of the questions that has been raised is whether multiple markets can function efficiently in a market in which they are competing for liquidity. While ECNs initially catered to institutional clients, we are seeing a move into the retail marketplace. I look forward to learning more about these developments as well as how these trading models compare with the traditional auction and dealer markets. We will hear from these traditional markets at an upcoming hearing on this subject. I am pleased to welcome today's witnesses who hail from four very different ECNs, and I will introduce them before they begin their testimony.

The Chair yields the balance of his time and now recognizes the ranking member, the gentleman from New York, Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Let me also thank you for holding this very important hearing. The U.S. securities markets, which is the heart of the subcommittee's jurisdiction, is undergoing rapid change. While I do not believe that any legislative action is necessary to address these revolutionary changes at this time, I do think that it is vital for the subcommittee to closely monitor these changes. We must educate ourselves on changes in the market and responsible oversight over the SEC's responses to these changes. We must ensure that neither our actions nor the actions of the SEC accidentally threatens the phenomenal success of the U.S. securities markets, which just happens to be centered in New York City, which I happen to be from. That is an important issue.

I have not reached any conclusion on many of these issues raised by the fundamental changes of our securities markets. However, I have followed the debate on these issues with interest. For exam-

ple, some have stated that the changes in the securities markets require the introduction of a central limit order book. This contention raises a number of questions in my mind. Who would set the rules of a CLOB? Who would enforce these rules? Would a CLOB deter innovation? The kind of innovation that is changing our markets for the better today?

We need to be concerned about that. Would all customers' orders or just retail orders be required to be submitted to a CLOB? If only retail orders must be submitted to a CLOB, would this disadvantage these customers? I think these questions need to be answered, Mr. Chairman, and I think we need to get answers on these questions before we move forward. Would it threaten the extremely high level of retail participation that make our securities markets the envy of the world?

There has also been much discussion of the role of ITS, the intermarket trading system. In the future, again, I haven't come to any conclusion, Mr. Chairman, but I do have many questions. As I understand it, ITS was created at a time when there was no linkage between securities markets at all. ITS made it possible for broker-dealers to ensure that they were getting the best price for their customers. In a way, the markets relieved broker-dealers from their best execution obligation. While ITS technology has advanced, questions still remain, many questions. Is the technology available today for broker-dealers to take complete responsibility for fulfilling their best execution obligation without the help of ITS? If it isn't available, will it be available soon? How will this change the debate about the structure of ITS? And even the need for ITS.

Again, Mr. Chairman, thank you for calling this hearing. I look forward to the testimony of the witnesses today, and at the other hearing that I understand that you intend to call in the very near future, and I think that it is important that we do have that hearing because we are dealing with a situation where there is a lot of changes, and I think we need to be on top of them, and I don't think that we need to do something without really having all of the information before we move forward.

Thank you, Mr. Chairman, for having these hearings.

Mr. OXLEY. Are there any other opening statements?

Hearing none——

Mr. SHIMKUS. Mr. Chairman.

Mr. OXLEY. The gentleman from Illinois.

Mr. SHIMKUS. I think this hearing is timely and I have to remark about the young pups we have now testifying who are CEOs and presidents of these companies. I think that really speaks to the industry. So the basic question we have to ask is does the existing regulatory structure encourage or discourage and questions of safety and soundness. I appreciate you all coming, and I yield back the balance of my time.

[Additional statements submitted for the record follow:]

PREPARED STATEMENT OF HON. W.J. "BILLY" TAUZIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF LOUISIANA

Thank you Mr. Chairman.

With the advent of the Internet, we have seen an unprecedented growth of new goods and services that Americans have simply never had before.

There are, of course, many benefits to the array of new choices now provided in competitive marketplaces, but what excites me most about the way new technologies are changing our lives is that now, more than ever, the American consumer is empowered to make *fully informed* purchasing and investing decisions.

There is no denying that the Internet is transforming traditional relationships between merchant and buyer . . . between fiduciary and beneficiary . . . and between institutional investors, issuers, retail investors, and securities exchanges.

In telecommunications marketplaces, the deployment of "backbone infrastructure," "advanced data services over DSL lines and cable modems," "interactive software," and "fixed and mobile wireless technologies," has, ALMOST OVERNIGHT, given life to an e-commerce kingdom over which the consumer reigns. Today, consumers can access tremendous amounts of quality content . . . run businesses . . . shop at almost any store . . . communicate with friends, family, and colleagues ALL WITHOUT LEAVING HOME.

In the securities marketplace, we are finding that a similar phenomenon is taking place. Because of the Internet, retail investors can now trade securities at home without paying traditional commissions, they can access analyst research reports that were once available only to institutional investors, and they can also now invest in new IPOs at initial offering prices as opposed to higher prices resulting from trading in secondary markets.

The point I'm trying to make here is that now, more than ever, new technological advances, as well as Internet-centric business models, are forcing us to re-examine the roles played by market intermediaries who for so long have dictated the pace of business . . . of investing.

Today, we are here to learn more about the way that the so-called "ECNs" (Electronic Communication networks) are implementing changes in securities markets. Like nothing we have seen before, ECNs provide a forum for online trading of stocks, derivatives, and options by capitalizing upon recent advances in computing power and bandwidth capacity.

The ECNs (Electronic Commerce Network) are slowly but surely allowing investors to buy securities from and sell securities to one another in true auction fashion without having to go through broker-dealers to execute trades and without having to buy or sell at a price listed on an exchange.

Because of what they propose to do, ECNs, are no doubt, exciting new creations of technological advance, and I am looking forward to hearing more about them from our witnesses today.

However, I want to point out that we have to proceed with caution when we begin discussing altering life as we know it. While I am very interested in bringing full investing choice to investors via new trading forums, it is not time to simply disregard the undeniable value and importance of current market intermediaries, such as broker-dealers registered with the NASD and the exchanges.

For purposes of this debate, it is important for me, and for all the members of this Committee, to understand the full impact of sweeping market structure changes sought at this point before we can completely pass judgment on the pending ECN applications for exchange status.

Ultimately, we have to rely on our process to come up with a recommendation to the SEC that enables new trading opportunities for retail investors while affording a fair degree of deference to longstanding NASD and NYSE policies at the same time.

With that, Mr. Chairman, I yield back. Thank you.

PREPARED STATEMENT OF HON. TOM BLILEY, CHAIRMAN, COMMITTEE ON COMMERCE

Good morning, thank you Chairman Oxley. The youth on the panel before us at today's hearing is a testament to the changes new technology has brought to our markets. New ideas are transforming the marketplace in ways that would have been unimaginable a few years ago.

Indeed innovation is an engine that will outdo even the most visionary of prophets. Theodore Vail, the chairman of AT&T at the turn of the century, had the dream of a phone in every town in America. *That* was thinking big. He could not have imagined that folks in our hearing room today would be carrying a phone in their pocket—never mind that that phone would not only make calls but also access the Internet, e-mail, and heaven knows what else by now.

What is happening in our financial markets today reminds me of the change in our telecommunications markets after the enactment of the Telecommunications Act. New entrants to the marketplace had been stymied by regulatory barriers that impeded fair competition. Our Committee developed the Act to eliminate those bar-

riers. As a result, new entrants are flourishing, and old stalwarts are being forced to innovate.

Today, new entrants to our financial marketplace are shaking up the status quo. The standard-bearers are innovating. Technological advances and new trading mechanisms are improving price discovery and the quality of trade executions. Our markets—and investors—are thriving.

But, there is work to be done to ensure that market forces and innovation in the financial marketplace are not hampered by old regulations. As one of our witnesses today notes, back in 1975 Congress instructed the Securities and Exchange Commission, in developing a National Market System, that "competition, rather than regulation, should be the guiding force." Those are words to live by.

I believe we should examine the need for regulatory changes in order to free up the forces of competition. For example, I am curious to learn more about the impact of changing the rules that limit membership in the Intermarket Trading System. Today, the ITS does not include representation by non-exchange marketplaces. And any single member can veto proposed rule changes. Is this really the best structure for our modern financial markets?

No blueprint exists for the marketplace of the future. Our task is to ensure that rules allow the best marketplace to evolve. We may not be able to imagine what the world will be like when "a phone in every pocket" sounds as quaint as "a phone in every town." But we can take action to make sure the rules are flexible enough to work in years to come.

I thank our witnesses today for participating in this most important initiative of the Subcommittee, and look forward to hearing from the exchanges and other market participants who will be testifying at our subsequent hearings.

Mr. OXLEY. The Chair would now recognize a distinguished visitor from another subcommittee, the gentleman from North Carolina, for the purposes of introducing one of our witnesses.

Mr. BURR. I thank the Chair for the opportunity to be here. I am amazed that the gentleman from Illinois would compare the age of the chairman to our witnesses in calling them young pups, only in comparison to the chairman's age. That would never happen in another subcommittee.

Mr. OXLEY. That is why you're not on this subcommittee.

Mr. BURR. I think clearly the world is changing, as everybody has said in their opening statements. There is a North Carolina influence to that, Shawn Dorsch. Shawn is the founder, president, COO of Blackbird in Charlotte, North Carolina. He was a former derivative and technology expert at J.P. Morgan and First Union Bank. He has an degree in economics from North Carolina State University and I am surprised after last night's game in the NIT semifinals, since I am a Wake graduate, he is allowing me to introduce him. Blackbird was co-founded in 1996 by Shawn Dorsch and Raymond May. Clearly it is a new and emerging business. It is the first system of its kind and has significant momentum in the marketplace having signed up 32 financial institutions as customers.

Blackbird offers its customers a number of advantages, including significantly lower fees, superior execution, increased market liquidity and greater operational efficiency. Gosh, I hope we stay out of the way of what they are accomplishing. Blackbird was designed with input from leading derivative dealers. Blackbird is now setting its sites on revolutionizing the global market by opening offices in London and Tokyo later this year.

Mr. Chairman, thank you for having this hearing and more importantly, thank you for inviting who I believe is one of the best, and I welcome Shawn.

Mr. OXLEY. I thank the gentleman. Let me now introduce with a lot less fanfare the rest of the panel. Mr. Matthew Andresen, president of The Island ECN. Mr. Kevin Foley of Bloomberg

Tradebook, the aforementioned Mr. Dorsch from Blackbird, and Mr. John Schaible, founder and president of NexTrade. Gentlemen, thank you for your appearance today. I see we are going to have some interactive participation here which is always good for the committee. We always enjoy that. We will begin with Mr. Andresen.

STATEMENTS OF MATTHEW ANDRESEN, PRESIDENT, THE ISLAND ECN; KEVIN FOLEY, CEO, BLOOMBERG TRADEBOOK; SHAWN A. DORSCH, PRESIDENT AND COO, DNI HOLDINGS, INC.; AND JOHN M. SCHAIBLE, FOUNDER AND PRESIDENT, NEXTRADE

Mr. TOWNS. Mr. Chairman, may I interrupt for 1 second. We have two New Yorkers on here, and when I am chairman next year, I am going to allow you to introduce panel members from your State.

Mr. OXLEY. If you had just asked.

Mr. Andresen.

Mr. ANDRESEN. I would like to thank Chairman Oxley and members of the subcommittee for holding these important and timely hearings on the structure and the future of our equity markets. As this subcommittee begins its deliberations on these critical public policy issues, we have already heard two distinct proposals.

On the one hand, the traditional human intermediaries, uneasy with the effects of enhanced competition, have called for direct Federal intervention to create a new central public utility in our dynamic markets.

On the other hand, the new electronic markets like Island have led the charge to instead knock down the remaining historic barriers to competition, thereby bringing the benefits of speed, reliability and transparency that have defined the ECN model to the market for New York Stock Exchange listed stocks.

My name is Matt Andresen and I am the president of The Island. We are a network of over 290 brokerage firms trading over 200 million shares a day. Island does 12 percent of NASDAQ's trades. That is one in every eight transactions. Last year Island matched over 26 billion shares of stock directly without the spread or time loss associated with traditional market participants. These shares accounted for a dollar amount last year of $1.6 trillion. At this time we have unprecedented numbers of investors in the marketplace, as noted by the distinguished members already, in 1980 only one in 10 Americans participated in our markets.

Today that number is over 52 percent. While these investors have new-found access to market research and market data, some proposed taking a giant step backwards from these innovations by calling for a central limit order book or so-called CLOB. Its advocates claim that the CLOB would cure the fragmentation allegedly attributable to those in front of you today. I argue that ECNs have, in fact, consolidated the markets. If you look at the stock market in 1996 before ECNs, the top four participants on NASDAQ accounted for 40 percent of the volume. Yet now in this era of enhanced competition and alleged fragmentation, the top four participants on NASDAQ now account for over 60 percent of the volume illustrating the degree to which open competition facilitates inves-

tors consolidating in the most efficient place. What would the effect be of a government-installed CLOB? One of the most immediate effects would be to eliminate a market participant's ability to compete on the basis of speed, reliability and cost, in essence, dumbing down the innovative technology, which has so benefited investors.

It is precisely because of these advantages that investors have voted with their feet now sending one out of every 3 NASDAQ trades to ECNs. What can we do to extend this competitive environment on NASDAQ to the market for New York Stock Exchange listed stocks where competition does not now exist? There is perhaps no better place to start than with the 1975 congressional mandate for the creation of a National Market System which gives us the road map. Congress called for the meeting of two goals: No. 1, competition between marketplaces; No. 2, accessibility of information to investors.

Today consistent with this mandate, ECNs have their best prices included in the NASDAQ quote. Island actually goes so far as to not only include this best price to NASDAQ, but actually to give all of their prices at all of the price levels out over the Internet for anyone with a browser. As Chairman Levitt noted last week, it is terribly important not just to show investors the tip of the iceberg, but also the entire iceberg under the water, show them the depth of all of the supply and demand. We have a demonstration that we will go through in the Q and A, which shows how someone who has access to the Internet can have access to the information heretofore, the province only of traditional market participants.

Isn't it ironic that 25 years later the industries' very initiatives put in place to meet these two congressional goals are the very historical franchises now preventing competition. Island is not able to compete in the market for New York Stock Exchange listed stocks and is unable to provide their information to investors.

Mr. Chairman, it is an honor to have had this chance to present Island's perspective on these critical public policy issues. These hearings present all of us with a compelling opportunity to shape the future of our Nation's equity markets and ensure their continued strength and prosperity. We must be wary of those proposals, which too quickly embrace Federal intervention in our free markets and commit us to risky regulatory schemes. We must not squander the position of financial strength that we have achieved at great cost and commitment over the past two centuries. Instead, let us work toward greater openness and greater transparency and greater accountability in the market. There is too much at stake to do otherwise. Thank you.

[The prepared statement of Matthew Andresen follows:]

PREPARED STATEMENT OF MATTHEW ANDRESEN, PRESIDENT, THE ISLAND ECN

I commend the Chairman and the Members of the House Commerce Finance and Hazardous Materials Subcommittee for holding these hearings on the future of our Nation's equity markets and the benefits of electronic markets. Electronic markets—fueled by the revolution in communications and computing power—are today driving some of the most profound developments in the history of markets and investing. Most significantly, we are witnessing a rapid and sweeping democratization of the markets. As a result of these changes, we have an historic opportunity to create fairer, more competitive markets and ensure that America's role as the financial center of the world continues into the next millennium.

As the pioneer in bringing the advantages of electronic markets to individual investors, Island greatly appreciates the opportunity to share its views on these important public-policy issues. Recent events, including the publication of the SEC Concept Release on fragmentation, present all of us with the chance to discuss several proposed dramatic changes to the structure and operation of our markets. As SEC Chairman Arthur Levitt stated in his Northwestern University speech last week, today's debate is really about "how best to let unburdened competition and unbridled innovation drive the future of the market. It is a debate about how best to equip our markets to compete and win in an increasingly globalized electronic marketplace."

The success of our markets is based on innovation spurred by competition. By remaining committed to such entrepreneurial capitalism, we can secure and extend our global, financial leadership role. Yet some in today's debate have chosen an alternative model: their uneasiness with the effects of enhanced competition prompts them to seek Federal intervention in the marketplace. For example, the proposed consolidated limit order book would eliminate the incentive for different marketplaces to innovate and deliver superior technology and service. Such a monopolistic utility would certainly fail to meet the investor's needs.

Consequently, we urge the Committee to resist embracing any of the proposed risky regulatory schemes, and instead seize the chance to strengthen our markets by unleashing greater competition. I look forward today to beginning a dialogue with the Committee about knocking down the remaining barriers to competition between markets; bringing the benefits of cutting-edge technology into the marketplace; and empowering the individual investor with greater access to the market.

THE ISLAND STORY

I am Matthew Andresen, President of The Island ECN ("Island"). Island is an automated trading system for equity securities. It gives brokers the power to electronically display customer orders. We function as a pure auction market—directly matching buy and sell orders. We currently have more than 280 broker-dealer subscribers. Island was founded approximately three years ago with the intent of providing all market participants—from individual investors to large financial institutions—with the ability to execute transactions on a level playing field, at an extremely low cost without the presence of intermediaries or dealers.

On an average day, Island trades over 200 million shares—approximately 12 percent of the transaction volume on Nasdaq. We keep our market open every trading day, from 8am-8pm. All this is done on a single, off-the-shelf Dell computer about the size of a large briefcase. For the year 1999, Island trading volume was over 26.5 billion shares, with a total dollar volume of $1.56 trillion. Overall, Electronic Communications Networks (so-called ECNs) account for approximately 30 percent of the Nasdaq average daily transaction volume.

The Island story—from our founding to the present day—is about fighting for a chance to compete in new markets and allowing investors to vote with their feet. If we cannot offer a better product, then we should be out of business. Fortunately, investors have welcomed our products and services, and Island has enjoyed explosive growth. For example, we heard investors ask for greater flexibility in managing their finances, and we delivered our superior services earlier and later each trading day. Specifically, Island's extended-hours trading session (8am-9:30am. And 4pm-8pm) began mid-1999 with only about 1 million shares traded; today, we are regularly doing over 20 million shares during this session—when the traditional markets are closed, Island is open for business. For these reasons, Mr. Chairman, I doubt you'll find a witness today who is a greater champion—or beneficiary—of our Nation's free markets and the individual's unfettered right to profit from hard work and innovation.

I learned early in my financial career that there are two things you can never overestimate: the amount of market information denied the individual investor, and the eagerness with which the investor uses this information once provided. Virtually right out of college and needing a job, I initially landed at the commodities desk of a major New York investment bank. Yet I found myself frustrated and disturbed by many of the market's hidebound operations and the market professionals' advantages over the individual investor. Needless to say, I was not long in that job.

Soon thereafter, I was fortunate enough to meet some brilliant software programmers at Island—individuals who grasped a magnificently simple and elegant truth: the markets could be made far more rationale and fair if investors were allowed access to the same sorts of information uniquely available to market professionals. Not only would our markets be strengthened and investors derive more value, but there would be an unprecedented degree of accountability, openness, and transparency.

On my first day as President of Island, I walked into the office—and we were, literally, just four employees in one office—with little more than a passion for market structure and a steadfast commitment to cracking wide open the monopoly on information enjoyed by market professionals at the expense of the individual investor.

We watched carefully as investors consumed real-time market data for the first time. And we recalled how many market professionals had insisted that such "arcane" information would be at best a distraction, and probably a nuisance for the investor. How wrong they were. As we know, investors today demand access to real-time data and the latest research reports as well as the ability to enter orders more efficiently and at a fraction of the cost once paid for such transactions. Yet while the investor had been empowered to know what to buy and when to buy it, a key component of this equation has, until recently, been missing: how to buy. That's where Island jumped in.

Traditionally, investors have only been provided with the highest bid and lowest offer in a security. The depth of the market, which gives an indication of the true supply and demand for a security, has been the exclusive province of market professionals. More specifically, what happens to an order after it is placed with your broker? What sort of accountability exists? At Island, we urge investors to ask themselves what just happened to their order after they click on the "Submit" button. After all that thorough and careful research, why is the investor—at this final stage of the process—essentially staring into a black box—or at best a screen with the words "Your Order Has Been Placed."

That lack of accountability—in other words, denial of information to the investor—was unacceptable to us. To provide the best resource possible to the investor, we became the first marketplace to provide a free, real-time display of all its orders, through the Island BookViewer™. Such transparency is precisely what SEC Chairman Levitt recently called for in his Northwestern University speech: "Now is the time to embrace a broader and deeper transparency. Now is the time for all market participants to move toward open books across all markets . . . These are forward looking initiatives that answer the investor's call for greater transparency and more efficient pricing." Island couldn't agree more. That's why orders received by Island for display on the limit order book are immediately visible to anyone with a web browser regardless of whether the order was received from an individual investor or a large institution. Why is this important? Investors can use the additional information provided by Island to more accurately price their orders. The Island BookViewer™ also reduces the informational and temporal advantages traditionally enjoyed by floor brokers, market makers, and specialists. In other words, the average investor is not disadvantaged because of a lack of access to, for example, the floor of an exchange. By eliminating these time and place disparities—in essence, putting the investor "virtually" right next to the market maker or specialist—Island helps lower the hidden costs associated with higher spreads and inferior executions. In fact, according to the Securities and Exchange Commission, spreads—the difference between the highest price to buy and the lowest price to sell—have narrowed substantially since the time ECNs were given access to the Nasdaq market, saving investors hundreds of millions of dollars per year.

Island's mission is to provide investors with an open, transparent market so that they can know precisely what happens to an order after sending it to their broker. Traditionally, the markets have conferred what are called "time-place" advantages on certain of its professionals. For example, the specialist on the floor of the New York Stock Exchange responsible for a specific stock has unique access to all the buy and sell orders for that stock; only that person knows what the true supply and demand is for that stock. Consequently, that individual has both an informational advantage and the opportunity to take advantage of that information in order to make a profit for himself and his firm. A perfectly legal business, but one that clearly leaves the average investor at a disadvantage.

WHEN COMPETITION FAILS, AND WHEN IT WORKS

It is certainly true that much of the Island story is about using technology to provide investors with a more efficient, faster, and lower cost forum for trading. Yet Island's success is much more than a technology story—it is about the tremendous benefits that redound to the investor when our markets compete; when one marketplace can challenge another with a dizzying array of innovations and offer the investor unprecedented opportunities to leverage technological breakthroughs.

As described above, recent advances in computing power and bandwidth deployment made it possible for Island to provide investors with new and powerful re-

sources to access to the marketplace. We simply needed the right legal and regulatory opening to offer our services and roll out our product.

How such an opportunity came about tells us much about how markets succeed and fail. About three years ago, as many on this Committee will recall, Nasdaq was the subject of a scathing Securities and Exchange Commission's 21(a) report about improper market practices; the Justice Department had launched an investigation that revealed widespread collusion and price fixing; and a billion dollar investor, class-action lawsuit against Nasdaq was in the works. More than anything else, the problems plaguing Nasdaq were the unfortunate result of what happens when a marketplace lacks competition. As we now know, Nasdaq was fenced off from any true competition, and the investor had no recourse in terms of finding a better marketplace to seek the best execution. Yet rather than micromanage the overhaul of Nasdaq, the SEC adopted rules (known as the Order Handling Rules) designed to introduce competition and greater transparency into Nasdaq—all of which led directly to the creation of Electronic Communication Networks.

Island seized this opening and offered investors a faster, cheaper, and more reliable forum for trading. From Island's inception, we counted on the fact that investors—when given the choice—would always want a more accessible and transparent marketplace. To reach that goal, we focused on what we considered the glaring gap in the Nasdaq model: the inability of investors to meet directly in the marketplace without having to rely on professional intermediaries.

Moreover, by eliminating the informational disparities discussed above, we built a marketplace that is inherently safer, fairer, and easier to surveil. For example, participants on the floor of an exchange generally possess more trade and order information than the average investor sitting at home. Through surveillance and the implementation of restrictions on the activities of those in the trading crowds, regulators attempt to prevent the misuse of information. As recent events have shown, however, no amount of surveillance or regulation can completely prevent the misuse of information.

ECNs, such as Island, reduce the opportunities for improprieties by eliminating informational disparities. ECNs empower all investors by allowing them to step into a virtual trading crowd and compete directly. Since all orders are delivered to the virtual trading crowd and instantaneously displayed to everyone, no single person has an informational advantage that needs to be regulated or surveilled. That means we have been able to deliver to investors the benefits of lower cost, more transparent, fairer markets, while still complying with strict Commission standards designed to ensure the integrity of our trading systems. Island, for example, must comply with regulatory standards concerning the security, capacity and reliability of our system. In fact, due to its use of the latest, most advanced technology as well as its proprietary architecture, Island has a superb record for reliability and performance. For example, during the past year when the Nasdaq market has periodically experienced system delays due to the tremendous surges in trading volume, Island has never experienced a capacity-related problem. Even during peak trading periods. Island's average turnaround time is approximately three one-hundredths (.03) of a second—exponentially faster than our nearest competitor. By combining the latest technology with our advanced system architecture, Island has created a scalable, robust trading system with virtually no capacity limitations.

Finally, we have never taken our eye off the bottom-line for the investor; we have always believed that any money funneled out of the marketplace—whether to pay for high commissions or to outfit an exchange with brass and mahagony—comes directly out of the investors' pockets. Consequently, Island has sliced its margins razor thin. Island, for example, only receives $.00075 per share per side on every transaction executed on its system; in other words, a trade for 1,000 shares of stock means only seventy-five cents for Island. I like to point this out to my staff when others question our spartan offices—like a recent New Yorker magazine profile noting that we have "upgraded our offices from grungy to nondescript. " I like to believe that there are millions of investors across the country benefiting from the fact that Island has the least stylish offices on Wall Street.

THE FUTURE OF THE MARKETS

Once we have empowered the investor by providing an open and transparent marketplace, there remains one final challenge. How do we unleash these benefits on as wide a scale as possible, without sacrificing investor protection or the integrity of our capital markets? How can we further promote competition between markets and ensure that our Nation maintains its leadership role in finance and technology?

Addressing some of these issues, the Securities and Exchange Commission published its Concept Release on Fragmentation. In its Release, the Commission raised

the concern that the U.S. equity markets are becoming more fragmented and, thus, less efficient. One key concern for the Commission is that the practices of internalization and payment for order flow may increase with the repeal of Rule 390. In addition, the Commission is concerned that since many market participants are assured of receiving order flow either from an affiliate or by paying for the order flow, market centers may have little incentive to compete based on their quoted price. The Commission also questioned whether the practices of payment for order flow and internalization result in some brokers routing orders to marketplaces providing inferior executions. In response to these concerns, some market participants support the adoption of a consolidated limit order book (the so-called "CLOB") to eliminate the negative impacts of fragmentation, internalization and payment for order flow.

Island's Position on Current Proposals

As stated at the outset, Island believes that the issues raised in the SEC Concept Release give us an opportunity to shape the future financial marketplace in a manner consistent with the best aspects of America's entrepreneurial capitalism. If we choose wisely today, we can avoid the mistakes of the past when we embraced risky regulatory models proposed by Federal agencies.

The Island story and the rise of ECNs embody the benefits of competition. The dramatic changes in technology have allowed new competitors to offer new services at a lower cost and capture market share from traditional market participants in a relatively short time period. As a result, there has never been a better time to be an investor. Interestingly, many of the same traditional firms that have long benefited from an environment favoring market professionals are now calling for drastic changes to the market—at the very time when investors are finally starting to take more control over their own financial decision-making. For example, to solve the "problem" of fragmentation, some market professionals have suggested proposals that would inhibit the ability of new entrants to challenge the traditional markets. Embarking upon some of these risky regulatory schemes would undermine many of the technological breakthroughs pioneered by the ECNs and discourage any future innovation.

To understand why rules mandating price-and-time priority between markets and—in their most extreme form—the Consolidated Limit Order Book would eliminate competition, consider the following example:

Assume that ECN A is a market that provides its members with the fastest and most reliable trading system in the industry. In addition, assume that Traditional Market B utilizes obsolete technology that lacks adequate capacity. If, under a regime of price/time priority, Market B is the first to display the best offer of $100 in stock XYZ, any order to buy XYZ at $100 received by ECN A must be routed to Traditional Market B—despite its inferior technology. Thus, even if you as an investor intentionally sent your order to ECN A to take advantage of its superior speed of execution, ECN A would be required to route your order to Traditional Market B. Thus, ECN A would be completely dependent on a response back from Traditional Market B in order to fill your order.

This simple scenario demonstrates why price/time priority fails to serve the investor:

1.) It is impossible for ECN A to offer a faster execution or better service in its competition with Traditional Market B, since Market A will always be dependent on Traditional Market B for execution and service; and vice versa;
2.) ECN A and Traditional Market B are dependent on the linkage between them and cannot offer service any faster or more reliable than permitted by the linkage; or each other's interaction with the linkage;
3.) In light of the first two points, investors will become insensitive to which market the order is entered, leaving no basis for competition between markets.

In sum, not only do we prevent markets from competing with one another on any basis beside price, but we actually undermine the very technological breakthroughs that have strengthened our Nation's equity markets.

To appreciate the real-life consequences of mandating price priority between markets, consider the current state of the listed market. The listed market has operated a so-called "trade-through rule" since the implementation of the National Market System more than 20 years ago. During this entire period, the NYSE has dominated the listed market and to this day still controls approximately 75% of the share volume. The Commission has long recognized that, despite the existence of the regional exchanges, there has never been vigorous quote competition between the exchanges. One key barrier to competition in listed stocks is the mandating of price priority via the trade through rule. The trade through rule states that one market cannot trade at a price inferior to a price displayed by another market. Although each market is prohibited from trading at an inferior price displayed by another market, a

market sending an order as required to the best priced market must wait up to two minutes for a response. Even after two minutes, however, it is still possible not to receive an execution from the other market. In such instances, the investor is worse off than if he purchased the security at the "inferior" price to begin with. As in the example with price/time priority above, the trade through rule prevents one market from offering services that are substantially different or better than the other markets. Price again becomes the only competitive factor.

Fragmentation and Internalization

The proponents of a consolidated limit order book or rules mandating price/time priority insist that their initiatives are a response to the threat of fragmentation. They tell us that fragmentation is increasing and that Federal intervention is needed to reverse the trend. In fact, when competition is permitted to flourish, orders will gravitate to only a few market centers. This is best exemplified by the Nasdaq market. Prior to 1997, volume was spread among numerous market makers, and spreads, the difference between the bid and the ask, were very wide. Due to the increased competition from ECNs, spreads have narrowed dramatically and the Nasdaq market has actually become less fragmented. The intense competition has eliminated numerous market makers and forced dramatic consolidation. Moreover, according to a recent Sanford Bernstein study, the top 4 Nasdaq market participants (Instinet, Island, Knight Securities, and Mayer & Schweitzer) combined account for approximately 60% of the Nasdaq market today compared to 40% a decade ago. With the introduction of decimalization, the Nasdaq market should consolidate further.

It is also important to note that Nasdaq does not have a trade-through rule or rules requiring price-time priority. If Nasdaq did have such rules, it is doubtful that ECNs would have been able to effectively compete. By adopting free-market solutions that promoted competition, we not only delivered greater value to the investor, but fundamentally strengthened the overall marketplace and set the stage for the technological breakthroughs exemplified by the ECNs.

The Commission is also concerned about the possibility that the repeal of NYSE Rule 390 will lead to more internalization, and thus may harm investors. Island believes that the best way to address these concerns, as with those of fragmentation, is to increase competition. Internalization is more likely in a non-competitive environment where spreads are wide and thus, dealers can more easily profit from the difference between the bid and ask prices. As competition increases and spreads narrow, it will become increasingly difficult for dealers to intrernalize order flow. This is especially true with decimalization, where spreads will narrow to just fractions of a penny in many of the most active securities. That is why Island is proud to have led the way in building a decimal-based marketplace. In fact, Island's market has always gone down to ten decimal points.

Competition between brokers will also reduce any negative impacts of internalization. With the availability of real-time quotes and innovations such as the Island BookViewer™, investors are better able to monitor their execution quality. As investor sophistication increases, brokerages will increasingly begin to advertise how they execute orders. Competition will force brokers to make the right decisions with respect to where they send their order flow.

A Free-Market Model

Island believes that the U.S. Congress has already designed the roadmap for ensuring the continued success of our capital markets. In 1975, Congress created the National Market System, with the goal of constructing a more efficient and transparent market. We could not ask for a better building block.

The mandate of the NMS, as envisioned by Congress, is defined by two objectives: first, to promote competition between markets (fair competition between exchange markets and markets other than exchange markets); and second, to make quotation and transaction information available to investors (assure the availability to brokers, dealers, and investors of information with respect to quotations for the transactions in securities.).

Consistent with this mandate, the SEC adopted rules that permitted ECNs to have their quotations included in the Nasdaq best bid and offer that is disseminated to the entire marketplace. As described earlier, competition between markets flourished (with ECNs having captured 30 percent of the Nasdaq transaction volume), and Nasdaq itself was significantly reformed. When provided a level playing field, ECNs can compete for market share and bring the benefits of competition to the investor.

This situation contrasts sharply with the rules and regulations governing Island's ability to compete in NYSE-listed stocks. Ironically, almost 25 years later, the rules

and market structure implemented to achieve the goals of a National Market System are now inhibiting competition between markets and restricting the information available to investors. Regulatory obstacles block Island from having its quotation information included in the two main components of the National Market System—the Consolidate Quotation System (CQS) and the Intermarket Trading System (ITS).

I would pose two questions for this committee:

First, what public-policy benefits are served by stifling competition and barring Island from sharing its pricing information?

I cannot imagine there are any. Consider that when Island trades the stock of America Online, at various times during the trading day, Island would have the best quote in the National Market System. Unfortunately, due to the current regulatory structure, market participants (other than Island subscribers) are denied the opportunity to see and access the better price on Island. This pure fragmentation is completely inconsistent with the spirit of the National Market System.

Second, what public-policy benefits would be served by promoting competition and integrating Island into the NYSE's pricing mechanism?

Most importantly, Island's price information would no longer be fragmented from the rest of the marketplace. The market for NYSE-listed stocks would immediately become more integrated and efficient. The resulting competition between marketplaces (again, a central goal of the National Market System) would result in benefits for the investor.

In light of the proven benefits to investors and the efficiency of the market, it is time to take immediate action to give ECNs access to the Consolidated Quotation System. ECNs, such as Island, must be permitted to disseminate their quotation in listed stocks to all market participants. Yet in moving forward on this issue, we must still confront and deal with a version of price-time priority currently operating for the listed market. As discussed earlier, under the plan governing the operation of the Intermarket Trading System, each participant exchange is prohibited from trading at a price inferior to another participant.

Just as the Federal government does not negate customer choice by requiring consumers to buy goods from the lowest price merchant, market participants should not be required to buy from the best-priced market. As long as market participants know the price in each market and have the ability to access each market, there is no need for the Federal government to require the market participant to favor any one market. Accordingly, in addition to allowing ECNs to disseminate their quotations directly through the consolidated quote, the elimination of the trade-through rule is another important step toward more fully realizing Congress's objectives in the National Market System.

CONCLUSION

Mr. Chairman, it is an honor to have had this chance to present Island's perspective on these critical public-policy issues. These hearings today present all of us with a compelling opportunity to shape the future of our Nation's equity markets and ensure their continued strength and prosperity. As we consider the various proposals under discussion, we must be careful of those proposals that too quickly embrace Federal intervention in our free-markets and commit us to risky regulatory schemes. We must not squander the position of financial strength we achieved at great cost and commitment over the past 200 years. Instead, let us always work towards greater openness, transparency, and accountability in the marketplace. There is too much at stake to do otherwise.

Mr. OXLEY. Thank you. I now recognize Mr. Foley.

STATEMENT OF KEVIN FOLEY

Mr. FOLEY. Thank you, Mr. Chairman and members of the committee. My name is Kevin Foley. I am chief executive of Bloomberg Tradebook, and I am pleased to have the opportunity to testify regarding competition in the new electronic market. Bloomberg Tradebook is located in New York City. We are an electronic agency broker. And one of the things that distinguishes us among ECNs is that our focus is serving institutions and other broker-dealers who typically serve institutions themselves. We count among our clients many of the Nation's largest institutional investors and the

millions of individuals whose pension funds and retirement savings and so forth are pooled in institutional investors assets.

We specialize in providing innovative tools that allow our clients to step directly into the electronic crowd, both the National Market System such as it is today to find liquidity for themselves and to provide their institutional liquidity for others, the retailer that is now enfranchised in finding itself moving directly into the marketplace. Our clients rewarded our creativity and service by trusting us with their business. We are the third largest ECN by volume. We had our first day of over 100 million shares and we are grateful to our clients for that. Competition in the new electronic marketplace is doing today what competition does. It is benefiting consumers, it is benefiting investors, it is revolutionizing our markets, and it is also generating opposition from some who may feel that their position could be threatened by revolutionary changes.

Those who have sought to halt these changes have argued for a massive and intrusive regulatory intervention that would roll back the clock. They have sought to justify these steps by claiming that fragmentation is a threat to our markets. This is a traditional refrain of virtually every industry when change threatens established players. The telecommunications industry is one that comes to mind. When the status quo laments harmful fragmentation, it is time for all of us to be careful. Often it is really the sound of beneficial competition being bemoaned by those who prefer and enjoy the status quo. Some have urged support for a time priority central limited order book, CLOB, centralizing orders in a single black box. The technology of today makes a centralized order book unnecessary.

It is possible to have transparency and linkages in the markets. The central black box runs contrary to the operation of state-of-the-art modern telecommunications, the Internet being the best model. The innovations that ECNs have brought to the market like, for example, one called Reserve from Bloomberg Tradebook which we can talk about later, could not occur under an industry sponsored CLOB, an industry-sponsored black box or one sponsored by NASDAQ, for example, which they have currently proposed in their SuperMontage proposal before the SEC. The pending SuperMontage proposal carries many of the downsides of a traditional CLOB. If you are against a CLOB, you've got to be against the NASDAQ SuperMontage proposal, and it is happening now. It creates a centralized single point of failure, and it creates a single decision-making apparatus that is resistant to change. The public would be much better served if the NASD focuses resources on the capacity issues critical for the implementation of decimalization, as championed for years by this committee.

Prior to focusing on securing what we believe to be an anti-competitive beachhead in anticipation of the transparency to a for-profit entity, Congress and the SEC should not entertain significant structural changes to NASDAQ or to the equity markets in general until after decimalization has been completed and the full range of its benefits have been assessed. Congress should oppose the imposition of a CLOB, and it should oppose the imposition of a structure that gives you 95 percent of what a CLOB will give you as NASDAQ has claimed the SuperMontage proposal will do. It is

something that Congress needs to look at immediately. I am looking forward to the rest of the hearings and the questions and answers afterwards. Thank you, Mr. Chairman.

[The prepared statement of Kevin Foley follows:]

PREPARED STATEMENT OF KEVIN FOLEY ON BEHALF OF BLOOMBERG TRADEBOOK

INTRODUCTION

Mr. Chairman and Members of the Subcommittee. My name is Kevin Foley, and I am pleased to testify on behalf of Bloomberg Tradebook LLC regarding competition in the new electronic market.

We commend this Committee for its efforts to bring the benefits of competition to our markets and the investing public. To ensure the continuation of an environment in which competition flourishes, we urge the Committee to oppose efforts to create a Consolidated Limit Order Book (CLOB) whether run by the industry itself or by NASD. We specifically urge the Committee to oppose SEC approval of the NASD's proposed CLOB known as the SuperMontage. We also urge the Committee to consider carefully the implications of privatization of the dominant national exchanges. Allowing a government-mandated monopoly to enter the markets as a for-profit entity raises enormous concerns, including concerns regarding the availability of real-time market data—the "oxygen" of our markets. We commend this Committee's efforts to protect the availability of market data and prod the industry on decimalization. We urge that significant structural changes to the market not be considered until after decimalization has been completed and the full range of its beneficial impact assessed.

Bloomberg Tradebook LLC is owned by Bloomberg L.P. and is located in New York City. Bloomberg Tradebook is an electronic agency broker serving institutions and other broker-dealers. We count among our clients many of the nation's largest institutional investors. Bloomberg Tradebook specializes in providing innovative tools that allow our clients to step unobtrusively into the electronic "crowd" of the national market system to find liquidity for themselves and, in the process, provide it for others. Our clients have rewarded our creativity and our service by trusting us with their business.

We are the third largest electronic communications network (ECN) by volume. Indeed, two weeks ago we saw the day on which the orders matched on Bloomberg Tradebook exceeded 100 million shares, a landmark representing a more than tenfold increase over the past year-and-one-half.

ECNS—A MARKET SOLUTION TO A MARKET PROBLEM

Some have lamented the existence of ECNs, suggesting that we are an unwanted development. It's worth asking the question, exactly what are ECNs, and how do consumers and investors benefit from the competition ECNs bring to the new electronic marketplace?

ECNs are distinguished by three characteristics—neutrality, transparency and fairness. Neutrality? By definition we are agency brokers and take no positions for our own accounts. Thus, we are neutral in the marketplace and exist only to serve our customers' need to buy or sell shares. Transparency? We publish not only our entire book of quoted prices electronically for all our customers to see, but also all other available pricing information. Unlike some of our ECN competitors, we take advantage of this transparency to route our customers to the best available price, even if that is outside of Bloomberg Tradebook. Fairness? ECNs are required by SEC rules to respond immediately—and I mean immediately—to orders in the order they are received, whether they come from our best customers or from our competitors. That's probably the highest standard in the industry.

Among the innovations Bloomberg Tradebook has brought to the market is the beneficial mixing of small retail order flow and institutional order flow. For the first time, small retail customers have gained direct unfettered access to the liquidity of institutional order flow represented directly in the market. Likewise, institutional investors are, for the first time, able to find liquidity for their orders by interacting directly with small order flow.

Along with neutrality, transparency, fairness and innovation, add lots of enthusiasm and creativity from people passionately devoted to serving their customers and you have a picture of who we are and why we exist.

In a statement before the Senate Banking Committee, Frank Zarb, the Chairman of the National Association of Securities Dealers, stated that "...I guess I sum up

the answer as to why we have ECNs as the fact that the national stock exchanges around the world haven't been keeping pace with the needs of the market."

Mr. Zarb is a an accomplished leader in business and public service. Investors are fortunate for his leadership at this time, but I respectfully submit that the reason ECNs exist is not only because of what national stock exchanges failed to do, but also because of what we innovating broker-dealers have done, in the heat of competition.

Mr. Chairman, it's worth pondering why the stock exchanges didn't keep pace, as Mr. Zarb says. I would submit that a government-sponsored monopoly ultimately cannot provide the innovative ideas and customer service of the best ECNs precisely because they are a government-sponsored monopoly. NASD's CLOB proposal for the Nasdaq market—known as the SuperMontage—is an effort by the NASD to "keep pace" not by moving themselves forward, but by drastically slowing down all market participants. To spur future innovation, I'd rather place my faith, not in the exchange, but in its members—the marketplace of competing innovative broker-dealers.

What are ECNs? At Bloomberg Tradebook we see ourselves as a market solution to our customers' market problems. This should be kept in mind as Congress and the SEC consider whether and how to react to the growth of ECNs.

Bloomberg Tradebook intends to remain a broker-dealer and an ECN. We believe it's the most effective way for our customers to obtain liquidity and best execution. While we are proud to be and remain a broker-dealer/ECN, we are also supportive of the efforts of some of our ECN brethren to either affiliate with or become exchanges. Just as competition among ECNs has been good for investors and the market, competition among stock exchanges also benefits all. We think the national stock exchanges should have to compete against each other for our business and the business of any other broker-dealer. Bloomberg Tradebook looks forward to the day when some of our ECN colleagues will be—as new exchanges—competing with the established exchanges for our business.

COMPETITION IN THE NEW ELECTRONIC MARKETPLACE

Competition in the new electronic equity marketplace is doing what competition generally does. It is benefitting consumers and investors while revolutionizing markets. It is also generating opposition from those who may believe their position is threatened by these revolutionary changes.

Those who have sought to halt these changes have argued for massive and intrusive regulatory intervention to roll back the clock. They have sought to justify these steps by arguing that "fragmentation" is a threat to our markets.

This is a traditional refrain, sung in virtually every industry when change threatens established players. It is a refrain that this Committee—given its preeminent role in deregulating markets—has repeatedly heard in extended-play versions and wisely greeted with a skeptical ear.

In 1975, when Congress and the SEC deregulated brokerage commissions, there was much anxiety on Wall Street. Critics charged that the unfixing of rates would damage and fragment America's capital markets. Instead, commission rate competition reduced prices for investors and helped spur explosive growth in the market.

In deregulating the telecommunications industry, Congress—this Committee in particular—and the courts were regularly warned that then-upstarts like MCI were "fragmenting" the telephone market, destroying the world's greatest communications system. When the status quo laments the impact of "harmful fragmentation" be careful—often it is really bemoaning beneficial competition.

In fact, the Nasdaq market today is consolidated, not fragmented. Customers' orders are displayed to all and interact freely among market-makers, ECNs, order-entry firms and even regional exchanges. ECNs in Nasdaq participate in the *least* fragmented market of all time, thanks to this system of customer order display and electronic linkages that provide instant access to those orders.

In a very significant speech delivered recently at Northwestern University, SEC Chairman Levitt called on market participants to make publicly available all customer bids and offers, not just their best bids and offers. Chairman Levitt called for a competitive, free market solution to seize this opportunity for greater transparency. Bloomberg Tradebook wholeheartedly supports this increased market transparency.

Useful linkages have yet to be developed for the New York Stock Exchange listed market. Our customers would like us to act as their agent for New York Stock Exchange listed stocks, as we do in Nasdaq stocks. Recently the SEC has approved an NASD proposal to allow ECNs access to the Intermarket Trading System (ITS) through Nasdaq. This is helpful, but not nearly sufficient since ITS remains crippled

by both its technological ineffectiveness and an unworkable governance structure that makes any movement nearly impossible.

THE THREAT OF A CENTRAL LIMIT ORDER BOOK (CLOB)

Those who would stifle change in the markets have urged support for a time priority central limit order book (CLOB) as the panacea necessary to deal with the alleged "problem" of fragmentation. The notion behind the CLOB is that if you centralize orders in one place, a single "black box", maximum order interaction and perhaps better prices might be achieved.

TECHNOLOGY MAKES A CLOB UNNECESSARY

There are a number of very serious problems with this concept. When this concept was first broached some thirty years ago, our markets lacked the technology to achieve order interaction without centralization. Now, technology allows the advantages of maximum order interaction without the downside of centralization.

In short, the technology of today makes a centralized order book unnecessary. These technological advances have revolutionized other industries, and despite protests, they are revolutionizing our equity markets. At a time when even public utilities like telephones and electric power are abandoning their "black boxes" for decentralized structures, does it make sense to threaten innovation by centralizing the stock markets? State-of-the-art telecommunications systems like the Internet don't rely on a single monopoly channel—rather they rely on networked webs of multiple private competing linkages. Why should the securities markets work differently?

Centralized systems are resistant to change. The innovations that ECNs have brought to the market could not occur under a CLOB system, including under the SuperMontage Proposal of the NASD.

A centralized system also provides the significant downside of a central point of failure. Those of us who deal regularly with Nasdaq's SelectNet system know only too well how cumbersome and inefficient a centralized system can be. Like SelectNet, the ITS system is conceded even by the sympathetic to be technologically outmoded, with a bureaucracy that thwarts change. Why make those failed systems the model?

THE CLOB IS COMING—SUPERMONTAGE

Indeed, the pending SuperMontage Proposal carries many of the downsides of a traditional CLOB. The proposal would convert Nasdaq from a largely decentralized market, which has been its major strength for thirty years, to one in which virtually all executions take place centrally. Of the concerns which the Nasdaq market faces today, capacity limitation is certainly the greatest. In recent years Nasdaq's systems have become an increasingly serious messaging bottleneck. Yet the proposal would convert Nasdaq to a central execution utility only months before the U.S. markets are scheduled to grapple with the intensifying volume expected with decimalization. This CLOB-like centralization would create a government-sponsored monopoly that would deter today's decentralized market innovators from adding market capacity and from introducing further innovations. Recent press reports that the SEC wants to move quickly to approve the SuperMontage concern us and, we respectfully submit, should concern Congress.

CLOB CZAR

While there are serious technological problems with the CLOB, there are equally troubling political problems. Someone or some entity will have to decide how the CLOB will work, who gets access and how, and what innovations are to be allowed. That gatekeeper and CLOB czar is certain to be enormously influenced by those who are already in the club. Will those who are already in the club allow the emergence of innovators who potentially threaten their business? We don't think so. Is innovation likely to occur when the potential innovator must raise his or her hand to seek permission from the powers-that-be in order to innovate? We don't think so.

NASD Chairman Zarb told the Senate Banking Committee during its CLOB hearing that 95% of everything CLOB proponents sought could be had under the SuperMontage. That's accurate, and underscores that we are looking in part at a political battle for control of this centralized entity. I don't know who will win, but I know who will lose in this kind of battle—markets and consumers.

RISK TO INNOVATION

There are always those who worry about regulation driving industries offshore. What will drive industry offshore faster than anything else would be depriving that

industry of the ability to innovate in the United States. Under a CLOB or SuperMontage, the greater risk is that industry will leave the States for shores where it can innovate.

HUMILITY BEFORE THE MARKETS

The most significant problem with a CLOB is that, even if we get it "right" for now, it's not clear we will have gotten it "right" for all time. Over the past three years, Bloomberg Tradebook has devised a number of innovations that have come to be industry standards. I'd like to mention one briefly.

At its inception in 1996, Bloomberg Tradebook introduced the concept of "Reserve" to the U.S. equity markets. "Reserve" is a process that controls the release of orders into the market, enabling clients to trade large orders more efficiently.

Like all innovations, the "Reserve" gave us a leg up on our competitors for a brief period of time. Soon it was adapted by others. Today no one would introduce a system without it, including Nasdaq in its SuperMontage Proposal. Any edge we gain is a momentary one—and we are forced to continue to innovate. We have done so continually in the three years since.

If a CLOB had been imposed three years ago, clearly this innovation wouldn't exist. Are we confident that further innovation won't be needed? That we can't do what we do more efficiently? I'd argue that the innovation is just beginning, and we need to maintain the incentives that make that innovation possible. Innovations occur in a dynamic competitive market. They won't occur in a centralized black box.

THE MARKETS NEED DECIMAL PRICING

It is a pleasure to address this Committee on the subject of pricing in decimals. It is a natural segue from our expressions of concern regarding the industry CLOB and the Nasdaq SuperMontage Proposal.

Over a period of years, this Committee has rendered an enormous public service by spearheading the effort to convert to decimalization. As this Committee well knows, the United States is the only major country whose stock markets still trade in fractions. Presenting quotes in ⅛ths and 1/16ths has reduced competition and liquidity in our markets. It is a system both archaic and anti-competitive.

Bloomberg Tradebook has allocated significant time and resources to decimalization. As a result, we will be ready for decimal pricing as scheduled in July. Thus, Bloomberg Tradebook and our customers were extremely disappointed by the NASD's recent request to delay decimalization. Decimalization would create such an enormous benefit to investors and the markets that implementation should be the top priority.

The NASD appears to be focusing significant resources on initiatives—like the SuperMontage Proposal—that have as its primary objective securing an anti-competitive beachhead prior to NASD's desired transformation into a for-profit entity. While we believe SuperMontage is terrible public policy, even those who might be more sympathetic would have to concede that the public would be infinitely better served if the NASD focused its finite resources as other market participants have had to—namely on timely preparation for prompt conversion to decimals.

Putting aside resource allocation concerns, we'd also argue that SuperMontage and any other CLOB proposal should be tabled until market participants have an opportunity to assess the impact of a successful conversion to decimals. The decimalization championed by the Commerce Committee will significantly change our markets for the better. It will result in lower trading costs. It will result in greater market efficiencies. In short, it may well address many of the issues raised in the SEC's recent Concept Release. The Congress and the SEC should not entertain significant structural changes to the Nasdaq market until after decimalization has been completed and the full range of its beneficial impact assessed.

I'd like to conclude the discussion of decimalization with a relevant, personal aside. When my boss, Mike Bloomberg, wants something done, he often says to me "get it done or I'll find someone who can". Our customers often send us the same message. The phrase "get it done, or else . . ." is the humble seed from which many giant redwoods of innovation have sprung. The Commerce Committee's journey with NASD on decimalization is a cautionary tale of how hard it is to prod movement from a government-sponsored monopoly. It will be infinitely harder to prod change from an industry CLOB or a CLOB like the SuperMontage.

OPPOSITION TO PRIVATIZATION OF THE STOCK EXCHANGES

Allowing a government-mandated monopoly to enter the markets as a for-profit entity raises enormous concerns for a host of regulatory and enforcement reasons.

I'll focus on one that is very familiar to this Committee as both an historic and current controversy, namely the issue of access to market data.

A quarter century ago, this Committee spearheaded the effort to enact the Securities Acts Amendments of 1975. That legislation established the goal of producing a national market system. To this day, that remains the correct goal. In furtherance of that objective, Congress mandated a consolidated system for distributing market data in an effort to ensure that stock-market information was accurate and accessible. The securities markets were allowed to charge a reasonable rate for gathering and distributing that information.

When the Commission, in 1972, first proposed rules to provide for the consolidated reporting of transactions and quotations, the New York Stock Exchange asserted that the SEC not only lacked authority under the securities laws to adopt the quotations rule, but also such action would deprive the Exchange of property in violation of the due process provisions of the Constitution of the United States. Despite these objections, Congress and the SEC were determined to achieve the goal of public access to consolidated market information.

Even in this day of on-line investing, the exchanges continue to argue that they "own" or ought to own quote information. Indeed, during the last Congress the dominant national exchanges were major proponents of legislation reported from the House Judiciary Committee—the "Collections of Information Antipiracy Act"—which would have created an unprecedented ownership interest in facts, including stock quotes. Though well-intentioned, this legislation—which has also been reported from the House Judiciary Committee this Congress— would create a property right in facts that extends not only to presently existing markets, but also, incredibly, to hypothetical, presently non-existing markets.

We applaud the bi-partisan leadership of the Commerce Committee for crafting critical competing legislation, the "Consumer and Investor Access to Information Act". That legislation, which was reported from the Commerce Committee last year, would also provide additional protections for databases but would do so while assuring that consumers and investors have continued access to factual information.

Chairman Oxley has observed that real-time stock data is like "oxygen" to investors. We worry about the prospects of a government-mandated monopoly over the most important information in the market—truly the markets' oxygen—being controlled by a for-profit entity that not only believes it "owns" data our clients create, but also wants to control the downstream uses of that data in currently non-existing markets outside of the real-time market window.

At the core of this market data debate is the outmoded concept that market participants should continue to provide market data to a government-sponsored monopoly and then pay to see it. We endorse an alternative model recently proposed by SEC Chairman Levitt in the context of market depth. During his March 16th speech at Northwestern, Chairman Levitt urged our markets—exchanges, dealers, and ECNs—to make their limit order books available to the public where vendors could consolidate this data and repackage it in a form that would be most useful to their customers. A similar model allowing the establishment of private quote aggregators to which one could report market data— breaking the SRO monopoly on data—would certainly improve the quality, comprehensiveness, reliability and capacity of this information while reducing its cost.

REGULATORY CHANGES NEEDED FOR FULL COMPETITION IN THE EQUITY MARKETS

A few years ago, the Nasdaq market was rocked by a scandal when Nasdaq market-makers were found to be colluding to keep spreads artificially high. The SEC's response in issuing its Order Handling Rules helped launch ECNs while narrowing Nasdaq spreads by nearly 30% in a year.

Chairman Levitt has stated that the three components of a successful U.S. equities market are quote transparency, market linkages, and the obligation of brokers to seek best execution on behalf of their customers. All these goals can be promoted without risking the enormous negative ramifications of an industry CLOB or SuperMontage. Congress should support the SEC's actions in promoting transparency and in insuring linkages in the Nasdaq market, as well as in exporting the germ of reform to the listed markets, which have been so resistant to change. Congress has already vastly improved the opportunities for best execution with its decimalization initiative. Congress should oppose privatization of the exchanges while working to fashion a means of providing more ready access to the market data which is the "oxygen" of the marketplace.

Congress should oppose the imposition of a unitary CLOB. Congress should oppose such a CLOB whether sponsored by industry or by Nasdaq as the SuperMontage Proposal.

CONCLUSION

Every advance in our markets in recent years—from the elimination of brokerage fee schedules, to the emergence of off-hour trading and ECNs—has been greeted by the cry of "fragmentation" by the powers-that-be. Our equity markets are the finest in the world because we've established a regulatory structure that rewards innovation. As soon as the U.S. regulatory structure stops rewarding innovation our markets will go abroad. We shouldn't allow those who are threatened by change to encourage us to freeze in place a system which then won't be subject to innovation and improvement—and thinking outside the black box.

Changes in market structure will have implications for the American people that are just as significant—if not more—than those of the landmark banking reform legislation enacted last year. We very much appreciate the diligence of the Members and staff of this Committee in tackling these issues of complexity and importance.

Mr. OXLEY. Mr. Dorsch.

STATEMENT OF SHAWN A. DORSCH

Mr. DORSCH. Thank you, Mr. Chairman and members of the committee. My name is Shawn Dorsch. I am the President and Chief Operating Officer of DNI, the builders of the Blackbird. I am pleased to have the opportunity to appear before the subcommittee and discuss our experience as the company which has brought electronic trading to what is perhaps the world's most complex and most dynamic financial sector, namely, the inter-dealer, privately negotiated interest rate and currency derivatives transactions business, more commonly referred to as the "SWAPS" business.

I would like to make clear that we are not in the securities business, but it is a very important financial market for this country.

It is vital to the U.S. public interest that our markets, including our financial markets, remain the most competitive fair and efficient in the world. This will only be the case if we succeed in harnessing the power and efficiency of new electronic technologies in the service of these markets. DNI is a corporation based in Charlotte, North Carolina. It was formed in 1996 to build and operate a computerized communications information system known as Blackbird. The Blackbird was built to help major financial institutions, primarily banks, find, negotiate and agree to custom-tailored SWAPS transactions directly with each other.

The founders of DNI are experienced SWAPS professionals, the Blackbird system is operational and successfully serving the major SWAP dealers in the United States. The Blackbird is not open to the public.

Blackbird is designed to compete with so-called voice brokers who charge dealers commissions for arranging SWAPS transactions over the telephone. The fundamental goal of the Blackbird is to provide its financial institutions clients with a computerized system that will bring greater speed, precision, safety and security and lower cost to the very same interest rate and currency risk management activities that are now taking place every day in numerous U.S. financial institutions on the telephone.

In spite of this goal, we initially found ourselves subject to a searching regulatory review by the Commodity and Futures Trading Commission, and harsh criticism from some of the traditional exchanges that were subject to the CFTC's jurisdiction. It was and remains our understanding that the types of transactions that may be negotiated on Blackbird are exempt from CFTC jurisdiction under the Commodity Exchange Act.

In April 1999, when we were on the verge of making Blackbird operational, we received a letter from the CFTC asking us to provide certain information so that the CFTC could make an assessment of its own jurisdiction over Blackbird. Certainly, the CFTC is not to be faulted for making due inquiry to assure itself that it is fulfilling its regulatory responsibilities. This CFTC, however, was the same CFTC which issued a concept release read by many as proposing that it take jurisdiction over the SWAPS community. This was the same CFTC which was at loggerheads with the Treasury, the SEC and the Federal Reserve Board, and which was admonished by Congress not to take action following from its concept release.

Fortunately, we do not have the same CFTC today. If we did, we might be speaking of the Blackbird as a U.S. entity in the past tense as we would have been forced to relocate to London. The details of the public controversy we faced are less interesting than the deeper effects of the controversy. Senior company personnel had to shift their attention from building a business to explaining and defending that business. Obviously, substantial financial resources had to be focused on the regulatory situation. Potential clients needed to be reassured that transactions negotiated through the Blackbird would not be void as a legal off exchange futures contracts.

Potential investors also needed to be held to a level of comfort with the regulatory situation. What was really wrong about all of this? It all came about simply because Blackbird offered SWAPS dealers the opportunity to do the same business as before but via new media. It was the medium of computerized communication when viewed through the lens of a poorly drafted statute, the Commodity Exchange Act, which provided the basis for a CFTC assertion of jurisdiction, not some risk to the public. Fortunately, the new CFTC reinvented itself under Chairman Rainer and has participated in the President's Working Group Report and has put forth a new regulatory proposal that attempts to build afresh on the positions of policy and principles and that attempts to encourage the use of electronic systems.

Congress also seems to be well focused on the fact that the existing statutory and regulatory regimes may not adopt readily to the promise and challenges of new technologies. The efforts of this committee and others will be invaluable in determining the direction for a redesign of our Nation's statutes and regulations. We encourage Congress to watch closely to be sure that new regulatory constructs are sufficiently resilient to weather changes in administration as well as changes in technology.

Our message is not that all electronic systems should be unregulated. Our message is that regulatory concerns should be focused not on the medium of communication, or for that matter, on the medium of the transaction execution. Concern should be focused on the activities accomplished with that medium and should be coupled with consideration of the inherent market discipline likely to shape those activities. If, as the case with Blackbird, those activities do not raise serious concerns, great care should be taken to protect them from the very, very serious countervailing threats of overly broad or anticompetitive regulation.

Thank you, Mr. Chairman, and members of the committee for giving me an opportunity to present this testimony.

[The prepared statement of Shawn A. Dorsch follows:]

PREPARED STATEMENT OF SHAWN A. DORSCH, PRESIDENT AND CHIEF OPERATING OFFICER, DNI HOLDINGS, INC.

DNI Holdings, Inc. ("DNI") is pleased to have the opportunity to deliver this written statement to the Subcommittee on Finance and Hazardous Materials of the Committee on Commerce.

The matter before the Subcommittee, competition in the new electronic markets, is a very important one. It is vital to the US public interest that our markets, including our financial markets, remain the most innovative, fair and efficient in the world. This will be the case only if we succeed in harnessing the power and efficiency of new electronic technologies in the service of our markets.

We have been asked to focus our testimony on regulatory impediments to electronic systems used in trading financial instruments. DNI has indeed seen some regulatory impediments to the development of its own business. Although DNI's business is not the securities business of primary concern in today's hearing, DNI's experience may be easily generalized. Even before introducing itself, DNI would like to offer three propositions that are as applicable to the securities markets as to DNI's own business in interest rate and currency derivatives. *First,* if the mere introduction of electronic systems use threatens to bring regulation where there was none before, the need for regulation should be closely examined. (DNI's own electronic system, for example, merely allows sophisticated dealers to do among themselves via the internet virtually the same business they previously did on the telephone; yet DNI was nearly the subject of an entirely novel Commodity Futures Trading Commission regulatory effort.) *Second,* if existing statutory and regulatory language fails to correspond to evolving commercial reality, that language must be re-examined and, if necessary, re-cast in light of fundamental public policy goals—before it stifles commerce. *Third,* those advantaged by the *status quo* may raise regulatory concerns about the use of new technology as a means of defending their competitive position—which may require careful winnowing of legitimate public policy concerns from less worthy efforts to limit competition. The following will explain how we have arrived at these propositions.

DNI hails from different venues than many of our fellow witnesses, both in terms of geography and commerce. DNI is a corporation based in Charlotte, North Carolina. It was formed in 1996 to build and operate a computerized communications and information system (known as "Blackbird" or the "Blackbird system") to help major financial institutions find, negotiate and agree to custom-tailored interest rate and currency derivatives transactions (for ease of reference, "swaps") directly with each other. The founders of DNI are experienced swaps professionals. The Blackbird system is operational and successfully serving major swaps dealers in the U.S.

The fundamental goal of DNI is to provide its financial institution customers with a computerized system that will bring greater speed, precision, safety and security, and lower costs, to the very same interest rate and currency risk management business activities that are now taking place every day in numerous U.S. financial institutions.

In spite of this goal, DNI initially found itself subject to searching regulatory review by the CFTC and harsh criticism from some of the traditional exchanges subject to the CFTC's jurisdiction. It was (and remains) DNI's understanding that the types of transactions that may be negotiated on Blackbird are exempt from CFTC jurisdiction under the Commodity Exchange Act. Nonetheless, DNI was to learn two lessons. First, DNI learned that the computerized enhancement through Blackbird of services now commonly provided over the telephone by swaps brokers unregulated by the CFTC might lead to an assertion of CEA jurisdiction, even though there existed no plausible regulatory structure applicable to Blackbird and no demonstrated need for any regulation of Blackbird. Second, DNI found that certain entities actually subject to CEA jurisdiction would do all they could to focus CFTC attention on DNI. These entities did so even though they never have offered the kinds of transactions that might be negotiated through Blackbird.

In April 1999, DNI was on the verge of making Blackbird operational. DNI received a letter from the CFTC asking DNI to provide certain information so that the CFTC could make an assessment of its own jurisdiction over Blackbird. Certainly, the CFTC is not to be faulted for making due inquiry to assure itself that it is fulfilling its regulatory responsibilities. This CFTC, however, was the same CFTC that had issued a "concept release" read by many as proposing that it take

jurisdiction over the swaps community. This was the same CFTC which was at loggerheads with the Treasury, the SEC and the Federal Reserve Board and which was admonished by Congress not to take action following from its concept release. Fortunately, it is not the same CFTC today. If it were, we might now be speaking of DNI as a U.S. entity in the past tense. U.S. banks and investment banks, which presently occupy a leadership role in providing interest rate and currency risk management products, might have been deprived of access to leading edge technology that will help them compete.

DNI recognized the potential difficulties in its situation with the CFTC. What followed, however, was truly bewildering. DNI, a small North Carolina company, and its computer system were mentioned in multiple Congressional hearings, only one of which DNI attended. The fact of the CFTC inquiry became general industry knowledge. Even our product name, "Blackbird", which had resulted from one of our principal's admiration, as an amateur pilot, for a fast, high-flying U.S. airplane, was publicly ridiculed as an indication of evil, evasive intent.

The details of the public controversy we faced are less interesting than are some of the deeper effects of the controversy. Perhaps most importantly, senior DNI personnel had to shift their attention from building a business to explaining and defending that business. Obviously, substantial financial resources had to be focused on the regulatory situation. Potential customers needed to be reassured that transactions negotiated through Blackbird would not be void as illegal off-exchange futures. Potential investors also needed to be helped to a level of comfort with the regulatory situation. The net effect was that the CFTC inquiry and attendant public attention significantly slowed our growth for a time.

Perhaps there is little surprising in all this until one stops to consider what was mentioned above: *most, if not all, of what the Blackbird system does is now done by "voice brokers", human beings using telephones and squawk boxes, and operating without threat of sanction or illegality.*

In fact, Blackbird fulfills the same functions as the voice brokers, but with far greater efficiency and benefit to the financial system. Blackbird is not an exchange or a clearing house. Blackbird does not enter into transactions, provide credit support or take or add credit risk. Blackbird does not change the individual customized nature of swaps. Blackbird does not introduce preference or bias into negotiations. Blackbird simply provides sophisticated dealers (and not the public) with a computer-based electronic communications alternative for the direct negotiation and agreement of bilateral transactions.

Blackbird offers an improved electronic method for a dealer to identify other dealers who may, subject to the resolution of credit and other terms, be willing to enter into a transaction having particular economic terms desired by the first dealer. Use of Blackbird promotes competition, improves transparency, record-keeping and risk control, and reduces costs. Blackbird brings substantial private and public benefit, without changing any meaningful feature of custom-tailored swaps activities as they currently operate, and without creating any need for novel regulation.

If Blackbird brings all these benefits, why did it encounter the problems described above? It may be helpful to the Subcommittee to consider for a moment the underlying *legislative* and *regulatory* causes of DNI's predicament. First, there is the archaic language of the Commodity Exchange Act itself. This language was stretched far beyond its originally intended use (even before the advent of new electronic technology) as "commodity" exchange-traded contracts have moved from the agricultural into the financial. This inadequate statutory language has led to the situation, bewildering to the uninitiated, where Congress has directed the CFTC to exempt certain swaps from its jurisdiction without Congress's ever deciding that these swaps were "futures" subject to the CEA to begin with. Build on top of this rickety legislative base a regulatory exemptive structure struggling for words to describe what might and might not be exempt and you have all the makings of a roadblock to progress in an era of technological innovation.

When words and reality no longer mesh, it is time to restore direction by returning to basic principles. Fortunately, in the Commodity Exchange Act context, we have seen this recognized on several fronts. First, the Report of The President's Working Group on Financial Markets entitled "Over-the-Counter Derivatives Markets and the Commodity Exchange Act" explicitly recognized that the "method by which a transaction is executed has no obvious bearing on the need for regulation in markets, such as the markets for financial derivatives, that are not used for price discovery." The Report went on to note that there is no "demonstrable need for regulation" of certain electronic systems. Second, the new CFTC, reinventing itself under Chairman Rainer, has participated in the President's Working Group Report and has put forth a new regulatory proposal that attempts to build afresh on positions of policy and principle, and that attempts to encourage use of electronic systems.

We are encouraged by Chairman Rainer's very constructive attitude. Finally, the Congress now seems to be well-focused on the fact that existing statutory and regulatory regimes may not adapt readily to the promise and challenge of the new technologies. The efforts of this Committee and others will be invaluable in determining the direction for a redesign of our nation's statutes and regulations. We encourage Congress to watch closely to be sure that new regulatory constructs are sufficiently resilient to weather changes in administration, as well as changes in technology.

DNI's message is not that all electronic systems should be unregulated. DNI's message is that regulatory concern should be focused not on the medium of communication or, for that matter, the medium of transaction execution. Concern should be focused on the activities accomplished with the medium, and should be coupled with consideration of the inherent market discipline likely to shape those activities. If, as is the case with Blackbird, those activities do not raise serious concerns, great care should be taken to protect them from the very, very serious countervailing threats of overbroad or anticompetitive regulation.

Mr. OXLEY. Thank you.

Next is John Schaible of NexTrade.

STATEMENT OF JOHN M. SCHAIBLE

Mr. SCHAIBLE. I would like to thank you, Mr. Chairman, and members of the subcommittee. I am John Schaible, president and co-founder of NexTrade Holdings. I have been asked by the committee to address the following questions: What regulatory changes are needed to promote full competition in our equity markets? Would a central limit order book be desirable? What are the implications of privatization of stock exchanges? And finally, is NexTrade ready for decimalization.

In 1995 NexTrade was founded with the goal of providing technological innovation to the financial services industry. The little company started in 1995 has applied to become a stock exchange, now employs nearly 60 people developing technology for other brokerage firms across the globe. Before we can answer the first question, we must define full competition. Full competition is not a market where two participants handle 95 percent of the shares traded in this country. In order for the financial markets to become fully competitive, we must promote competition between exchanges. This competition can only be encouraged by the approval of new for-profit exchanges. The Commission is currently considering two applicants to become new fully electronic exchanges. NexTrade notified the Commission of its intention to become an exchange in 1998, and worked in draft mode with the Commission in 1999 in preparing its formal exchange application. Despite having filed this application, NexTrade has no clear timeframe for approval. NexTrade fully appreciates the important role the Commission serves in protecting the public. Nevertheless we fear that inadequate staffing due to inadequate funding has, in this tidal wave of change, overwhelmed the Commission. We fear that the Commission's inability to review the applications is one of the greatest risks to the continued supremacy of America's capital markets. Recently, a third applicant decided to halt its application in favor of becoming a facility of an existing exchange. This decision may have been based in part on a perceived lack of progress by the Commission.

The need for new electronic exchanges has been exacerbated by NASDAQ's failure to be ready for decimals. This demonstrates that we cannot rely on the existing nonprofit exchange model to be the standard bearer in a new electronic environment. The for-profit

model has always been the hallmark of efficiency and progress in our economy. Consequently, new for-profit exchanges must be approved to promote full competition in our equity markets.

Turning to the second question, a central limit order book, or CLOB, would not be desirable. Like any centralized marketplace, it would represent a single point of failure. It would not enhance the marketplace, but harm innovation and reduce the competitiveness of our markets. In comparison, the competitive for-profit model exemplified by ECNs has had a proven, beneficial impact on our markets. In 1998 alone, the cost of a trade on NASDAQ fell 23 percent and spreads fell 41 percent. While ECNs have helped investors, this progress is minimal in comparison to the benefits that will be derived from the privatization of stock exchanges.

Privatization will result in exchanges that are more competitive and will respond better to the needs of the investors. New for-profit exchanges will enable the United States to maintain its position as the preeminent global market. Critics may claim that the drive to be the most profitable exchange will result in a race to the bottom in terms of quality of surveillance and investor protection. This claim is without merit, because the exchanges with the best investor protection will attract the best issuers, thereby securing the most formidable competitive advantage.

Finally, NexTrade is disappointed that the move to decimalization which may save the public up to $2 billion a year may be delayed because some traditional marketplace participants have failed to take appropriate steps to modernize their technology. NexTrade applauds NASDAQ officials for their concern for the integrity of the financial markets and also appreciates NASDAQ's candor in admitting that its systems lack the capacity to handle the projected increase in message traffic that will result from decimalization.

Nevertheless, NASDAQ's failure to be decimal ready is of great concern. It may be due to NASDAQ's antiquated technology, which is systematically flawed, or that rather than concentrating on being ready for decimals, the NASDAQ has invested substantial resources in developing the proposed SuperMontage. The prudence of allocating resources to such a project in lieu of decimal compliance is questionable, particularly in light of the vigorous industry opposition to the proposed SuperMontage.

In contrast, NexTrade has been ready for decimal trading since 1997. Chairman Oxley, Ranking Member Towns and members of the committee, we are in danger of falling behind foreign competitors in modernizing our capital markets. If America is to retain its primacy in this critical area, we must implement decimalization and we must foster competition by approving new electronic exchanges. Moving forward, we must remove our commitment to the principles that has served us in the past. The best way to protect the investor is through vigorous competition. We thank you very much.

[The prepared statement of John M. Schaible follows:]

PREPARED STATEMENT OF JOHN M. SCHAIBLE, PRESIDENT, NEXTRADE HOLDINGS, INC. AND NEXTRADE, INC.

Chairman Oxley, Ranking Member Towns, and Members of the Subcommittee: My name is John M. Schaible. I am the President and Co-founder of NexTrade

Holdings, Inc. I commend the Chairman and the Members of the Finance Committee for holding these hearings on Competition in the New Electronic Market. As an innovative force in bringing about positive changes to the financial services industry, NexTrade appreciates the opportunity to share our views on these important public-policy issues. I have been asked by the Committee to address the future of the securities markets and regulation of those markets. Specifically, I will address the following questions:

A. What regulatory changes are needed to promote full competition in the equity markets?
B. Would a Central Limit Order Book be desirable?
C. What are the implications of privatization of the stock exchanges?
D. NexTrade's readiness for decimalization?

NexTrade's vision of the future of the financial markets is deeply rooted in the entrepreneurial spirit of its founders. In 1995, Mark Yegge, NexTrade's C.E.O., and I founded a new technology driven brokerage firm with the goal of promoting technological innovation of the financial services industry.

The little company we founded in the living room of Mark Yegge's apartment in 1995, now develops technology for the financial services industry that is used by firms in this country and sought by firms around the world. NexTrade Holdings also develops the systems for its own subsidiaries, including the NexTrade Electronic Communications Network (the "NexTrade ECN") and the proposed NexTrade Exchange. NexTrade has invested millions of dollars in creating one of the most sophisticated and robust transaction systems in the world. This new technology will be the engine behind the NexTrade ECN and the proposed NexTrade Exchange.

The NexTrade ECN is an automated trading system for equity securities. It gives brokers the power to electronically display customer orders. As an electronic auction market, the NexTrade ECN directly matches buy and sell orders. The NexTrade ECN currently has more than 60 broker-dealer subscribers and is used by many more non-subscriber members of the National Association of Securities Dealers. On an average day, NexTrade executes orders representing millions of shares. All of the NexTrade ECN's orders are processed by computers in a room the size of a large walk-in closet.

The proposed NexTrade Exchange is an example of the future of the financial markets in that it makes use of innovative technology and new regulatory structures as part of a for-profit exchange. The proposed NexTrade Exchange plans to make available for the benefit of its members and their customers an electronic trading system (the "NexTrade Exchange System") to effect the purchase or sale of securities listed or admitted to trading on the proposed Exchange and on other exchanges. The proposed exchange, however, will not maintain a physical-trading floor. Members will access the NexTrade Exchange System from their own computer terminals and communicate with the NexTrade Exchange System over commercial information services and networks.

As a member of the group of ECNs which account for approximately 35 percent of the Nasdaq's volume, as the developer of innovative new technologies for the financial services industry, and as one of only two ECNs currently seeking approval to operate new electronic stock exchanges, NexTrade hopes the Committee will find my comments useful in its consideration of the future of the financial services industry.

LET TECHNOLOGY LEAD THE CHANGES IN THE FINANCIAL SERVICES MARKETS

As the Chairman of the Securities and Exchange Commission, Arthur Levitt, recently stated, ECNs "have been one of the most important developments in our markets in years—perhaps decades." Innovation and new technology developed by ECNs and non-traditional market participants are promoting the rapid and sweeping democratization of the markets. Some experts predict that ECNs will represent 50 percent of the volume on the Nasdaq by 2001. As a member of this group, NexTrade is very proud of the role we have played in creating positive change that has saved the public billions of dollars. Despite the great progress that has been made, we still must strive to create fairer, more competitive markets and to ensure that America maintains its position as the financial center of the world.

In considering the future of the financial markets, lawmakers and the Commission should heed the advice of Senator Gramm who recently noted "Let technology lead." As a technology leader, NexTrade believes this approach will best serve the public. Lawmakers and the Commission should resist the temptation to divine where the market is going in a misguided attempt to conceive a new regulatory structure.

THE NEED FOR A NEW COMPETITVE NATIONAL MARKET SYSTEM

NexTrade believes with respect to regulation of the securities markets, it is incumbent upon the Commission and Congress to question each component of our current regulatory structure and ask this question: "Does the additional cost of the regulation outweigh its benefit to the market and the individual investor?" Rules that add benefit should remain in effect and rules that detract from the market or impede competition should be eliminated. While most components of our current regulatory structure pass this test, certain components, such the National Market System ("NMS") do not.

NexTrade believes the Commission and Congress should strive to remove artificial barriers to competition. An important step in promoting greater competition would be the reform of the NMS. In framing the 1975 amendments to the Act, Congress instructed the Commission that in developing a National Market System, "competition, rather than regulation, should be the guiding force." The Commission is mandated by Congress to facilitate the development of a national market system not to be its chief architect. In establishing this mandate, Congress identified five criteria that should drive the Commission's role in the establishment of a NMS:

1. promotion of the development of mechanisms that allows for economically efficient execution of securities transactions;
2. promotion of fair competition;
3. promotion of transparency;
4. improvement of investor access to the best markets; and
5. the development of mechanisms that allow for investors' orders to be executed without the participation of a dealer.

There are numerous barriers to competition between markets, including the NMS. The governance structures of the NMS plans are in need of significant reform. Currently, the boards of these plans are composed of representatives from each exchange. Any change to the rules governing the operation of the NMS systems, such as the very rule changes necessary to accommodate new electronic exchanges, require the unanimous consent of the participants. The governance structures of the NMS plans should be amended to include a broad constituency of market participants including the existing exchanges, new electronic exchanges, ECNs, broker-dealers and the investing public.

NexTrade believes the technology driving the NMS should also be replaced. Two of the current plan participants, through the Securities Industry Automation Corporation ("SIAC"), develop and operate the computer systems that perform the responsibilities outlined in the NMS plans. SIAC operates all of the NMS technologies, other than the Nasdaq Unlisted Trading Privileges Plan, which is administered by the Nasdaq. The American Stock Exchange and the New York Stock Exchange own SIAC. Coupled with the anti-competitive governance structure of the NMS plans, SIAC's administration of the NMS technologies allows two members of the NMS plans to effectively impede the integration of new electronic markets and the implementation of new technologies into the NMS.

To address these issues, NexTrade recommends the modification and opening of the NMS plans. NexTrade does not support the Commission or Congress designating a third party that will operate the new NMS systems. Rather, NexTrade believes that by opening the NMS plans to new participants and by consolidating the functions of the NMS plans into a single plan, market forces would ensure that the new plan could not be used to protect antiquated markets from competition. Moreover, such a structure would force SIAC, for the first time in nearly twenty-five years, to compete with new firms that are interested in developing the technologies that drive the new NMS.

A CENTRAL LIMIT ORDER BOOK WOULD NOT ENHANCE THE MARKETPLACE AND WOULD ONLY HARM INNOVATION, ADD BUREAUCRACY, AND REDUCE THE COMPETITIVENESS OF OUR MARKETS

There are those with less confidence in the economic efficiencies produced by competition who continue to express concerns about fragmentation when trading is spread across competing markets. The same people that have contributed to fragmentation have also supported the centralization of all trading in a time-priority central limit order book, or CLOB. Academics and the Commission have debated this vision of transforming America's financial markets into a CLOB in the past, only to be rejected each time as a bad idea.

The notion behind the CLOB is that technology can be employed to centralize orders in one place, thus resulting in maximum order interaction and perhaps even better prices. A CLOB, however, will sacrifice the innovation that has made our markets the best in the world. Research has shown that competitive markets are

better equipped to implement technological innovations to address market inefficiencies. Centralized markets, no matter how well intentioned their architects, will typically be obsolete by the time they commence operation. Competition creates incentives for markets to upgrade and innovate. Centralized markets do not. Unlike open markets, centralized markets serve to impede the ability of innovative firms to develop new technologies and mechanisms that promote better execution. Proponents of a CLOB typically rely on claims that the markets are fragmented and that this fragmentation can only be addressed by means of a CLOB.

FRAGMENTATION IS BEST ADDRESSED BY COMPETITIVE MARKETS AND TECHNOLOGICAL INNOVATION

Fragmentation has always been a problem for our markets. It is not a question of if fragmentation exists, but rather a question of degree. In the past, fragmentation was severe and was compounded by inadequate information technology. As technology evolved, the degree of fragmentation has diminished while the number of market participants has skyrocketed. However, the level of fragmentation in our markets could be greatly reduced by reforming the NMS.

Statistical evidence supports the conclusion that ECNs produced more efficient and less fragmented markets. Since the arrival of qualified ECNs, evidence reveals dramatic improvements in the costs of trading stocks in the United States. The average cost of executing a trade on the Nasdaq Stock Market fell by 23 percent in 1998, spreads fell 41 percent, and volume increased substantially. If left to competitive devices, the degree of fragmentation within the markets will continue to be reduced despite the introduction of a multitude of market participants.

There has always been a tension between the efficiencies of centralizing order flow and the benefits of competition between markets. Currently, the markets are linked by the NMS plans. One plan that is very important in reducing market fragmentation is the Inter-market Trading System ("ITS"), which allows orders to be routed to the best market regardless of which market originally received the order. Unfortunately, the technology and the rules governing the operation of the system are, in Chairman Levitt's words, "archaic." Market participants using ITS to route orders to other markets may wait as long as two minutes to receive a response and, even then, may not receive an execution.

Historically, the traditional market participants were opposed to technological innovations that could undermine their hegemony over the markets. This resistance to technology has resulted in fragmentation. However, competitive market participants have responded to perceived fragmentation and inefficiencies with market-based innovative solutions. A variety of ECNs and other trading systems have responded with systems that consolidate and provide efficient access to the best prices among competing markets. One firm has connected all nine original ECNs, the NYSE and the Nasdaq to their system. Similarly, when the current Nasdaq linkage (SelectNet) proved too expensive and inefficient to handle record volumes, market participants forged links with one another to create trading networks that bypass SelectNet for faster and more reliable access to the best market prices.

A CENTRAL LIMIT ORDER BOOK IS ANTI-COMPETITIVE AND HARMS THE PUBLIC

The proposed CLOB is anti-competitive and would impede the development of new for-profit electronic stock exchanges. If the Commission mandates a monopolistic central execution system, such as the proposed CLOB, with which all market-participants must comply, innovation could be eliminated. Such a dearth of innovation would not serve the goals of the Act, the NMS, or the public. Rather than developing a system that would reduce innovation by new for-profit electronic exchanges, ECNs and other market participants, and halt the development of technologies that provide additional liquidity and transparency, the Commission should encourage a new and equitable NMS.

Government imposed centralization will cost all investors in terms of less competition, less choice, and ultimately less efficiency. The expensive new infrastructure and bureaucracy required to support a CLOB would impose significant costs on new electronic for-profit exchanges, the market and ultimately issuers. Most importantly, a CLOB will result in worse prices for ordinary retail investors.

The amount of price improvement available in new and traditional markets is obviously an important factor in this equation. NexTrade supports new ways to get better prices for customers, but this should be achieved through competition, not legislation. More importantly, we caution against adoption of a single structure or price improvement formula at the expense of competition and innovative alternatives. The proposed CLOB offers no additional benefits, and only serves to impede competition and the development of new electronic markets.

A CLOB PRESENTS A CENTRAL POINT OF FAILURE THAT WOULD THREATEN AMERICA'S FINANCIAL MARKETS

Like any centralized marketplace, a CLOB would have substantial dangers. Most importantly, a CLOB would represent a single point of failure that could jeopardize the global economy. The danger of such centralization is apparent in light of recent well-publicized attacks on some of the largest Internet web sites and service providers. It is economically impracticable to design a centralized marketplace that would be completely free of vulnerability to attacks by cyber-terrorists. The implausibility of designing a totally safe CLOB will become increasingly apparent in the future as warfare and terrorism move from city streets to the Internet. In contrast, the currently developing network of trading facilities, much like the Internet, mitigates these potential dangers through numerous alternative trade destinations.

The greatest negative effect that would result from the implementation of the proposed CLOB would be that the entire NMS would become dependent on the capacity, integrity and security of a single, largely antiquated system, which has proven to be unreliable. NexTrade believes investors and the market benefit from a variety of alternative systems that route, display and execute orders. The rapidly declining costs of telecommunications technology has made it possible to build and maintain redundant, competitive systems to handle orders without the need for a single monolithic service provider.

The currently developing network of electronic exchanges and market participants offers the best solution in a competitive environment. A reformed and more open NMS that is not dominated by a single exchange and its technology will promote the continuing development of innovative trading tools that electronically process orders in an efficient and reliable manner across multiple sources of liquidity.

NEXTRADE IS READY FOR DECIMALS AND IS DISAPPOINTED THAT THE MOVE TO DECIMILZATION WHICH WILL SAVE THE PUBLIC UP TO TWO BILLION DOLLARS A YEAR MAY BE DELAYED BECAUSE SOME TRADITIONAL MARKET PARTICIPANTS HAVE FAILED TO TAKE APPROPRIATE STEPS TO MODERNIZE THEIR TECHNOLOGY

Like most ECNs and Alternative Trading Systems designed in the past five (5) years, the technology behind the NexTrade ECN and the proposed NexTrade Exchange is ready for trading in decimals. As a member of the National Association of Securities Dealers ("NASD") trading on the Nasdaq, the NexTrade ECN System currently has to convert orders that are in decimal increments into fractions for execution. Like many members of the Nasdaq, NexTrade has eagerly awaited the arrival of decimalization.

In order to ensure that NexTrade's linkages to the NMS and the Nasdaq are ready for decimalization, NexTrade is planning on participating in the industry wide decimalization testing. Unfortunately, as a member of the NASD and a Nasdaq participant, any delays by the Nasdaq in implementing decimalization will impact NexTrade's ability to conduct this testing and will delay the introduction of decimal pricing for our subscribers.

On January 28, 2000, the Commission ordered the securities markets to begin trading in decimals on July 3, 2000.[1] The transition to decimals will save investors anywhere from $300 million to almost $2 billion annually. The transition to decimals, however, must be delayed because some traditional market participants have failed to invest in technology that will enable them to handle the increased quote traffic resulting from the switch to decimals from fractions.

A recent study conducted by SRI Consulting projected that message traffic for stock and options quotes would likely rise dramatically when decimal trading begins. The SRI study projected that options trading in decimals could lead to a 3,000 percent increase in peak message traffic by December 2001. The study also noted that even if decimals were not introduced, message traffic would rise 779 percent. According to SRI, the transition to decimals will mean that Nasdaq message traffic could rise as much as 700 percent by December 2001. Even without decimals, the peak message traffic for Nasdaq stocks could be 174 percent higher. Message traffic for securities traded on the exchanges would be 50 percent higher by the end of 2001 from its December 1998 levels without any impact from decimal trading.

NexTrade applauds Nasdaq officials for their concern for the integrity of the NMS and for having informed the Commission that their market would not be ready until the first quarter of 2001 to accommodate the increased message traffic expected from decimal trading. NexTrade, however, is troubled by the Nasdaq's failure to take the necessary steps to ensure that it would be ready for the implementation

[1] Exchange Act Release No. 34-42360, 65 Fed. Reg. 5003 (Jan. 28, 2000).

of decimalization. Nasdaq, however, is not alone in its failure to address systems capacity problems associated with the conversion to decimals.

According to the General Accounting Office, the Options Price Reporting Authority ("OPRA") will also face considerable difficulties as it attempts to handle the increased message traffic. OPRA, the NMS system used to disseminate trade and price quote messages for equity and index options industry wide, is currently incapable of handling the increased volume levels that will result from the transition to decimals. OPRA officials have admitted that upgrading their systems to handle the increased options traffic expected from decimalization is a major challenge. In order to address the current and projected message traffic volumes, OPRA and SIAC intend to begin increasing system capacity. OPRA plans to increase system capacity by December 2000 from its current maximum of 3,000 messages per second to 12,000 messages per second. It is unclear if this additional capacity is sufficient to accommodate the volume levels projected in the SRI study.

NexTrade is concerned that the delays requested by traditional market participants that are not ready for decimalization will cost the public the $300 million to almost $2 billion dollars in annual savings that will be the result of the transition to decimals. The market structure that has resulted in the delay in the implementation of decimal pricing is in need of fundamental restructuring. The opening of the NMS to greater public and non-traditional market participant involvement will help to promote innovation and greater competition. Such competition and innovation will result in more efficient markets that benefit the public.

CONCLUSION

Mr. Chairman, and members of the House Subcommittee on Finance and Hazardous Materials, we have the unique opportunity to create fairer and more competitive markets. While it is unclear what the future holds for the development of the financial markets, we must remember that the Internet empowers entrepreneurs and the public like no other vehicle has in the past. If we are to retain our primacy in the capital markets we must embrace two concepts: (1) the Internet will transcend our ability to regulate the markets, and (2) the future of finance does not have a Wall Street address, it has an IP address.

As this Committee works its way through these various public-policy issues, NexTrade would welcome the chance to elaborate on the proposals put forth today, and to contribute in the most constructive way possible to this important dialogue.

Thank you very much.

Mr. SHIMKUS [presiding]. I think what we will do for the benefit of members who have gone to the floor for the vote, I will ask a few questions, which will allow the chairman and the ranking member time to get back so they can see both demonstrations.

So if I may, a question for all of you is what percentage of limit orders placed on each of your systems is completed in the very impressive 1^{300} of a second that I have heard discussed?

Mr. ANDRESEN. On The Island, it is benchmarked around 1 millisecond, as you've noted, but it is difficult to quantify the percentage of limit orders that are executed because Island encourages the submitting of limit orders such as buying Dell at a dollar or selling Amazon at $200. I used to laugh at both of those. Now I just laugh when people are selling Amazon too early. With limit orders because you are placing a specific price limit on what you are willing to buy or sell, you can only quantify the percentage that get to the market and then are executed. And because ECNs are included within the national market system for NASDAQ stocks, all orders represented on ECNs like Island are executed that become marketable.

Mr. SHIMKUS. Let's just go down the panel.

Mr. Foley.

Mr. FOLEY. 3/100 of a second, that is a technical question that requires a technical answer. ECNs are, by regulation——

Mr. SHIMKUS. And let me just clarify. The direction of this question is obviously there is great, quick equally matching when you

have a buyer and a seller. What percentage of that is in that rapid response? What percentage is not within that quick reaction time, and probably the vast majority if you take the majority of transactions?

Mr. FOLEY. When you have a buyer and a seller that matches, it is 100 percent. That is the business that we are in. We match immediately. We are agents only. We have no other business with that information except getting our customers' trades done. That includes orders that come from noncustomers, from the outside. We have an obligation to our customers to execute the trades immediately and we do so. It is another matter—I would say the amount of time it may take a noncustomer's order to get to us if it goes through NASDAQ technology, for example, but many of the ECNs have connected to each other privately in order to maintain rapid communications between ECNs, which is an obvious addition to your ability to respond instantaneously. So the direction of technology is to do things rapid fire. Where technology is allowed to compete in an unfettered fashion, you have greater speed, greater reliability and greater customer satisfaction. That is what we are committed to.

Mr. SHIMKUS. And I will let this question evolve as I go through the panel. The various published reports state that this happens approximately 25 percent of the time. So the question that is emerging is what happens to the 75 percent, and if they are executed because they are sent elsewhere?

Mr. DORSCH. I think this question is probably more geared to the other members of the panel today. In our arena, SWAPS trading and negotiation is done differently. We don't match orders, per se. It is an electronically negotiated process. Having said that, to quantify how much we have speeded up the process is a little bit like somebody who was once walking and now they are flying in a jet fighter. We have added that much speed to the process.

Mr. OXLEY. Mr. Schaible?

Mr. SCHAIBLE. I will take the question to mean what happens to the order if the ECN does not have a match inside the book.

In that circumstance, and I am speaking for NexTrade, we have invested millions of dollars in order routing technology that will allow us to handle market orders and orders that do not have a match inside our system to go to the best destination as quickly as possible. We have found that is to other ECNs quite frequently.

Mr. FOLEY. I didn't interpret the question referring to that issue, and it is an important issue. What we do at Bloomberg Tradebook is show the best prices to our customers from any place we can get them, from the market makers in NASDAQ, from other ECNs, and we present our clients with the opportunity to route directly to the best price, wherever it may be, and that is not something that every ECN does, and it is an important part of the service that we provide for our customers because they need to know more than just what the best price is among our customers.

As we have grown, that becomes more and more important information. The success in our markets, both the market in general and also for our customers, the individual participants, means the ability to see where everybody else who may be the other side of your trade is and that is transparency, and the ability to get there.

And that is the market linkage, and that is what we promote. It is an important value to our clients at Bloomberg Tradebook.

Mr. SHIMKUS. Let me throw out this question to the panelists. You all talk about immediate access to the Intermarket Trading System. Why should you be able to access the ITS in a manner that is different from all of the other broker-dealers?

Mr. ANDRESEN. I don't think that we should have any different access as long as we meet the regulatory obligations of the structure within which we exist. Island is regulated as a broker-dealer itself by the NASD, and also as an alternative trading system or ATS by the SEC. I believe that if a broker-dealer, whether electronic or otherwise, can make itself accessible to investors, they should have the opportunity to compete. One thing that ECNs do differently than traditional marketplaces is allow for instant information and instant access.

If you see something on an ECN, you can get to it immediately because it is, in fact, a live order, in The Island's case, a retail order. If there is a traditional intermediary, the one problem with that is if they don't make themselves immediately accessible, everyone's systems have to slow down to the lowest common denominator.

Mr. FOLEY. I would like to be explicit about this. We don't believe that ECNs need to have direct access to the ITS. We understand the argument, and some have used the analogy of the NFL. There is the NFL or you can start your own league. You can't demand entry into this league.

The issue is this: We want there to be competition among the exchanges because if there is competition among the exchanges, then we know that exchanges who want the order flow from our customers are going to be responsive to our needs for innovation and so forth. The ITS committee in our view, the way ITS is governed, restrains and discourages competition among exchanges.

It has been more than a year and a half since the Director of the Division of Market Regulation, then the Director, Richard Lindsay, wrote a letter to the ITS committee expressing concern over how ITS is governed. They make decisions by a blackball method. If anybody is opposed, then change can't happen. That has made it difficult for the NASD to bring ECNs in, and it makes any kind of technological change all but impossible.

Our issue is that the Congress should be concerned. The Commission should follow up on this question of how ITS is governed because if ITS is allowed to make decisions on the basis of what the exchanges themselves feel is in their best interest and exchange competition can flourish, we think that there will be exchanges that want a home for us and innovative broker-dealers and will provide services for us and our clients that we currently can't get in the listed markets.

Mr. OXLEY. Thank you, and thank you to the gentleman from Illinois for sitting in the chair. This will be an appropriate time to have our show and tell.

Mr. Andresen, if you would proceed with that, we would appreciate that.

Mr. ANDRESEN. What you are looking at here is the wide market in the stock Cisco Systems which is the largest stock by market cap

in the world. All of those colors that you see, and I understand that it is hard to make out from up on the dais, all of those changes that you see are retail investors putting in indications to buy or sell, live accessible orders. And this is important in our minds for two reasons: one, because people can now make better investing decisions. Chairman Levitt has said over and over again that the best investor protection tool is the use of a priced order. The reason why people place market orders in the stock market is because they lack knowledge of what the order is. You would never place a market order for an automobile or a box of Cheerios, but in my mind it is even more distressing that you place one for your life savings or pension into a stock market with no knowledge of what you are going to pay.

And as an example, the price line IPO, one of the hot IPOs of last year, the investment bankers priced that deal at $9 a share. The opening price was at $90 a share, which is where all of those market orders got filled. The investors found out about those executions when the stock was back down at $60 a trade. The use of limit orders hinges on your ability to know the prices. And it is not good enough to be able to look the next day in the Wall Street Journal or The Washington Post in the stock tables. You must be able to know right now what everyone is doing. Just looking at the last sale in the stock is like driving a car down the road by looking over your shoulder and saying wow, this road sure is straight. Not seeing the orders, what everyone else wants to do in the stock is very dangerous.

The other thing that seeing the entire limit order book enables you to do is have accountability for your order. Right now, in traditional marketplaces, they will only tell you the best price. That means they will tell you the highest price anyone is willing to buy Cisco at is $77. The lowest price someone is willing to sell is $77½. That is interesting information, but not being able to see what is behind those orders, who wants to buy at $76¾ or $75 is damaging. In addition, not seeing your order within that list of orders is very dangerous.

What we have given with the Island Book viewer is pure instant accountability for your broker. Instead of talking to your broker 3 years ago and saying gee, Broker Bob, I would like to buy Dell and have him say you can buy it at $38, having him tell you that a day later. Now the conversation is gee, Bob, I put my limit order in to buy Dell at $38 1/16 when it was $38 1/8 by $38 5/16, and it traded down to $37 31/32, and I didn't get an execution. What are you doing over there? And that is an empowered investor, an investor who has the tools to be able to judge the service that they are given. Everyone knows about commissions, margin lending rates and access to research. Until now, they have not been able to know about execution quality. Execution quality, the price your trade is actually given to you at is far more expensive, a dead weight loss to the investor. Seeing your order in there with everyone else's is the kind of transparency that is essential for investor protection. Thank you.

Mr. OXLEY. Thank you. Mr. Schaible.

Mr. SCHAIBLE. Actually, I am going to need the phone cord from Matt's machine to do the connection. In the interim, I want to re-

turn to a question that the gentleman had asked before you came back into the room about whether or not we believe that all broker-dealers should have access to ITS equal to what ECNs are asking for, and I want to agree with what Matt had said with one important caveat.

I think that anybody who has access to the National Market System should have to pass a validation of some kind with respect to the level of technology that they can bring and that certainly, that level of technology should be held to the current ITS. If Matt participated in ITS on the way orders are executed today, they would absolutely expose themselves to double, triple, quadruple execution for a single order. The current ITS system holds single orders alive for up to 2 minutes because their technology is so antiquated. I think it is an important topic.

Mr. OXLEY. Who would determine that capability, that technological capability?

Mr. SCHAIBLE. We have suggested that we broaden the governing structuring of the National Market System plans, particularly ITS, to get in a wider representation base. Currently only exchange members can be part of the ITS governance board. We think there should be broker-dealers, members of the public, issuers, representing a board similar to the structures of an exchange and that board can make the decision what the standard should be and submit it to the Commission for approval.

This will take me just 1 minute. What you see on the screen on the left-hand side is information on the current NASDAQ operating environment. It is structured to display what are called level 2 quotes, which shows essentially the best prices of every market maker or ECN today on Dell computers. This system is a system that a lot of our broker-dealer clients utilize to connect to the NexTrade ECN.

On the right-hand side of the screen is the NexTrade order book, and we anonymously show the interest of every order inside on the NexTrade ECN so that any investor or market participant can see the complete depth of NexTrade's book. This is an important difference from left to right. On the left-hand side the NASDAQ, you see only the top of the book of the market participants, and to get access to this information you must pay a professional fee of $50 a month to the NASDAQ.

For the information on the right you see the entire depth of book in real time for free. And that is something that I think NexTrade is doing. I believe Island offers their quote depth for free as well, and it is something that we do as a competitive tool because we can show that depth and we do that to attract market share away from the NASDAQ. This system can do everything that NASDAQ can do with respect to executing orders and more, and we can do it over the Internet. We can trade like the NASDAQ in 20 seconds, and that is what competition will do for the market.

Mr. FOLEY. Mr. Chairman, I wonder if I can give you a verbal demonstration of some of the differences in the ECN space. One of the things that we think is really important for our clients is to show the full depth of the market, including all of the quotes from NASDAQ and combine them with the orders of our clients and route our client's orders to the best market, the best market maker,

or the best ECN to satisfy our best execution obligations. And let me put it this way. If you look at the display that shows the depth of book from a single participant, even a large one, 12 percent of the market, for example, you are still missing out on the other 88 percent of where the best price may be and the best place to execute a brokers—customer's trade.

And so the display that we provide for our customers is one that shows the complete information and we are enthusiastic advocates of public displays that combine rather than having to go from one place to other, that combine the aggregate market depth. We enthusiastically endorse the proposal that SEC Chairman Levitt put forth at Northwestern a couple of weeks ago that the industry should work toward a free market solution for this.

We enthusiastically oppose NASDAQ's proposal, which you will find presents depth of market information, but it takes our names off the source of the quotes and replaces it with NASDAQ's name. Hence, centralizing not just the display but the execution into a black box because you have to go through them to get to that so-called anonymous quote.

I just wanted to lay out a couple of distinctions that we think it is in the best interest of the investing public to see all of the information in one place, and all of the places where you can execute with the ability to get there. We do that for our clients. We support Chairman Levitt's initiative that will do that for the investing public in general, and we oppose the SuperMontage which purports to do that, but we think is an anticompetitive positioning of NASDAQ as a government-sponsored monopoly technology provider in advance of their privatization.

Mr. OXLEY. The Chair recognizes himself for 5 minutes for some questions.

Mr. Foley, and maybe some others, could you help me with this issue, that is the SuperMontage idea versus central limit order book. Explain to the uninitiated, are they competing concepts or are they similar from your perspective and how should this committee perceive both of these initiatives?

Mr. FOLEY. The distinguishing characteristic of the CLOB is that someone or some entity is in charge, and some of the debates you might hear at the top about this proposal versus that, this is not a CLOB and this is, really the debate comes down to who is in charge. NASDAQ's SuperMontage proposal, has all of the centralizing aspects of a generic CLOB proposal, but it has a specific characteristic that NASDAQ is in charge of it.

One of the issues that came up earlier had to do with the compelling of orders into a CLOB? Would retail orders be compelled but institutional orders not be compelled? We think that orders that are displayed to anyone should be displayed to everybody and that should be a requirement. But what particular technology you go into should be a matter for the free market to decide, and that is the danger of a CLOB. No matter what you call it, if it centralizes the black box, you are going to have a single point of failure. You are going to have a single point that is resistant to change. You are going to have to have people like us on this panel raising our hands for permission to innovate in the future, and that is not the way

that we have managed to serve our customers and grow our businesses over the last few years.

Mr. OXLEY. May I interrupt. If all of these impediments are out there, how have you been so successful so far?

Mr. FOLEY. That is a great question. A lot of these issues can be confusing because there are different things going on. I boil it down to this.

The NASDAQ market is a market where new nimble competitors can come in and introduce innovations and thrive. It is consolidated and not fragmented. Where NASDAQ's linkages don't suffice, ECNs can connect privately to each other and replace those outworn solutions with state-of-the-art solutions.

The SuperMontage proposal says there is a lot of chaos here. There is a lot of change. Things are going on. Let's take an example. Bloomberg Tradebook's innovation of reserve, which allows for the handling of large orders in an electronic marketplace, is incorporated into the NASDAQ SuperMontage proposal. You wouldn't introduce an electronic trading system today without the innovation that we introduced 3 years ago. You know, the issue in the NASDAQ market is when you say this is the institutionalized, centralized level of innovation, do we really know that we don't need any more innovation, that there are not customers that we can serve better with new competitors. I would argue if you hold this panel 3 or 4 years from now, if a central limit order book or the CLOB takes hold, it will be the same innovators here. We will be talking about innovations that we had 5 years ago in the year 2000.

Because of the NASDAQ market maker collusion scandal in 1996, it was much more open to the reforms of the SEC than the listed markets have been. But we think what makes the U.S. securities markets the best in the world and what is going to keep U.S. securities markets in the U.S., is transparency. Now we are defining transparency and we are thrilled to see this debate move forward as the full market depth for everyone to see. Linkages. You see the best prices. Do you have the ability to get there, and the best execution obligations that brokers such as ourselves should take advantage of the linkages to do the right thing for our clients.

We have been able to innovate on NASDAQ, not so much on the listed side. We don't want to see NASDAQ innovation stopped and we would like to see it started up on the listed side.

Mr. OXLEY. Thank you.

Mr. ANDRESEN. I think it is sometimes instructive to look at what NASDAQ is. We are all interested in making sure that investors get all of the information that they can. That, in fact, is NASDAQ's core competency. NASDAQ is not a central meeting place at all. Instead, it is a collection of different participants, three of whom you see represented today. Others like Goldman Sachs or Morgan Stanley also participate in NASDAQ.

What the SEC did in 1997 was say this NASDAQ world, if you think of it perhaps as a shopping mall, the shopping mall doesn't buy or sell things. They provide the roof for the different stores to transact their business. NASDAQ ensures, just as a shopping mall does, that you have a map of where to go, and if you lack the ability to get there, give you the communication path to be able to buy

whatever you want from the prices they give you. ECNs were not in that shopping mall in 1996. The SEC insisted in their order handling rules that they should be so you now have different types of stores within this mall applying slightly different wares.

The issue before you today is not so much what is going on in the shopping mall, in NASDAQ. Maybe NASDAQ through the SuperMontage wants to open its own store. I am not afraid of competing with NASDAQ on the basis of service, cost and reliability. If they can do a better job than Island, they are welcome to the business. On the listed side, however, their shopping mall is a collection of the 10 established stock exchanges: The New York Stock Exchange, Am Ex, Philadelphia Boston, Cincinnati Chicago, et cetera.

The ECNs are just like Burlington Coat Factory. We are stuck on the other side of the expressway, hoping that people stop by our stores on the way to the centralized meeting place. We ask for a chance to share our prices with the other marketplaces. Let's let investors vote with their feet and select the marketplaces which adds the most valuable.

Mr. OXLEY. Thank you. The gentleman from New York.

Mr. TOWNS. Thank you, Mr. Chairman. Who is proposing a CLOB? And why?

Mr. FOLEY. The CLOB is not a formal proposal before the public at this point. We understand that there is a white paper that is in draft form drafted by some of the leading brokerage firms on Wall Street that formulates the notion of a CLOB and why markets need a CLOB today.

The second place where you see evidence of the debate over a CLOB is with a paper that the SEC recently released. It was a concept release asking for public comment on various issues of market structure and the first and most important issue that they ask for is do we need a central limit order book to address issues of market structure.

Finally, it has been raised by panelists who have testified on the Senate side before the Senate Banking Committee on market structure. I say this about the debate. If you really want to boil it down to one thing that we think is the most important, there is a lot of concern about how our equity markets are going to be structured to be the most competitive for the world in the future. There is a lot of debate around decimalization and the Commerce Committee championed decimalization, and I congratulate the chairman on the issue of decimalization.

On one level it was a question of I buy my groceries in dollars and cents and I would like my stock purchases to make sense as well. You have academicians weighing in saying decimalization carries with it so many beneficial effects that address a lot of the complicated issues in market structure.

Our issue is simply this: We don't know what decimalization is going to solve until we have decimalization, and we don't think that we should be looking at intrusive, sweeping regulatory changes in a marketplace that is going to change for the better once we see decimalization. As I think someone else on the panel mentioned, we think everyone's first priority should be getting to

decimalization, and we will see what the benefits are and we then can see what else we need in the marketplace.

Mr. TOWNS. You anticipated my second question.

Mr. ANDRESEN. I think any time you look at Wall Street or any other industry, you have to look at underlying motivations. What is in it for me. Those who propose a CLOB are people that stand to benefit.

I used to be a big fan of the Price Is Right when I was sick and staying home from school—a couple of years ago. I remember always feeling really sorry for the first poor guy that had to make the first bid. He would say $300 for that laptop, and everyone else would be $301, $299. He would just sit up there all morning and people would sandwich him on either side.

If you look at Morgan Stanley, Merrill Lynch and Goldman Sachs, who are the ones who proposed this most directly on the Senate side in their hearings in New York, these companies don't really control much retail order flow. That has gone to places like Island or market makers like Knight Trimark. They control institutional order flow. So they propose having a public utility, being the initial transparent venue for all retail investors for them to make that first bid. Their customers can come in through their gateway and pick off the retail investors as they see fit.

I believe transparency is not about holding up retail investors for them to be cherry-picked. It is about creating a truly level playing field where everyone has access to everyone else's information at the same time.

If you look at the CLOB, inevitably there are those little carve-outs. They want a CLOB but not for our customers, because in the end, a market is about asymmetric information. If I know the final score between Wake Forest and Notre Dame, I will make a lot of money betting on it. If everybody knows the final score, it is uninteresting information to have. Everyone wants to see what everyone else is doing without showing their own cards. When you look at someone else's proposal, you should see that through the lens of their own business model.

Mr. TOWNS. Thank you very much. One more question, Mr. Chairman.

What can this subcommittee do to foster reform of the ITS? What can we do?

Mr. ANDRESEN. Well, I think the most important thing is just to make this a debate. I think market structure is something which has been very opaque to retail investors. I remember reading an article in the Wall Street Journal about an investor that lost a tremendous amount of money in the Palm Pilot IPO because the market center had held his order for a substantial amount of time. And I was struck and the reporter was struck by what did you think happened to your order when you submitted it? Didn't you think that it was sold to someone else who was going to trade against it? He said I just thought they sent it to the stock market, and this illustrates the degree to which the investors have become knowledgeable about individual stocks and the market direction, but have not thought about market structure.

As long as we look to create in ITS an environment where new competitors can come in and actually compete, we will have an effi-

cient system. If this committee considers the structure right now which is, as alluded to before, the old U.N. Security Council situation where one person can veto a change. It is really a situation where if we are soda manufacturers and I have to go with my new soda pop to Coke and Pepsi for permission to compete, and they can say yes, just serve it at 120 degrees Fahrenheit, it makes the benefits of that new soda obsolete.

ECNs are new markets that are as revolutionary and as innovative as the light bulb was to the candlestick, but we are being asked by the existing candlemakers to screw our light bulb into their candlestick.

Mr. OXLEY. The gentleman's time has expired. The gentleman from Iowa, Mr. Ganske.

Mr. GANSKE. Thank you, Mr. Chairman. While I have learned a lot in your presentation, I appreciate your testimony. Mr. Chairman, I have here some remarks by Chairman Levitt on a speech that he gave at Northwestern University on March 16, and I am going to skip around a little bit but read part of this, and then my question will be to get each of your remarks on what Chairman Levitt had to say.

Chairman Levitt said, "We can all agree that a market structure tilted toward the needs of hedge fund managers should not be our goal. At the same time, we should not foster a system bent toward day traders. Our future markets must serve the diversity of American investors. Of course, if we have a single monolithic market fulfilling this responsibility to customers would be much simpler, but I believe Congress was visionary in choosing not to mandate such a market. Over the last 25 years, our system of competing market centers has been the driving force behind faster and cheaper executions spawning new trading systems that provide anonymity and greater liquidity."

He goes on to say, "Market centers in a dynamic National Market System must be able to hone a niche, develop a brand or offer value-added features." I think that is some of what you are talking about in your testimony. "Any linkage must accommodate innovation and the imperative to compete on the basis of value. Moreover, inner market linkages are not intended to promote unlimited free access to a competitor's market. Why, for example, would anyone want to purchase a seat on the New York Stock Exchange if a connection to ITS offered equivalent benefits. At the Commission we well know that ITS has not kept pace with the technological change sweeping our markets. Its archaic structure and cumbersome governmental provisions are not fit for today's market, let alone the market of the future. The over-the-counter linkage, SelectNet, continues to be plagued with shortcomings and delays during heavy trading volume and even outages. Given the decentralized nature of the NASDAQ market, this is a critical and core flaw and one that must receive intense scrutiny and committed resources until resolved. We expect to exercise increasingly active oversight of these linkages in the near future."

Mr. Levitt continues, "In a more positive note, the Commission today," that was March 16, "approved a NASDAQ proposal to link ECNs to the listed market through ITS. I firmly believe that investors will be winners as fuller, more robust competition between eq-

uity exchanges unfolds." Then Mr. Levitt finished by saying "This is not a debate about big firms versus small firms. This is not a debate about institutional interests versus retail interest. It is not a debate about a monolithic market versus a splintered market. It is not a debate about human intelligence versus the quiet hum of a computer. Rather, it is a debate about how best to let unburdened competition and unbridled innovation drive the future of the market. It is a debate about how best to meet the needs of our investors, it is a debate about how best to equip our markets to compete and win in an increasingly globalized electronic market. It is, I believe, the most important debate our capital markets face."

I wonder if each of you can comment on those selected remarks of Chairman Levitt or focus on any particular part of those parts that I read. Maybe we can start with Mr. Andresen.

Mr. ANDRESEN. Thank you. I think Chairman Levitt has, throughout his entire tenure, worked to foster competition within the markets. Island's very existence is owed fully to the SEC's intervention in 1997. Without that, Island would never have had the chance to differentiate ourselves as a marketplace from everyone else.

I am sure it would not be surprising for you to know that the people in front of you today are not really friends. When we go back to New York or Florida, we will scratch and claw and fight to try to find some tiny advantage over the other person. That is the healthy aspect of competition. Without competition you have stagnation. Our phone company in 1981 was certainly the envy of the world, but there were busy signals and rotary dial phones. Today in the era of robust competition, we have tremendous breadth of service at incredibly lower cost. The equity markets are the same way. Island was designed to be fully decimalized. Island doesn't go to nickels or pennies but actually to tenth of a tenth of a tenth. We go to 10 decimal places.

Mr. GANSKE. Let me ask each of you to try to limit your remarks to 30 seconds or a minute so that all of the other members have a chance also.

Mr. ANDRESEN. Because we exist in a noncompetitive structure we have to take our fine increments and pound them away to NASDAQ's chubby price increments.

Mr. FOLEY. Congressman, those are great remarks by Chairman Levitt. I agree that the SEC has been an important influence for guiding competition. You pull out a couple of things from those statements. One, when you are relying on a central single point of failure in technology, you have problems finding alternatives. When Mike Bloomberg, my boss, wants something done, he will say to me, all too often, get it done or I will find someone else who can. If this committee could say that regarding decimalization in the NASDAQ market, get it done or I will find someone who can.

We think that the market structure of the future should not be one in which everyone gets a free call on all of the services of the New York Stock Exchange without having to pay for them. There should be a market structure where we look for free market competing solutions because we will have the best chance of having reliable ones and alternatives to turn to when we need them. It is

the same thing with the model of a CLOB. There is a central black box that you have to go to and that is a basic problem.

I would sum up on the ITS question this way. We don't believe that it is a monolithic club, the members of the ITS committee. We would like to see competition unleashed among the exchanges, and regarding the linkages between the exchanges, we call for one basic reform and that is the governance of the ITS committee. A lot of good things will flow from that. One member of the committee can veto any action on the part of the committee. Want to improve the technology? One guy can vote against it. I am concerned about this.

So that is a fundamental issue. As I mentioned earlier, the Commission took a look at that issue a year and a half ago, and we think that this committee would be well served to ask the Commission how that issue is progressing.

Mr. DORSCH. In order for this country to maintain its preeminent position in the financial arena, I think competition is absolutely necessary and I don't think any one group or entity should be allowed to stand in the way of innovation.

Mr. SCHAIBLE. Access to ITS is not enough. NexTrade would like the opportunity to compete for the National Market System technology business. We are forced by regulation to deal with the technology that is rather antiquated and that the previous exchange members already paid for. That is not a technology that we can easily interact with because it can result in double executions.

Something else that Chairman Levitt talked about is the crisis that the Commission is facing with respect to flight of talent. Ranking Member Towns asked earlier what this committee could do to help foster competition. I think one of the best things you could do is to look to fund the Commission more fully. Their hands are tied. They have exchange applications in front of them. They have National Market System issues pending. They are in a complete personnel crunch over there. I understand that SEC fees generate 5 times what the SEC actually sees. It is likely that we could take some of the funding and direct that to the Commission to allow them to deal with this crisis.

Mr. GANSKE. I thank you all.

Mr. EHRLICH [presiding]. Mr. Barrett.

Mr. BARRETT. In January 1997, were you all sitting around and you saw this order came through and said hey, let's try something?

Mr. FOLEY. Island and Bloomberg Tradebook and InstaNet existed prior to the order handling rules, and it changed the nature of our business models dramatically. It became possible to display your customers orders so that the rest of the world could see them. Why did that come about? It came about because previously there had been a private market inside the best bid and the best offer that the public saw, and while large volume is trading inside the prices that you can see on the screen, and market orders as Matt referred to before, were getting executed at this published bid off the spread that had nothing to do with where the market was really trading. People were writing to Congress complaining about that, I might add.

The upshot was that, with the new order handling rules, you couldn't keep your market private to yourself and say I am just going to match my customers' orders with each other.

Mr. BARRETT. How long did it take you to realize that?

Mr. FOLEY. Three seconds.

Mr. BARRETT. For us Neanderthals—you can see there are more Republicans here than Democrats. We don't have as much to invest.

Mr. FOLEY. This happens so frequently. When you go back to deregulation of commissions or various issues, and decimalization is going to be another issue like that, there is a lot of hand wringing about what the change is going to be, and the way things have operated before which has been very profitable for the operators going to have to change. The reality is in many of these issues, it brings about new opportunities to do business and service your clients, and we market participants, reformulate our strategies for how we are going to serve our customers.

Now these customers have new rights and it turns out there are a hundred new ways to serve your customers and differentiate yourself from your competitors, and that is sort of what has brought us to this point. Our business models existed before, but it really changed the rules of the game that favored innovators.

Mr. BARRETT. How did you sort of glom onto this?

Mr. ANDRESEN. The good thing about competition is that you never know where the next competitor is going to pop up. I always say there is an annoying amount of ease of entry and exits in the marketplace, and that is healthy. Back in 1996 when this happened, as you point out there was only one competitor, InstaNet, where most of the trading was done. What we saw was an opportunity to serve people that InstaNet did not want to help, the retail brokerages.

We said if we can do this at a cost level, we can change the world. It doesn't take long to figure out an on-line broker that make $10 a trade, and has to pay $15 to execute it, even on the Internet, is a bad business model. If we can make it 75 cents and make it cost effective and give good service to the customers, we would be able to grow with the on-line brokage industry.

Mr. SCHAIBLE. NexTrade is predominantly a technology house, and in late 1996, we had brokerage firms that were asking us to develop matching systems because the clearing costs were lower. Instead of having to send two trades to their clearing company and pay two costs, if they could match a system in-house, match a trade in-house, they would pay one clearing cost. So we started developing the technology in late 1996 to be an ECN. And in 1997 with the order handling rules, we began the approval process which took NexTrade about 18 months until they could become a qualified ECN.

Mr. DORSCH. Our business is different. Having said that, we were able to introduce decimalization in our business at the very get-go and the results for our clients have been phenomenal.

Mr. BARRETT. The other thing listening to all of you, this world is changing so quickly. What is it going to look like in 5 years? What is the New York Stock Exchange going to look like in 5 years?

Mr. ANDRESEN. I think it is difficult to predict how anything will turn out. Everything will be cheaper and faster and more transparent. I am sure that the day that the New York Stock Exchange

is forced to compete, they will change their business model to meet that competition. I do not believe in 5 years you will have floors where people transact. You will instead have everything done electronically.

Mr. FOLEY. I don't think anyone can say for sure who are going to be the dominant competitors. It was remarked earlier about the two largest players, New York and NASDAQ being 95 percent of the market. And I have to say that I don't think that it is necessarily a bad thing that large entities dominate our marketplace. They just simply need to have to compete to take on that role. A naturally forming monopoly has to compete to maintain its position in the marketplace, and a government-sponsored monopoly does not have to compete and serve consumers' needs.

Mr. DORSCH. I think the scope and speed of change is going to be faster, and I think it will reach further and I think the complexity of transactions that will be able to be done electronically will stagger people's mind. It is going to be beyond stocks and bonds.

Mr. SCHAIBLE. We talk about the future of capital markets resembling the Web, a number of portals interacting through a national market system with true transparency and quality of assess. The New York Stock Exchange has a lot of smart people, and when they are forced to compete, they will be one of the larger portals.

Mr. BARRETT. If I can take a minute for Mr. Ganske. He wanted a minute.

Mr. EHRLICH. Without objection.

Mr. GANSKE. I think a lot of people would see the services your companies offer as great for individuals. We just passed a financial services bill, which I think will bring many more players into this. Are some of the large financial institutions utilizing your company's services?

Mr. FOLEY. That is a space where Bloomberg Tradebook excels. What we have done is introduce innovations that make it possible for the larger orders that are handled directly by institutions or by broker-dealers who handle large institutional orders, to bring these orders directly into the National Market System instead of having them hang back and be worked upstairs and so forth.

And one of the revolutions in the marketplace right now is that we are coming directly into contact with institutional order flow for the first time. We make that possible by building tools that maintain the anonymity of the participant because if your fund managers spend a lot of time researching this stock, you want to make sure that he gets to buy it before everyone else knows about the idea and to allow those orders to participate in the market leaving a footprint of a lot of small orders rather than the footprint of one big order. That is where our 100 million shares come from.

Mr. DORSCH. Our business only serves large financial institutions. I don't think we have ever had a transaction under $50 million. It is hundreds of millions of dollars in a chunk.

Mr. OXLEY. I recognize the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Mr. Andresen, the central limit order book, how does it affect your analogy of the shopping mall? What would hap-

pen in simplistic terms if you turned that shopping mall into a CLOB.

Mr. ANDRESEN. I remember when I was 18 I was on the national fencing team and we went to Hungary. This was 1988, and I remember going shopping in Hungary and they had a big place called Store, and you went into Store and it had stuff and you could buy food and clothes and other generic things. While it seemed for me coming from America like some sort of Orwellian nightmare, I believe this is exactly what you would have with a central limit order book. Make everything generic. All of the technology would converge at one point. You could never be any faster than the slowest participant. Everything gets dumbed down to the lowest common denominator.

My concern with the central limit order book is even if you went today and said let's find the best technology, let's say that Island is lucky enough to be selected as the central limit order book, it is pretty good right now, a millisecond is pretty fast, but what happens in the future when that is not enough. What happens when instead of 2 billion shares a day, the market wants to trade 20 billion shares a day. You will call me and I am going to be working 4 hour days instead of 16 hour days, and I will tell you I will get around to it when I can. I believe to ensure we don't have that kind of stagnation, you must provide incentive.

Mr. SHIMKUS. Thank you. I yield back the balance of my time.

Mr. OXLEY. The gentleman from Illinois, Mr. Rush.

Mr. RUSH. I yield my time to the gentleman from Wisconsin.

Mr. OXLEY. The gentleman from Wisconsin.

Mr. BARRETT. Thank you, Mr. Rush. I know so little about this, I figured I can learn something here this morning. If this is a form of a CLOB, if you can explain what it is and what the problem is.

Mr. ANDRESEN. One of the rules of an efficient marketplace is sort of the law of the playground, the best price wins. If two people have the same price, whoever was first in line wins. People call that price-kind priority, and it is something at Island that we believe very strongly in. We have built our entire system around that idea. Even if you are only a one-share retail order, you are in first or better price, you win, you get the trade.

But it is very difficult, I believe, in fact, impossible to ensure time price parity, not just in a system but across systems. My concern is when you go back to the shopping mall analogy, when you try to ensure that kind of protection between markets, you actually undermine it and if you would indulge me with a quick hypothetical. What would happen if Kevin was trying to use Island to buy Cisco at $79 a share? He places his intention to buy on Island. Now, let's say that the two distinguished gentlemen up there both make the decision roughly at same time that you want to trade with Kevin on Island. So you both send an intention to sell to that order. If Island was the best price this is easy. Whichever one of you happened to type a little faster would win. But let's take the hypothetical where we have a trade-through rule. Let's say that you are just a little faster than him, and you send the order and I say I can't let you trade with Kevin because the Pacific Coast Stock Exchange out in Los Angeles has a penny better price.

I am going to reroute your order through the intermarket trading system for the next 2 minutes. Now, you are second in line and should be punished by being behind you, but you end up getting an immediate execution from Mr. Foley. You wait for the next 2 minutes to find out what happened. During that time, if it happens to be the Palm Pilot IPO that I mentioned before, during that 2 minutes, that stock will move 12 points.

Now 2 minutes later, you find out from ITS, I'm sorry, you didn't get an execution. Start over again. So despite the fact that you had time and price priority, because of the trade-through rule, you lack the ability to actually win.

Mr. BARRETT. Why does it exist?

Mr. ANDRESEN. I believe it is to protect the existing markets. If you have the biggest market you don't want to have true competition or accessibility to your marketplace. Island is a very big ECN. We make ourselves available to every other ECN because we believe that is the only way to run a marketplace.

Mr. BARRETT. How long has it been in existence?

Mr. ANDRESEN. Since ITS was implemented back in 1979. When Congress laid down their goals in 1975, they insisted that the industry come up with a National Market System. They insisted on the meeting of two goals: competition between markets and the sharing of price information for the benefit of investors.

When they did this, the industry took these goals and said we will meet them and they set up the Intermarket Trading System. So it was up to them to work out the details. Unfortunately, those details while at least on the surface in some ways, meeting those goals actually interfere with the meeting of those goals.

Mr. BARRETT. Back in 1977, when the SEC came down with the order handling rule, what did that apply to and what did it not apply to?

Mr. ANDRESEN. That applied most aggressively to NASDAQ. They said New York and ITS had some unspecified time to figure out how to meet these goals. On NASDAQ they were forced to implement it directly.

Mr. BARRETT. Why the difference?

Mr. ANDRESEN. I don't know.

Mr. BARRETT. Anybody? Any speculation?

Mr. ANDRESEN. I believe that the New York Stock Exchange controlling 80 percent of the market in that stock would want to, as any good business, would want to protect that market share. Having the method of linkage and the method of sharing of price information be less than perfect, you must go to the place where you have the best chance of meeting, thereby forcing all market people to stay in the place that happens to be at that moment the largest.

Mr. BARRETT. I yield back to Mr. Rush.

Mr. OXLEY. The gentleman's time has expired. The gentleman from Staten Island, Mr. Fossella.

Mr. FOSSELLA. I have one quick question and that is just out of curiosity, do you guys see any benefits to the central limit order book?

Mr. ANDRESEN. I think that the theoretical benefit is very profound. If everyone is meeting in one place, you are assured of having the positive effects of consolidation. I think that you can see

that benefit on the New York Stock Exchange where you have a huge number of buyers and sellers meeting. You can see it certainly in the market on Island, and I think the idea is very compelling. The idea of getting all of those people together in one place.

I worry that by accomplishing that the other effect will be that the technology that keeps these people together will eventually, and I believe by pretty much 12 hours after you put it in, be obsolete.

Mr. SCHAIBLE. I have to agree with Matt in the short term, there could be some benefits with respect to protection of investors and the quality of markets, but without the impetus that is competition that drives innovation, then you will see what we believe in this country is monopolies lead to stagnation, and the free market generally will lead to better pricing.

Mr. DORSCH. I would concur with those remarks.

Mr. FOSSELLA. The theory then seems sound to you, but the practical effect of it is not. Is there any way that you could take it to your theoretical conclusion?

Mr. ANDRESEN. Like I said, I agree with the end result.

Mr. FOSSELLA. How would you do it?

Mr. ANDRESEN. I believe you can do it by letting competition reign. We have many long-distant companies but only a few big ones. We have many ECNs but just a few big ones. We have many stock exchanges but only one big one. The natural economic forces which give those benefits from a consolidation, they will be wrought in a much more efficient way than government action could possibly bring them about.

The market centers that have the best markets will win. Look at E.bay. E.bay has a tremendous market for collectibles and other things. I once saw a human kidney bid on. I saw a half eaten bag of Fritos with over 700 bids in 1 hour. You might say that is just a joke product, but it is an incredibly powerful network where you have many people wasting their time putting in a fake bid.

We can start an auctionsite ourselves, but we would have trouble getting people to use it because they are never going to find that seller or buyer. We will always be driven to the largest place because of the efficiencies commensurate with those economies of scale and those kinds of network economies.

Mr. SCHAIBLE. Chairman Levitt refers to a virtual CLOB, and I think the reference is similar to what we discuss, a web of portal executions coming together that allow functionally the transparency of a central limit order book, but also foster competition, and I think that is what Matt was also saying.

Mr. FOLEY. Mr. Chairman, on the question of the trade-through rule, in our view the most important issue is the linkage and the ability to get to the best price. One of the things that we talked about during the demonstration portion is what differentiates ECNs from one other, do you show the best price outside of your market and do you allow your customers to go hit the best bid or take the best offer.

The trade-through rule in our view is consistent with investor protection, but it makes no sense without a technology linkage that is state-of-the-art, and allows you, in fact, to get to that price at a reasonable timeframe and not in the terminology of the financial

markets right to a particular exchange a free option on your order for the 2 minutes that they have.

In our mind, with transparency, linkages, and best execution of brokers, you will have the strongest market structure in the world.

Mr. GANSKE [presiding]. Mr. Engel is recognized for 5 minutes.

Mr. ENGEL. I understand that all of my questions were asked by my colleague from New York and other people. I want to thank the chairman for holding this hearing. I think that ECNs are very exciting, and it is one of the things that makes this committee so exciting because of all of the new technology that we discuss and we are able to question. I am delighted that two of the four panelists are from my hometown, New York, and it just shows the vibrancy of how New York continues to be a leader in the financial world. I just think that this is only part one on this hearing. We are going to have more hearings. I have some questions about decimalization and restructuring, but I understand that those have already been asked. So let me just say that I look forward to continuing the dialog. The dialog emergence of ECNs is certainly exciting. Anything that can enhance competition is a plus for everyone concerned.

I yield back the balance of my time. I am delighted to see the gentlemen here today and it makes me realize how old I am when I see how young they are. They are making money and we are not, Mr. Chairman. Something is wrong somewhere.

Mr. GANSKE. I point out that my farmers and small town businessmen can get on the Internet and trade like crazy.

The gentleman from California is recognized for 5 minutes.

Mr. BILBRAY. I am sure that my colleague wasn't implying that we want to get back to the good old days when politicians were able to make a lot of money in the field. My wife is from New Orleans and she always says if you want to do that, go back to Louisiana where half of the State is underwater and the other half is under indictment.

Mr. ENGEL. I don't think politicians should make money, but I don't think that people need to make money before they come to Congress. We ought to have a mix of people.

Mr. BILBRAY. I agree with you coming from that same background. I really came here as a parent, not as a Member of Congress. I watch my 13-year-old daughter buy her Qualcomm and Home Depot over the Internet, and I think there is a whole issue that we are missing, and that is, this whole access of a whole different population and that population not just being the farmer in Iowa, but also teenagers and young people getting interested in the market and a field that may have a whole cultural change, and hopefully will have a security, financial security change in the next generation. Rather than my daughter thinking about what new shoes or dress to buy, she is looking at which stocks to invest in, rather than going to the mall.

That is a real culture shock for someone who spent his time at the beach rather than worrying about computers or TVs. I would like for you to comment on this access issue and especially how we are starting to see a new generation get into this, because I am not going to call a stockbroker, I am going to talk to my daughter. She is now culturally getting into that though she does worry about the new rock stars, if you can call them that nowadays. But can you

articulate about this whole issue of the access component and average citizens and young people getting into a field that they feel comfortable with and that is the Internet?

Mr. ANDRESEN. Two things that enfranchise people is information and cost. Those two things have certainly come under tremendous pressure within the last several years. In 1975, the SEC unbundled advice from commission so that people no longer had to pay $500 a trade as if they were paying for help in making that decision. It doesn't take a rocket scientist to know if you have $600 invested at the end of the month and you spent $500 on commissions, you probably end up going to the mall or the track. If you are given the chance to pay only $15 in commission, suddenly this has opened up the stock market not just to the wealthy and the elite, but to anyone. I know when I graduated no one explained the stock market or how to balance my checkbook with predictable results. And what I believe——

Mr. BILBRAY. That is why you get married so someone does it for you. Go ahead.

Mr. ANDRESEN. I won't comment on that.

But I believe that information is a great empowering factor. People become aware of the fact that it is cost-effective. When your daughter is able to make those decisions, not because she pours over dense tables in the paper but because it is presented in a real time manner over the Internet, and I think that trend, as noted earlier by some of my other colleagues, that is only going to increase. The level of information, the speed of that information increases is just going to enfranchise more people.

Mr. FOLEY. I would add to that a couple of points. One, we have long in this country believed that homeownership promotes good citizenship, and we have policies to try to encourage individuals to own their homes, and I think a similar phenomenon, that individuals owning the assets of the U.S. economy really has to ultimately promote good citizenship and have positive effects in many directions.

Mr. BILBRAY. Are you talking about the tearing down of the barrier between the proletariat and the bourgeois?

Mr. FOLEY. Yes. More and more employees own shares directly of the companies that they work in, and more and more individuals are concerned about their 401(k)s and IRAs and pension plan and mutual fund investment. We ought not to forget the revolution going on in institutional trading and the empowerment of institutions who, after all, represents millions of individuals who are by pooling their resources investing just as much in our economy and safely and soberly and so forth, and the opportunity to innovate, to compete, to serve the interest of institutional clients is actually flat out delivering better returns for individual investors, and it is lowering the cost of capital for issuers, which is why issuers from around the world want to come to the United States to have their stocks traded, and it is providing employment for the U.S. securities industry in the U.S. which we think is the most important issue.

Mr. DORSCH. I think both of them gave great answers.

Mr. BILBRAY. What is the defense about having young people get into the market, not that I think it is a bad thing, but obviously

my wife had to participate in the setting up of the account. Now I say that and then I say obviously, why couldn't my daughter have done the same thing? Is that because of credit cards or credit numbers or some kind of account?

Mr. ANDRESEN. Whenever an introducing broker, like e-trade, any time they open up an account, they must meet suitability obligations, they must have money in the account and experience and they have to have those things set out. I anticipate one of the things that the SEC will continue to look at very closely is the obligations of those brokerage firms to ensure that the people that they are talking to are really there.

Mr. DORSCH. In our environment we service the institutional environment, and suitability is a big concern for us and our users.

Mr. BILBRAY. I want to clarify my comment about my marriage and keeping the books clean is I married an accountant so it came in very handy. I yield back the balance of my time, Mr. Chairman.

Mr. GANSKE. I would entertain any additional questions from any of the panel members?

Seeing none, I want to thank you gentlemen for coming today. Anyone who wishes to submit comments for the record are welcome to do so, and that's the end of the hearing.

[Whereupon, at 12:05 p.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows:]

ARCHIPELAGO
100 S. WACKER DR., CHICAGO IL 60606
March 28, 2000

Honorable MICHAEL G. OXLEY
Chairman, Subcommittee on Finance & Hazardous Materials
Committee on Commerce
United States House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515

Re: Decimal Pricing for the U.S. Securities Markets

DEAR CHAIRMAN OXLEY: I am writing to thank you for inviting me to testify before the House Subcommittee on Finance and Hazardous Materials at your hearing on "Competition in the Evolving Electronic Market." Unfortunately, as I have previously communicated to your staff, I will be unable to testify because of a prior commitment to my wife and children. In connection with your hearing, however, I do want to respectfully express the concern of Archipelago, LLC[1] (Archipelago) over the recent request by the National Association of Securities Dealers, Inc. ("NASD") to delay implementation of decimal pricing in our securities markets.[2]

While we agree with the NASD that market changes should not put markets and investors at risk, we also believe that the implementation of decimalization should be priority number one at the NASD. In our view, decimalization would create such a tremendous benefit for investors that its implementation should be the first priority, not the last. The NASD, while requesting a delay in the implementation of decimalization, is proposing at the same time other complex structural changes that would affect the Nasdaq market. Also, the NASD has been pouring enormous amounts of resources into international joint venture projects. Finally, the NASD has been on notice of this issue for more than three years and had, in essence, entered into a good faith bargain with investors, Congress, and the SEC to implement decimals immediately after Y2K. The NASD is now attempting to breach that good faith bargain. At a minimum, the NASD should delay the implementation of their other proposed changes and ventures and should focus all of its resources on decimalization.

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[1] Gerald D. Putnam is the co-founder and Chief Executive Officer of Archipelago. Archipelago is a leading electronic communication network, or "ECN," that serves a varied client base and executes over 60 million shares per day.

[2] Frank G. Zarb, NASDD Chairman and CEO, submitted this request to Securities and Exchange Commission ("SEC") Chairman Arthur Levitt in a letter dated March 6, 2000.

On January 28, 2000, the SEC issued an order requiring the U.S. securities markets to shift to decimal pricing no later than July 3, 2000. The SEC described the many potential benefits of decimal pricing in its order requiring the markets to adopt decimal pricing, and the NASD reiterated these points in its March 6 letter to Chairman Levitt. Probably the most important of these benefits is that decimal pricing would significantly increase quote competition, and this competition would save investors potentially tens of millions of dollars almost overnight. Further, decimal pricing will improve price efficiency in our securities markets through the mechanisms of the free market.

As a leader in this effort for many years, you are fully aware of the potential benefits that decimalization will bring to our markets as reflected by your recent statements:

> I wanted to [convert from fractions to decimals] for three reasons: (1) I believed the free market, not the government, should determine stock prices; (2) decimals would make the markets more accessible, because they are easier to understand than fractions; and (3) decimals would promote the competitiveness of the U.S. stock markets, because the rest of the world was already trading in decimals.

In addition, the SEC presented a number of potential changes in market structure in a recent concept release on market fragmentation ("SEC Concept Release"). We are of the view that many of the concerns that the SEC is attempting to address through the SEC Concept Release may be mitigated, if not eliminated, by the shift to decimal pricing. Once decimalization is implemented, competition in the free market may naturally resolve the issues underlying the Concept Release. We support the SEC's efforts to encourage lower trading costs and greater market efficiencies. Like the SEC, we are of the view that decimalization is paramount to producing these results.

For all of the foregoing reasons, we encourage you to monitor the NASD's request to change the implementation schedule for decimalization. In response to any change in the implementation date, please consider communicating to the NASD that it should also delay mandating additional market structure changes until the benefits of decimal pricing are realized by investors. However, the best result would be no delay in implementing decimal-based pricing so that the investing public would reap its benefits more quickly.

Thank you for your consideration.

Very truly yours,

GERALD D. PUTNAM

RESPONSES FOR THE RECORD OF KEVIN FOLEY, CEO, BLOOMBERG TRADEBOOK

1. How do ECNs increase transparency?

ECNs are distinguished by three characteristics—neutrality, transparency and fairness. Like market-makers, ECNs maintains an electronic book of customers' bids and offers. Unlike market-makers, however, Bloomberg Tradebook publishes our entire book of quoted prices electronically for all our customers to see, as well as publishing all other available pricing information. That's the ultimate in transparency.

I'd add that, unlike some of our ECN competitors, we empower our customers to take the fullest advantage of this transparency by actually routing them to the best available price, even if that is outside Bloomberg Tradebook. That's the ultimate in best execution.

As a practical matter, those who provide transparency within a system while not routing to the best available price are often providing benefits that are more illusory than real. As the largest ECN offering customers this ability to have their orders executed at the best price—even outside of our ECN—Bloomberg Tradebook is known as a "Best-Execution ECN".

In the final analysis, however, it is up to the government-sponsored market centers like the New York Stock Exchange and the Nasdaq Stock Market to make ECN transparency available to the entire national market system. These government-sponsored market centers can enhance transparency by incorporating ECNs into their market display, as Nasdaq did early in 1997. Or they can reduce transparency by seeking to block ECN display linkages, or roll them back, as seems to be the current effort.

2. Are your systems decimal ready?

Over a period of years, the Commerce Committee has rendered an enormous public service by spearheading the effort to convert to decimals. Decimalization would

create such an enormous benefit to investors and the markets that implementation should be the top priority for all market participants.

Accordingly, Bloomberg Tradebook has allocated significant time and resources to the capacity issues surrounding decimalization. As a result, we will be ready for decimal pricing as scheduled in July. Thus Bloomberg Tradebook and our customers were extremely disappointed by the NASD's recent request to delay decimalization. Again, the benefits of decimalization are such that the public would be best served if the NASD focused its resources on the capacity issues critical for implementation of decimalization prior to focusing on ill-advised efforts like the SuperMontage.

I'd conclude by noting that conversion to decimals will change our markets radically for the better. Congress and the SEC should not entertain significant structural changes to the Nasdaq market—like the SuperMontage—until after decimalization has been completed and the full range of its beneficial impact assessed.

3. What can you do to facilitate trading in decimals even though Nasdaq is not decimal ready?

As discussed above, Bloomberg Tradebook has allocated significant time and resources to decimalization and, as a result, we will be ready for decimal pricing as had been previously scheduled in July. We and our clients understand that presenting quotes in 1/8ths and 1/16ths has reduced competition and liquidity in our markets to the serious detriment of investors.

Ultimately, however, there is precious little additionally that can be done by us to facilitate trading in decimals in light of Nasdaq's failure to adhere to the conversion schedule negotiated among the Congress, SEC and the NASD. As the decimalization experience makes clear it is hard to prod movement from a government-sponsored monopoly even when it is clearly acting as a counterproductive bottleneck. This should be kept in mind as the Congress contemplates Nasdaq's SuperMontage proposal which would require that virtually all executions take place centrally, creating an enormous bottleneck that would further stifle innovation.

4. What structural changes should accompany the demutualization of NYSE and Nasdaq to ensure a competitive market?

Allowing a government-mandated monopoly to enter the markets as a for-profit entity raises enormous concerns for a host of regulatory and enforcement reasons. I'll focus on one that is very familiar to the Commerce Committee as both an historic and current controversy, namely the issue of access to market data.

A quarter century ago, the Commerce Committee spearheaded the effort to enact the Securities Acts Amendments of 1975. That legislation established the goal of producing a national market system. To this day, that remains the correct goal. In furtherance of that objective, Congress mandated a consolidated system for distributing market data in an effort to ensure that stock market information was accurate and accessible. The securities markets were allowed to charge a reasonable rate for gathering and distributing that information.

When the Commission, in 1972, first proposed rules to provide for the consolidated reporting of transactions and quotations, the New York Stock Exchange asserted that the SEC not only lacked authority under the securities laws to adopt the quotations rule, but also such action would deprive the Exchange of property in violation of the due process provisions of the Constitution of the United States. Despite these objections, Congress and the SEC were determined to achieve the goal of public access to consolidated market information.

Even in this day of on-line investing, the exchanges continue to argue that they "own" or ought to own quote information. Indeed, during the last Congress the dominant national exchanges were major proponents of legislation reported from the House Judiciary Committee—the "Collections of Information Antipiracy Act"—which would have created an unprecedented ownership interest in facts, including stock quotes. Though well-intentioned, this legislation—which has also been reported from the House Judiciary Committee this Congress—would create a property right in facts that extends not only to presently existing markets, but also, incredibly, to hypothetical, presently non-existing markets.

We applaud the bi-partisan leadership of the Commerce Committee for crafting critical legislation, the "Consumer and Investor Access to Information Act". That legislation, which was reported from the Commerce Committee last year, would also provide additional protections for databases but would do so while assuring that consumers and investors have continued access to factual information.

It has been observed that real-time stock data is like "oxygen" to investors. We worry about the prospects of a government-mandated monopoly over the most important information in the market—truly the market's oxygen—being controlled by

a for-profit entity that not only believes it "owns" data our clients create, but also wants to control the downstream uses of that data in currently non-existing markets outside of the real-time market window.

At the core of this market data debate is the outmoded concept that market participants should continue to provide market data to a government-sponsored monopoly and then pay to see it. We endorse an alternative model recently proposed by SEC Chairman Levitt in the context of market depth. Chairman Levitt has urged our markets—exchange, dealers, and ECNs—to make their limit order books available to the public where vendors could consolidate this data and repackage it in a form that would be most useful to their customers. A similar model allowing the establishment of private quote aggregators to which one could report market data—breaking the SRO monopoly on data—would certainly improve the quality, comprehensiveness, reliability and capacity of this information while reducing the cost.

5. What benefits will electronic exchanges provide that traditional exchanges do not?

In a statement before the Senate Banking Committee, Frank Zarb, the Chairman of the National Association of Securities Dealers, stated that "...I guess I sum up the answer as to why we have ECNs as the fact that the national stock exchanges around the world haven't been keeping pace with the needs of the market."

It's worth pondering why the stock exchanges didn't keep pace, as Mr. Zarb says. We would submit that a government-sponsored monopoly ultimately cannot provide the innovative ideas and customer service of the best ECNs precisely because they are a government-sponsored monopoly.

Simply put, as is the case with ECNs, the primary benefit that electronic exchanges will provide is that of an entity that keeps pace with the needs of the market and, by doing so, prods traditional exchanges to improve their performance, thus benefitting all market participants.

6. Is the Nasdaq super-montage an ECN? What types of problems do you anticipate in a market in which your regulator competes with you?

The Nasdaq SuperMontage is not an ECN. Nasdaq would remain a marketplace, but would be transformed from a largely decentralized market—its major strength for 30 years—to a market in which virtually all executions take place centrally. Of the concerns which the Nasdaq market faces today, capacity limitation is certainly the greatest. In recent years Nasdaq's systems have become an increasingly serious messaging bottleneck. Yet the proposal would convert Nasdaq to a central execution utility only months before the U.S. markets are scheduled to grapple with the intensifying volume expected with decimalization.

This CLOB-like centralization would create a government-sponsored monopoly that would deter today's decentralized market innovators—ECNs—from adding market capacity and from introducing further innovations. In short, the major threat to competition from the SuperMontage is the fact that it would preclude ECNs from competing among themselves.

Let me offer one brief example. In 1996, Bloomberg Tradebook introduced the concept of the "Reserve" to the U.S. equity markets. "Reserve" is a process that controls the release of orders into the market enabling clients to trade large orders more efficiently. Like all innovations, the "Reserve" gave Bloomberg Tradebook a leg up on our competitors for a brief period of time. Soon it was adapted by others. Today no one would introduce a system without it, including Nasdaq in its SuperMontage proposal.

Any edge we gain is momentary, and we are forced to continue to innovate. If a CLOB like the SuperMontage had been imposed three years ago, clearly this innovation wouldn't exist. Innovations occur in a dynamic competitive market. They won't occur when innovators need to seek permission to innovate.

7. Which regulations most inhibit ECNs from competing with exchanges?

The pending SuperMontage proposal is far and away the pending regulation that will be most destructive of ECNs. It will harm investors and the markets by severely undermining the ability of ECNs to compete with each other.

A word is in order about ECNs competing with exchanges. Bloomberg Tradebook does not compete against the NASD or the New York Stock Exchange. We compete against *exchange members* and, in the case of the NASD, we are one.

It's possible that the national stock exchanges see us as a competitor because of our independence—i.e. we could take our customers and order flow to another stock exchange. That would mean the exchanges would have to do something they haven't historically done—namely *compete* against each other to keep that customer order flow. While they may think that order flow is theirs rather than their customers, investors have clearly indicated that ECNs are an important part of their market structure.

Unfortunately, when confronted with ECNs the first response of the dominant national stock exchanges has not been to compete against each other for the business of this new kind of broker/dealer. It seems the dominant exchanges would rather avoid the whole headache by passing a few rules in an attempt to hold order flow captive. Little wonder some ECNs would rather become exchanges themselves.

In short, we think the national stock exchanges should have to compete against each other for our business or the business of any other broker-dealer.

8. What is the Intermarket Trading System (ITS)? How should it be changed?

The Intermarket Trading System (ITS) theoretically allows orders to be routed to the best market regardless of which market originally received the order. Unfortunately, as Chairman Levitt has observed, the technology and rules governing the operation of the system are "archaic". Market participants using ITS to route orders to other markets may wait as long as two minutes to receive a response and, even then, may not receive an execution. An ineffective ITS has long allowed the NYSE to dominate the regional exchanges and is also a potentially effective tool for blocking newcomers like ECNs.

Bloomberg Tradebook is eager to see ITS reform and improved market linkages. We'd warn that, just as centralization and self-interest have created an ITS system that doesn't serve the market or public—the same destructive dynamic would be present in an exaggerated form in a CLOB, whether industry run or run by Nasdaq as SuperMontage.

9. What is the Consolidated Quotation System (CQS)? How should it be changed?

The Consolidated Quotation System is a key component of our current arrangement for disseminating "market information"—information concerning quotations for and transactions in equity securities and options that are actively traded in the U.S. markets. The information is "consolidated" in that it is continually collected from the various market centers that trade the security and then disseminated in a single stream of information.

This system is premised on the outmoded concept that market participants should continue to provide market data to a government-sponsored monopoly and then pay to see it. We would endorse an alternative model recently proposed by SEC Chairman Levitt in the context of market depth. Chairman Levitt has urged our markets—exchanges, dealers, and ECNs—to make their limit order books available to the public where vendors could consolidate this data and repackage it in a form that would be most useful to their customers. A similar model allowing the establishment of private quote aggregators to which one could report market data—breaking the SRO monopoly on data—would certainly improve the quality, comprehensiveness, reliability and capacity of this information while reducing its cost.

10. Has the current regulatory structure of the National Market System (NMS) actually created market fragmentation by disallowing ECNs to share pricing information?

Yes. The current regulatory structure of the National Market System has actually created fragmentation by disallowing ECNs to share pricing information, especially as it relates to listed stocks. The NMS impedes access to pricing information by mandating a monopoly in data gathering. Access is further impeded by the monopoly's settled habit of charging the public fees for market data that far exceed the actual costs associated with the collection and dissemination of that data. The cumulative impact of unnecessarily centralizing, and then overcharging for, market data is to retard significantly the sharing of pricing information while increasing market fragmentation. This result cries out for remedy as this kind of centralized monopoly routing and collection of data is no longer technologically necessary to facilitate a National Market System. Indeed, as your questions suggests, this regulatory structure is an obstacle to the realization of the most beneficial and effective National Market System.

The current regulatory structure of the NMS, premised as it is on the technology and markets of a quarter century ago, is clearly a poor way of disseminating critical market information. Again, we would urge an alternative model recently proposed by SEC Chairman Levitt in the context of market depth when he urged our markets—exchanges, dealers, and ECNs—to make their limit order books available to the public where vendors could consolidate this data and repackage it in a form that would be most useful to customers. A similar model allowing the establishment of private quote aggregators to which one could report market data—breaking the SRO monopoly on data—would certainly improve the quality, comprehensiveness, reliability and capacity of this information while reducing its cost.

11. Have you applied to become an Exchange? What is the status of your application?

Bloomberg Tradebook has not and does not intend to become an Exchange. We intend to remain a broker-dealer and a "Best Execution ECN". We believe that is the most effective way for our customers to obtain not only liquidity but also the best execution that comes from Bloomberg Tradebook's policy of routing our customers to the best available price—even if that is outside Bloomberg Tradebook.

While we are proud to be and remain a broker-dealer/ECN, we are also supportive of the efforts of some of our ECN brethren to either affiliate with or become exchanges. Just as competition among ECNs has been good for investors and the market, competition among stock exchanges also benefits all. We think the national stock exchanges should have to compete against each other for our business and the business of any other broker-dealer. Bloomberg Tradebook looks forward to the day when some of our ECN colleagues will be—as new exchanges—competing with the established exchanges for our business.

12. How is Nasdaq's super-montage like a Central Limit Order Book (CLOB)?

The Nasdaq SuperMontage proposal carries most of the major downsides of a traditional CLOB. It would convert Nasdaq from a largely decentralized market, which has been its major strength for thirty years, to one in which virtually all executions take place centrally. As with the CLOB, this centralization runs counter to the spirit of the age in which even public utilities like telephones and electric power are abandoning their "black boxes" for decentralized structures. It would not only impose a technology that is already outmoded, but also preclude the prospects of exploiting advancing technology in the future. As with a traditional CLOB, SuperMontage would create an enormous messaging bottleneck—and do so at the time that the U.S. markets are scheduled to be grappling with the intensified volume expected with decimalization.

Indeed, NASD Chairman Zarb illuminated precisely how the Nasdaq SuperMontage is like a CLOB when, in testimony before the Senate Banking Committee, he observed that 95% of everything CLOB proponents sought could be had under the SuperMontage. That's accurate, and underscores that we are looking in part at a political battle for control of this centralized entity. I don't know who will win, but I know who will lose this kind of battle—markets and consumers.

I'd add that the effort to create this Nasdaq CLOB—the SuperMontage—is a critical component of the for-profit picture Nasdaq envisions for itself. In its recent private placement memorandum/proxy statement distributed to NASD members asking members to vote to make Nasdaq a private, for-profit entity, the NASD cites the SuperMontage as its most prominent business plan for Nasdaq and warns quite candidly that the threat to Nasdaq's monopoly position is one of the most significant risk factors:

> "SelectNet is Nasdaq's automated market service that enables securities firms to route orders, negotiate terms, and execute trades in Nasdaq securities. If pairs of market makers or ECNs determine that they do enough order routing traffic in a day so as to justify setting up an alternative proprietary network for their traffic, Nasdaq may be forced to reduce its fees or risk losing its share of the order routing business. A reduction in the order routing business could have an adverse effect on Nasdaq's business, financial condition and operating results."

From Nasdaq's perspective—looking towards a future as a for-profit entity charged with maximizing value for shareholders—the SuperMontage CLOB makes great sense. The forced centralization of electronic messaging will indeed eliminate the risk that ECNs seeking more efficiency or better service for our customers might set up an "alternative proprietary network for their traffic."

From the perspective of the public, however, the SuperMontage is enormously harmful. Like all CLOBs, this centralization will harm the marketplace by creating a single point of failure and by eliminating innovation. This CLOB capacity to extract monopoly profits from market participants is exactly what benefits prospective Nasdaq shareholders while disadvantaging the public and the markets.

13. What are the key problems with a Central Limit Order Book (CLOB)?

The notion behind the CLOB is that if you centralize orders in one place, a single "black box", maximum order interaction and perhaps better prices might be achieved.

There are a number of very serious problems with this concept. When this concept was first broached thirty years ago, our markets lacked the technology to achieve order interactions without centralization. Now, technology allows the advantages of maximum order interaction without the downside of centralization.

The technology of today makes a centralized order book unnecessary. These technological advances have revolutionized other industries, and despite protests, they are revolutionizing our equity markets. At a time when even public utilities like telephones and electric power are abandoning their "black boxes" for decentralized structures, does it make sense to threaten innovation by centralizing the stock markets? State-of-the-art telecommunications systems like the Internet don't rely on a single monopoly channel—rather they rely on networked webs of multiple private competing linkages. Why should the securities markets work differently?

Centralized systems are resistant to change. The innovations that ECNs have brought to the market could not occur under a CLOB system, including the SuperMontage Proposal of the NASD.

A centralized system also provides the significant downside of a central point of failure. Those of us who deal regularly with Nasdaq's SelectNet system know only too well how cumbersome and inefficient a centralized system can be. Like SelectNet, the ITS system is conceded even by those who are sympathetic to be technologically outmoded with a bureaucracy that thwarts change. Why make those failed systems the model?

14. In what ways is a Central Limit Order Book anti-competitive?

As described previously, from a technological perspective the CLOB is inherently anti-competitive. Beyond the serious technological problems with the CLOB, there are equally troubling political problems that underscore the enormous threat to competition posed by a CLOB. Someone or some entity will have to decide how the CLOB will work, who gets access and how, and what innovations are to be allowed. That gatekeeper and CLOB czar is certain to be enormously influenced by those who are already in the club. Will those who are already in the club allow the emergence of innovators who potentially threaten their business? We don't think so. Is innovation likely to occur when the potential innovator must raise his or her hand to seek permission from the powers-that-be in order to innovate? We don't think so.

15. Recently we have seen an increase in message bottlenecking due to capacity problems with individual systems. Would the existence of a Central Limit Order Book (CLOB) exacerbate the capacity problems we have been witnessing?

Absolutely. The centralization that—as both a technological and political matter—precludes innovation would exacerbate capacity problems. It should also be stressed that the CLOB's central point of failure would dramatically exacerbate capacity problems, whether we are talking of an industry CLOB or a CLOB like the Nasdaq SuperMontage.

16. The idea of a Central Limit Order Book (CLOB) was first tossed around in the 1970s when fragmentation was high because technology could not facilitate efficient order interaction without centralization. Has current technology rendered the notion of a CLOB obsolete?

Absolutely. Current technology has rendered the notion of a CLOB obsolete, whether we are talking of an industry CLOB or a CLOB like the Nasdaq SuperMontage. State-of-the-art telecommunications systems like the Internet don't rely on a single monopoly channel—rather they rely on networked webs of multiple private competing linkages. The equities markets should benefit from the same telecommunications advances that have revolutionized other industries—to the enormous benefit of the public.

NEXTRADE HOLDINGS, INC.
CLEARWATER, FLORIDA 33756
April 21, 2000

Honorable TOM BLILEY
U.S. House of Representatives
Committee on Commerce
Room 2125, Rayburn House Office Building
Washington, D. C. 20515-6115

Re: Responses to questions for the record for the Competition in the New Markets Hearing: Part I

DEAR CHAIRMAN BLILEY: NexTrade Holdings, Inc., the parent company of the NexTrade Electronic Communications Network ("ECN") and the proposed NexTrade Exchange, is pleased to submit the following responses to the questions set forth in your letter of March 29, 2000, as part of the Competition in the New Markets Hearing: Part I.

1. How do ECNs increase transparency?

ECNs increase transparency in a number of ways. One way that ECNs increase transparency is by allowing individual investors direct access to the Nasdaq. This access empowers investors with the ability to post their limit orders instantaneously for review by other Nasdaq market participants. ECNs also increase transparency through their proprietary networks that link alternative trading systems, market-makers, and other ECNs outside of Nasdaq for the purposes of redundancy, speed, and greater reliability. Some ECNs even display all of their orders, instead of merely the highest bid and lowest offer in a security, on their systems or the Internet. This enables investors to see the depth of the market and helps them to more accurately price their orders.

Statistical evidence supports the conclusion that ECNs have helped to produce more transparent, less fragmented and more efficient markets. Since the arrival of qualified ECNs, there have been dramatic reductions in the costs associated with trading stocks. The average cost of executing a trade on the Nasdaq fell by 23% in 1998, spreads fell 41%, and volume increased substantially. If left to competitive devices, the degree of fragmentation within the markets will continue to be reduced despite the introduction of a multitude of market participants.

2. Are your systems decimal ready?

Like most ECNs and Alternative Trading Systems designed in the past five (5) years, the technology behind the NexTrade ECN and the proposed NexTrade Exchange is ready for trading in decimals. As a member of the National Association of Securities Dealers ("NASD") trading on the Nasdaq, the NexTrade ECN System currently has to convert orders that are in decimal increments into fractions for execution. In order to ensure that NexTrade's linkages to the National Market System ("NMS") and the Nasdaq are ready for decimalization, NexTrade is planning on participating in the industry wide decimalization testing. Unfortunately, as a member of the NASD and a Nasdaq participant, the delays by the Nasdaq in implementing decimalization will impact NexTrade's ability to conduct this testing and will delay the introduction of decimal pricing for our subscribers.

3. What can you do to facilitate trading in decimals even though Nasdaq is not decimal ready?

NexTrade plans to work in conjunction with other industry participants including the Nasdaq, other ECNs and broker-dealers in order to expeditiously move forward with decimal trading. NexTrade, however, is concerned that certain industry participants apparently seeking nothing more than to gain favorable press coverage have elected to move forward with the implementation of decimal trading in an uncoordinated manner. While NexTrade has been ready to trade in decimals for some time, we appreciate the importance of working with other industry participants, including those which are not prepared to trade in decimals, in order to ensure a smooth and efficient transition to decimal trading.

4. What structural changes should accompany the demutualizations of NYSE and Nasdaq to ensure a competitive market?

While NexTrade has the utmost confidence in the integrity of the directors, officers and staff of the New York Stock Exchange ("NYSE") and the Nasdaq, it is inappropriate to place individuals in a situation rife with potential conflicts of interest. The directors, officers and personnel of new for-profit exchanges that have regulatory responsibilities could be placed in situations that interfere with their ability to satisfy their regulatory responsibilities. In order to avoid such potential conflicts of interest, NexTrade believes there must be a suitable level of separation between the business and regulatory groups of all for-profit exchanges. While NexTrade does not believe that this separation necessarily requires the creation of a distinct corporate subsidiary to house the regulatory functions of the exchange, any exchange electing not to do so should be subject to heightened scrutiny to ensure that the necessary separation does in fact exist.

5. What benefits will electronic exchanges provide that traditional exchanges do not?

Electronic exchanges will provide numerous benefits that traditional exchanges cannot provide. Like ECNs, electronic exchanges will utilize technology to provide faster and more accurate executions than traditional exchanges. Unlike traditional exchanges, electronic exchanges will allow orders to interact without a market maker or specialist. This ability to execute orders without an intermediary will result in lower transaction fees for investors. Additionally, by decreasing the number of personnel involved in processing transactions, electronic exchanges will reduce the likelihood of abuses by trading personnel. Moreover, by reducing the number of personnel involved in processing transactions and by reducing the number of poten-

tial trading abuses, electronic exchanges will reduce the amount of resources that the Commission and the exchanges must spend on surveillance and enforcement. Finally, electronic exchanges will function with a lower degree of errors in processing trades and will enable customers' orders to be executed at the best price by means of linkages between new electronic exchanges.

6. Is the Nasdaq super-montage an ECN?

Yes, the Nasdaq super-montage is an ECN.

What types of problems do you anticipate in a market in which your regulator competes with you?

Although NexTrade has confidence in the integrity of the directors, officers and staff of the NASD and its subsidiaries, there would be an inherent conflict of interest if the Nasdaq was allowed to operate the super-montage while regulating competing ECNs. Accordingly, NexTrade believes that the regulatory group of the NASD, NASD Regulation must operate as a distinct and fully autonomous entity from the Nasdaq before the Nasdaq should be allowed to compete with the ECNs it currently regulates. NexTrade also questions the propriety of the NASD's use of fees paid by members, including those paid by ECNs and ECN owners, to subsidize, develop and operate the proposed Nasdaq Super-Montage which will compete with these members.

7. Which regulations most inhibit ECNs from competing with exchanges?

Although there are numerous regulations that inhibit ECNs from competing with exchanges, the most significant barrier to competition is the current structure of the National Market System ("NMS"). The current structure of the NMS impedes the entry of new market participants that would introduce new technology. Under the current regulatory structure, the boards of the NMS Plans are composed of representatives from each exchange. Any change to the rules governing the operation of the NMS systems, including the very rule changes necessary to accommodate new market participants, require the unanimous consent of the participants. Accordingly, if one board member feels threatened by an ECN's technology, that board member can prevent the ECN from participating.

In 1936, Congress noted that a major responsibility of the Commission in the administration of the securities laws is to "create a fair field of competition."[1] The current national market system does not create a fair field of competition. Rather, the current national market system protects antiquated participants from competition, while subsidizing its members' operations.

The consolidated, real-time stream of market information has been an essential element in the success of the America's equities markets. It is the principal tool for enhancing the transparency of the buying and selling interest in a security, for addressing the fragmentation of buying and selling interest among different market centers, and for facilitating the best execution of customers' orders by their broker-dealers.[2] The consolidation of quotations and last sale information was an important goal of the Securities Acts Amendments of 1975.[3] Congress believed that the need for market effectiveness and efficiency required that a neutral central processor be organized and responsible for collecting and distributing market data to market participants. Section 11A called for the Commission to use its authority to facilitate the establishment of a national market system which has, as one of its objectives, the availability of quote and transaction information for brokers dealers and investors.[4]

The national market system that Congress meant to promote equal access, market transparency, and fair competition, is now attainable because of twenty-first century technology. However, the governance structures and technology that modernized our markets in 1975 are ill suited to achieve the goals of the national market system for the next century. Market data that was once the property of a few and was only available to market participants, is now in the hands of the public. This liberation of information has been the result of the development of the Internet. Over the last decade, the Internet has revolutionized the way people access and use information.

The current National Market System no longer serves to promote the development of mechanisms that allow for economically efficient executions of securities transactions. The current National Market System impedes fair competition and reduces market transparency. The current National Market System prevents large pools of liquidity contained in ECN order books from interacting with other market participants. These deficiencies result in decreased investor access to the best markets.

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[1] Pub. L. No. 94-29, 89 Stat. 97 (1985).
[2] *See* 64 Fed. Reg. 70613 (Dec. 17, 1999).
[3] Pub. L. No. 94-29, 89 Stat. 97 (1985).
[4] Section 11A(a)(1).

In order to ensure that the National Market System meets its congressional mandate, the governance structure of the national market system should be amended. The NMS governing boards should be eliminated and replaced with a new national market system board. This new National Market System board should include representatives from the existing exchanges, new electronic exchanges, ECNs, broker-dealers, issuers and the public. The new NMS board should be structured in such a way as to ensure that at least 50 percent of the representatives are not industry participants. This structure is similar to the structure endorsed by the Commission in recent years with respect to public representation on the boards of self-regulatory organizations.[5] Industry associations such as the Securities Industry Association and the Security Traders Association could select broker-dealer representatives from firms of various sizes.[6]

8. What it the Intermarket trading system (ITS). How should it be changed?

Currently, the markets are linked by the National Market System Plans. One plan that is very important in reducing market fragmentation is the Intermarket Trading System ("ITS"), which allows orders to be routed to the best market regardless of which market originally received the order. Unfortunately, the technology and the rules governing the operation of the system are, in Chairman Levitt's words, "archaic." Market participants using ITS to route orders to other markets may wait as long as two minutes to receive a response and, even then, may not receive an execution. NexTrade believes that the traditional markets participants' opposition to technological innovations has resulted in unnecessary market fragmentation. Accordingly, NexTrade believes the technology behind the ITS should be updated.

On January 26, 1978, the Commission issued a statement on the national market system calling for the prompt development of comprehensive market linkage and order routing systems to permit the efficient transmission of orders among the various markets for qualified securities, whether on an exchange or over-the-counter.[7] In particular, the Commission stated that an intermarket order routing system was necessary to "permit orders for the purchase and sale of multiply-traded securities to be sent directly from any qualified market to another such market promptly and efficiently."[8] The Commission further stated that "[t]he need to develop and implement a new intermarket order routing system to link all qualified markets could be obviated if participation in the ITS market linkage currently under development were made available on a reasonable basis to all qualified markets and if all qualified markets joined that linkage."[9]

Unfortunately, the goals of the ITS, have not come to fruition. Originally, designed to link the existing exchanges, ITS currently handles a relatively small proportion of trading in listed equities. In September 1999, for example, ITS volume represented 2.2% of total NYSE-listed trades.[10] One of the primary reasons for the anemic performance of ITS, is its failure to include ECNs and its slow and inefficient technology.

On December 9, 1999, in an apparent attempt to open the ITS, the Commission adopted amendments to the ITS Plan. The amendments expand the ITS/Computer Assisted Execution System linkage to all listed securities.[11] The Commission also noted that:

> in order to further the goals of the national market system, **ECNs trading in listed securities should be linked to ITS. ITS should not prevent efficient electronic routing between markets**.[12]

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[5] *See, e.g., Report Pursuant to Section 21(a) of the Securities Exchange Act of 1934 Regarding the NASD and The Nasdaq Market* (August 8, 1996); *Order Granting Approval to Philadelphia Stock Exchange Proposed Rule Change,* Exch. Act Rel. No. 38960 (Aug. 22, 1997) (requiring 50 percent board representation by public governors).

[6] This approach was also discussed in the SIA Report on Market Data Pricing, which noted that SIA would also like to explore/encourage an alternative governance structure for market data that would include a broader exchange, industry, and public representation. *See Report on Market Data Pricing, Prepared by Arthur Andersen, LLP (June 1999).*

[7] Exchange Act Release No. 14416 (January 26, 1978) ("1978 Statement"), at 26, 43 FR 4354, 4358. Previously, on June 23, 1977, the Commission had indicated that a national market system would include those "regulatory and technological steps [necessary] to achieve a nationwide interactive market system." See Exchange Act Release No. 13662 (June 23, 1977), at 20, 42 FR 33510, 33512.

[8] 1978 Statement, *supra* note 5, at 4358.

[9] In this connection, the Commission specifically indicated that "qualified markets" would include not only exchanges but OTC market makers as well. *Id.*

[10]

[11] Exchange Act Release No. 42212 (Dec. 9, 1999).

[12] *Id.* (emphasis added).

While the opening of ITS to ECNs is a step in the right direction, the value of such a step will be minimized as long as the current governance structures of the ITS and other NMS Plans remain in place.

The ITS Plan should be opened to new constituencies, including ECNs, broker-dealers, issuers and the public. In order to ensure that the new National Market System meets its congressional mandate, the governance structure of the NMS should be amended. The NMS governing boards should be eliminated and replaced with a new National Market System board. This new NMS board should include representatives from the existing exchanges, new electronic exchanges, ECNs, broker-dealers, issuers and the public. The new National Market System board should be structured in such a way as to ensure that at least 50 percent of the representatives are not industry participants. This structure is similar to the structure endorsed by the Commission in recent years with respect to public representation on the boards of self-regulatory organizations.[13] Industry associations such as the Securities Industry Association and the Security Traders Association could select broker-dealer representatives from firms of various sizes.[14]

9. What is the Consolidated Quotation System (CQS)?

The Consolidated Quotation System ("CQS") enables the regional exchanges and the Nasdaq to jointly disseminate quotation information available to market participants and investors. The Consolidated Tape Association Plan ("CTA Plan") and the Consolidated Quotation Plan ("CQ Plan") operate a data network commonly known as Network A that disseminates market information for any common stock, long-term warrant, or preferred stock admitted to dealings on the NYSE.[15] All of the SROs are participants in the CTA Plan and CQ Plan.

The Consolidated Tape Association ("CTA") is a committee made up of one representative of each of the participants. The CTA Committee administers the CTA Plan and is registered as a securities information processor ("SIP") under Section 11A(b) of the Exchange Act.[16] The administrator of Network A's day-to-day operations is the NYSE, and its information processor is the Securities Industry Automation Corporation ("SIAC").[17]

The CTA Plan and the CQ Plan also operate a second network commonly known as Network B. This network disseminates market information for any common stock, long-term warrant, or preferred stock admitted to dealings on the Amex or the regional exchanges, but not also admitted to dealings on the NYSE or included in the Nasdaq market.[18] Its day-to-day administrator is Amex, and its information processor is SIAC.

How should it be changed?

Like the other NMS Plans, the CQS Plan should be opened to new constituencies, including ECNs, broker-dealers, issuers and the public. In order to ensure that the new National Market System meets its congressional mandate, the governance structure of the NMS should be amended. The NMS governing boards should be eliminated and replaced with a new National Market System board. This new NMS board should include representatives from the existing exchanges, new electronic exchanges, ECNs, broker-dealers, issuers and the public. The new National Market System board should be structured in such a way as to ensure that at least 50 percent of the representatives are not industry participants. This structure is similar to the structure endorsed by the Commission in recent years with respect to public representation on the boards of self-regulatory organizations.[19] Industry associations

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[13] *See, e.g., Report Pursuant to Section 21(a) of the Securities Exchange Act of 1934 Regarding the NASD and The Nasdaq Market* (August 8, 1996); *Order Granting Approval to Philadelphia Stock Exchange Proposed Rule Change,* Exch. Act Rel. No. 38960 (Aug. 22, 1997) (requiring 50 percent board representation by public governors).

[14] This approach was also discussed in the SIA Report on Market Data Pricing, which noted that SIA would also like to explore/encourage an alternative governance structure for market data that would include a broader exchange, industry, and public representation. *See Report on Market Data Pricing, Prepared by Arthur Andersen, LLP (June 1999).*

[15] CTA Plan, Sections I(p) and VII(a)(i).

[16] An Operating Committee that is substantially the same as the CTA administers the CQ Plan.

[17] SIAC is jointly owned by the NYSE and Amex and is a registered SIP under Section 11A(b).

[18] CTA Plan, Sections I(q) and VII(a).

[19] *See, e.g., Report Pursuant to Section 21(a) of the Securities Exchange Act of 1934 Regarding the NASD and The Nasdaq Market* (August 8, 1996); *Order Granting Approval to Philadelphia Stock Exchange Proposed Rule Change,* Exch. Act Rel. No. 38960 (Aug. 22, 1997) (requiring 50 percent board representation by public governors).

such as the Securities Industry Association and the Security Traders Association could select broker-dealer representatives from firms of various sizes.[20]

10. Has the current regulatory structure of the National Market System (NMS) actually created market fragmentation by disallowing ECNs to share pricing information?

The governance structures of the NMS Plans and the antiquated technologies that drive those plans have unnecessarily increased the level of fragmentation of America's financial markets by preventing competition and the participation of ECNs. The current regulatory structure of the NMS is an impenetrable barrier to entry to new market participants that would enhance competition. If one NMS participant does not want an ECN to participate or is threatened by an ECN's technology, the ECN is precluded from participating. Accordingly, NexTrade believes that broader industry and public participation is needed in the governance of the NMS to ensure the access of new market participants.

While fragmentation has always been a problem for our markets, it is not a question of if fragmentation exists, but rather a question of degree. In the past, fragmentation was severe and was compounded by inadequate information technology. As technology evolved, the degree of fragmentation has diminished while the number of market participants has skyrocketed. However, the level of fragmentation in our markets could be greatly reduced by reforming the NMS.

Statistical evidence supports the conclusion that the introduction of ECNs produced more efficient and less fragmented markets. Since the arrival of qualified ECNs, evidence reveals dramatic improvements in the costs of trading stocks in the United States. The average cost of executing a trade on the Nasdaq Stock Market fell by 23 percent in 1998, spreads fell 41 percent, and volume increased substantially. If left to competitive devices, the degree of fragmentation within the markets will continue to be reduced despite the introduction of a multitude of market participants.

Traditional market participants, including the members of the NMS Plans, are opposed to technological innovations that could undermine their hegemony over the markets. This resistance to technology has resulted in unnecessary fragmentation. Competitive market participants, however, have responded to fragmentation and inefficiencies with market-based innovative solutions. A variety of ECNs and other trading systems have responded with systems that consolidate and provide efficient access to the best prices among competing markets. One firm has connected all nine original ECNs, the NYSE and the Nasdaq to their system. Similarly, when the current Nasdaq linkage (SelectNet) proved too expensive and inefficient to handle record volumes, market participants forged links with one another to create trading networks that bypass SelectNet for faster and more reliable access to the best market prices. These are just a few examples of the types of solutions produced by innovation and competition that could reduce fragmentation.

11. Have you applied to become an Exchange?

NexTrade Holdings, Inc., the parent company of the NexTrade ECN, has applied to operate a new electronic for-profit exchange, known as the NexTrade Exchange. In November 1998, NexTrade began discussions with the Commission regarding applying to operate an electronic exchange. Rather than filing its exchange application without speaking with Commission staff, NexTrade spent nearly one year working with Commission staff in draft mode in order to facilitate meaningful discussion of NexTrade's exchange application. Only after determining the draft exchange application discussions had exhausted their usefulness, did NexTrade formally file its exchange application with the Commission in December 1999.[21]

The proposed NexTrade Exchange is an example of the future of the financial markets in that it makes use of innovative technology and new regulatory structures as part of a for-profit exchange. The proposed NexTrade Exchange plans to make available for the benefit of its members and their customers an electronic trading system (the "NexTrade Exchange System") to effect the purchase or sale of securities listed or admitted to trading on the proposed Exchange and on other exchanges. The proposed exchange, however, will not maintain a physical-trading floor. Members will access the NexTrade Exchange System from their own computer

[20] This approach was also discussed in the SIA Report on Market Data Pricing, which noted that SIA would also like to explore/encourage an alternative governance structure for market data that would include a broader exchange, industry, and public representation. *See Report on Market Data Pricing, Prepared by Arthur Andersen, LLP (June 1999).*

[21] NexTrade re-filed its exchange application in March 2000, in order to address issues raised by Commission staff.

terminals and communicate with the NexTrade Exchange System over commercial information services and networks.

What is the status of your application?

When NexTrade notified the Commission of its desire to operate an exchange, the Commission advised NexTrade that it could not provide a specific time frame with respect to an approval date. NexTrade was only told that the process could take two (2) to three (3) years to complete and that there was no guarantee that the application would be approved. NexTrade has been advised on several occasions by Commission staff that the Commission is struggling with issues regarding the governing structures of new for-profit exchanges that had to be addressed before the Commission could move forward with NexTrade's exchange application. NexTrade has also been advised on several occasions by Commission staff that the Commission was attempting to address issues relating to the performance of regulatory functions by for-profit exchanges. As of the date of this response, NexTrade has received no information regarding either issue from the Commission despite having provided an application that includes viable solutions to both issues.

Commission staff recently advised NexTrade that it could be another 12 to 18 months before the Commission issues a decision on NexTrade's exchange application. Although NexTrade fully understands the importance of the exchange approval process, we do not believe that a two (2) to three (3) year review process is warranted or necessary in order to make a decision regarding new electronic exchanges. NexTrade appreciates that Commission staff are over worked and underpaid in comparison to their colleagues in other federal regulatory agencies, however, the failure to reach a decision on pending exchange applications serves only to penalize the public by unnecessarily shielding antiquated exchanges from competition that would benefit the public.

12. How is Nasdaq's super-montage like a Central Limit Order Book (CLOB)?

The Nasdaq's proposed super-montage is like a Central Limit Order Book or CLOB in that the super-montage anonymously centralizes all limit orders into an order consolidation facility. These centralized orders do not reflect the market participants acting as agent or principal of the transactions. The super-montage will not reflect the identity of the market participant that posted the order. This function coupled with the reserve function of the proposed super-montage, bear a striking resemblance to the functions of most ECNs.

The proposed Nasdaq super-montage would create a central market execution system composed of two tiers of "Quoting Market Participants." Participation would be mandatory for market makers and "voluntary" for ECNs. Nasdaq states that two types of participation would be offered to ECNs: "full" and "order entry". "Full" participation would require ECNs for the first time to be subject to automatic executions, which would put ECNs at a severe competitive disadvantage. Order-entry participation would be a continuation of current SelectNet linkage and functions, but would marginalize the contribution ECNs could make to the marketplace. Consequently, the proposed Nasdaq super-montage is fundamentally flawed in that it would become increasingly ineffective as ECNs continued to grow.

Full Participation in the proposed Nasdaq super-montage leaves ECNs with a Hobson's choice. While Full Participation in the proposed Nasdaq super-montage would allow ECNs to connect with the proposed Nasdaq CLOB, it would also allow the proposed Nasdaq CLOB to "sweep" the ECNs' top-of-book orders into the proposed Nasdaq CLOB. This function would hit or take all market-maker, ECN or proposed Nasdaq CLOB quotations at the best bid or ask price. Access to the "sweep" function in the proposed Nasdaq CLOB, however, would involve a trade-off for ECNs because of the disadvantages associated with full participation by ECNs in the proposed Nasdaq Order Display Facility.

Market makers and institutional customers of ECNs often prefer to trade on an ECN because of the additional services and features offered on ECNs. Through competition, ECNs have developed a variety of innovative capabilities to allow traders to customize their trading methods to meet their needs. One such feature is a reserve quotation. Nasdaq has stated that in the proposed Nasdaq CLOB any ECN reserves would be bypassed, but the reserve feature of the proposed Nasdaq CLOB would function. As a result, Nasdaq would in effect preference its own additional functions, at the expense of those ECNs that do not want to "agree" to become Nasdaq CLOB participants.

The proposed super-montage is also like a CLOB in that market participants would be forced to link through a central location, the Nasdaq. This kind of forced linkage diminishes the competitive advantages of ECNs by making them dependant on the capacity, integrity and security of a single, largely antiquated system, which

has proven to be unreliable. NexTrade believes investors and the market benefit from a variety of alternative systems that route, display and execute orders.

13. What are the key problems with a Central Limit Order Book (CLOB)?

The notion behind the CLOB is that technology can be employed to centralize orders in one place, thus resulting in maximum order interaction and perhaps even better prices. A CLOB, however, will sacrifice the innovation that has made our markets the best in the world. Research has shown that competitive markets are better equipped to implement technological innovations to address market inefficiencies. Centralized markets, no matter how well intentioned their architects, will typically be obsolete by the time they commence operation. Competition creates incentives for markets to upgrade and innovate. Centralized markets do not. Unlike open markets, centralized markets serve to impede the ability of innovative firms to develop new technologies and mechanisms that promote better execution.

Like any centralized marketplace, a CLOB would have substantial dangers. Most importantly, a CLOB would represent a single point of failure that could jeopardize the global economy. The danger of such centralization is apparent in light of recent well-publicized attacks on some of the largest Internet web sites and service providers. It is economically impracticable to design a centralized marketplace that would be completely free of vulnerability to attacks by cyber-terrorists. The implausibility of designing a totally safe CLOB will become increasingly apparent in the future as warfare and terrorism move from city streets to the Internet. In contrast, the currently developing network of trading facilities, much like the Internet, mitigates these potential dangers through numerous alternative trade destinations.

Moreover, a CLOB is anti-competitive. If the Commission mandates a monopolistic central execution system, such as the proposed CLOB, with which all market-participants must comply, innovation could be eliminated. Such a dearth of innovation would not serve the goals of the Act, the NMS, or the public. Rather than developing a system that would reduce innovation by ECNs and other market participants, and halt the development of technologies that provide additional liquidity and transparency, the Commission should encourage a new and equitable NMS.

A CLOB would also impede the development of new for-profit electronic stock exchanges. If the Commission mandates a monopolistic central execution system, such as the proposed CLOB, with which all market-participants must comply, innovation could be eliminated. Such a dearth of innovation would not serve the goals of the Act, the NMS, or the public. Rather than developing a system that would reduce innovation by new for-profit electronic exchanges, ECNs and other market participants, and halt the development of technologies that provide additional liquidity and transparency, the Commission should encourage a new and equitable NMS.

Finally, a CLOB would inevitably operate at the speed of its slowest participant. While many ECN's execute their transactions in milliseconds, the New York Stock Exchange proudly stated in its address to Congress in September 1999 that its average transaction time was 22 seconds. Accordingly, a CLOB would likely execute transactions at speeds much slower than many ECNs.

14. In what ways is a Central Limit Order Book (CLOB) anti-competitive?

A CLOB would be anti-competitive and would impede the development of new for-profit electronic stock exchanges for several reasons. By mandating that market participants link to a CLOB, the Commission would create a monopolistic central execution system. A CLOB with its specified technology would reduce innovation. A CLOB would be anti-competitive in that it would require all market participants to utilize uniform government mandated technology. A CLOB would also impose significant costs on new electronic for-profit exchanges, the market and ultimately issuers, in order to off-set the costs of the new infrastructure and bureaucracy.

A CLOB would also be anti-competitive because there would be no competition for order flow. Without competition for order flow, there would be little incentive for firms to develop technologies that provide additional liquidity and transparency. The CLOB would also be anti-competitive because the system would dictate where a broker-dealer sends an order. A CLOB would not allow market participants to develop technological linkages with other market participants and take suitable steps to ensure that they satisfy their best execution responsibilities when handling orders. Rather, than allowing for innovation by market participants that can reduce costs for their clients, a CLOB would dictate an order routing regimen. Such a dearth of innovation would not serve the goals of the Act, the NMS, or the public. Rather than developing a system that would reduce innovation by new for-profit electronic exchanges, ECNs and other market participants, and halt the development of technologies that provide additional liquidity and transparency, the Commission should encourage a new and equitable NMS.

15. Recently we have seen an increase in message bottlenecking due to capacity problems with individual systems. Would the existence of a Central Limit Order Book (CLOB) exacerbate the capacity problems we have been witnessing?

The existence of a CLOB would only exacerbate the capacity problems we have been witnessing. Under such a facility, the entire NMS and all market participants would be dependent on the capacity, integrity and security of a single system. The dangers associated with such a strategy are discussed in greater detail above. However, a CLOB that relies on a single technology could jeopardize our financial markets if it fails for any of a variety of reasons. A CLOB that relies on a single technology would also eliminate the positive effects of innovation by requiring all firms to adopt a uniform technology and order routing regimen for linking to the CLOB. This lack of innovation would reduce the positive gains that are being made by innovative market participants to minimize the message bottlenecks currently occurring on well established markets.

The dangers of a CLOB and its reliance on a single technology are apparent upon examining the record of the current order routing technology used by the Nasdaq. The level of trading activity on the Nasdaq over the past year has overwhelmed the Nasdaq's SelectNet system. Over the past year, the Nasdaq SelectNet system has suffered several well-publicized failures that have seriously endangered the National Market System. Some of the most notable and publicly acknowledged recent Nasdaq system failures include the following:

- (March 6, 1999, 9:41 a.m. to shortly after 11:00 a.m. ET, Nasdaq SOES (Small Order Execution System) and SelectNet Equipment failed.
- (April 1-13, 1999, Nasdaq SelectNet has higher volume of SelectNet orders (a 25% increase over 1998) and suffers from the capacity impact on systems, leading to slowed trading in the first half hour of trading as systems labored to clear orders that accumulated overnight.
- (October 6, 1999, Nasdaq SelectNet's system, triggered by a software change made overnight to allow the market to extend hours for its trade-reporting and quotation systems, runs slowly for hours and the Instinet, Island and Brut ECNs are removed from Nasdaq's quote display.
- (November 16, 1999, Nasdaq SelectNet and SOES fail during a mid-day software upgrade that was attempted during a record 1.46 billion share trading day causing a black out of SelectNet and SOES from 3:40 EST to 3:57 EST. Nasdaq has claimed that it has adequate capacity for a four billion shares trade day, however, this claim is seriously suspect based on the aforementioned system failures.

The failings of the Nasdaq's SelectNet system are but one example of the dangers of America's financial markets relying on a single technology such as a CLOB.

16. The idea of a Central Limit Order Book (CLOB) was first tossed around in the 1970's when fragmentation was high because technology could not facilitate efficient order interaction without centralization. Has the current technology rendered the notion of a CLOB obsolete?

Current technology has rendered the notion of a CLOB obsolete. The rapidly declining costs of telecommunications technology has made it possible to build and maintain redundant, competitive systems to handle orders without the need for a single monolithic service provider. Consequently, there is no reason to compel market participants to participate in a government designed CLOB. Advocates of the CLOB claim that it is the only means of addressing fragmentation. Such claims are without merit.

Fragmentation has always been a problem for our markets. It is not a question of if fragmentation exists, but rather a question of degree. In the past, fragmentation was severe and was compounded by inadequate information technology. As technology evolved, the degree of fragmentation has diminished while the number of market participants has skyrocketed. However, the level of fragmentation in our markets could be greatly reduced by reforming the NMS.

Rather than developing a CLOB that would reduce innovation by ECNs and other market participants, the Commission should encourage the development of a new and equitable NMS. The combination of private and public linkages that has formed the market network since the advent of the Order Handling Rules is the best model for growth and development of the United States capital markets in the future. The Commission should not allow market participants that rely on antiquated technologies to undermine the positive gains that have been made since the advent of the Order Handling Rules towards the creation of a open, efficient and equitable market.

Should you have any questions regarding this or any other matter, please do not hesitate to contact me at the telephone number above.

Sincerely,

JOHN M. SCHAIBLE
President, NexTrade Holdings, Inc. and NexTrade, Inc.

THE ISLAND ECN., INC.
May 8, 2000

Mr. TOM BLILEY, *Chairman*
U.S. House of Representatives
Committee on Commerce
Room 2125
Rayburn House Office Building
Washington, DC 20515-6115

DEAR MR. CHAIRMAN: Please find the enclosed answers to the questions you had posed regarding the role ECNs and Island in particular are playing in the evolving financial marketplace. I look forward to working with you and the rest of the Commerce Committee on these important issues. If I can be of any further assistance, please let me know.

Sincerely,

MATTHEW ANDRESEN, *President*
The Island ECN., Inc.

Enclosure (1)

FOLLOW-UP QUESTIONS FOR THE RECORD FOR THE COMPETITION IN THE NEW MARKETS HEARING: PART I

Question 1. How do ECNs increase transparency?

Response: ECNs increase transparency by making more information available to the investor. Traditionally, investors have only been provided with the highest bid and lowest offer in a security. The depth of the market, which gives an indication of the true supply and demand for a security, has been the exclusive province of market professionals. More specifically, what happens to an order after it is placed with your broker? What sort of accountability exists? At Island, we urge investors to ask themselves what just happened to their order after they click on the "Submit" button. After all that thorough and careful research, why is the investor—at this final stage of the process—essentially staring into a black box—or at best a screen with the words "Your Order Has Been Placed."

That lack of accountability—in other words, denial of information to the investor—was unacceptable to us. To provide the best resource possible to the investor, we became the first marketplace to provide a free, real-time display of all its orders, through the Island BookViewer™. Such transparency is precisely what SEC Chairman Levitt recently called for in his Northwestern University speech: "Now is the time to embrace a broader and deeper transparency. Now is the time for all market participants to move toward open books across all markets . . . These are forward looking initiatives that answer the investor's call for greater transparency and more efficient pricing." Island couldn't agree more. That's why orders received by Island for display on the limit order book are immediately visible to anyone with a web browser regardless of whether the order was received from an individual investor or a large institution. Why is this important? Investors can use the additional information provided by Island to more accurately price their orders. The Island BookViewer™ also reduces the informational and temporal advantages traditionally enjoyed by floor brokers, market makers, and specialists. In other words, the average investor is not disadvantaged because of a lack of access to, for example, the floor of an exchange. By eliminating these time and place disparities—in essence, putting the investor "virtually" right next to the market maker or specialist—Island helps lower the hidden costs associated with higher spreads and inferior executions. In fact, according to the Securities and Exchange Commission, spreads—the difference between the highest price to buy and the lowest price to sell—have narrowed substantially since the time ECNs were given access to the Nasdaq market, saving investors hundreds of millions of dollars per year.

Question 2. Are you decimals ready?

Response: Yes. See answer below.

Question 3. What can you do to facilitate trading in decimals even though Nasdaq is not decimal ready?

Response: The Island ECN, Inc., has announced that, consistent with the U.S. Congress's deadline for conversion to decimals for trading of stocks, on July 3, 2000, Island shall be the first U.S. equity marketplace to offer investors the ability to trade in decimals. As the U.S. Congress has made clear, decimalization is one of the most important initiatives for creating a fairer, simpler, and more accessible marketplace for the individual investor. Investors should not be burdened with the cost of industry-established increments that limit investors' ability to obtain the best possible price.

The Island decimalization plan is completely voluntary and allows all participants to transition into the program in a fair, orderly, and clear fashion. Brokers and investors can select their preferred trading environment—decimals or fractions. Another key aspect of the Island plan is that it provides market participants with a competitive and economic incentive to progress to decimals as quickly as practicable. By providing market incentives, the Island plan ensures a timely transition to decimals that will benefit investors. We expect that investors will save hundreds of millions of dollars a year as the industry moves toward decimal trading, and we are proud to be one of the catalysts for this change.

Island's decimalization plan is consistent with the current relationship between Nasdaq and Island. Island already trades in increments finer than the Nasdaq market as a whole and is required to round its quotation information prior to transmission to Nasdaq. Different quote increments already exist within Nasdaq and have not been the source of any system problems or investor confusion. By progressing to decimals, we are further simplifying the market for millions of investors.

Question 4. What structural changes should accompany the demutualization of NYSE and Nasdaq to ensure a competitive market?

Response: Island believes that the U.S. Congress has already designed the roadmap for ensuring the continued success of our capital markets. In 1975, Congress created the National Market System, with the goal of constructing a more efficient and transparent market. We could not ask for a better building block.

The mandate of the NMS, as envisioned by Congress, is defined by two objectives: first, to promote competition between markets ("fair competition between exchange markets and markets other than exchange markets"); and second, to make quotation and transaction information available to investors ("assure the availability to brokers, dealers, and investors of information with respect to quotations for the transactions in securities.").

Consistent with this mandate, the SEC adopted rules that permitted ECNs to have their quotations included in the Nasdaq best bid and offer that is disseminated to the entire marketplace. As described earlier, competition between markets flourished (with ECNs having captured 30 percent of the Nasdaq transaction volume), and Nasdaq itself was significantly reformed. When provided a level playing field, ECNs can compete for market share and bring the benefits of competition to the investor.

This situation contrasts sharply with the rules and regulations governing Island's ability to compete in NYSE-listed stocks. Ironically, almost 25 years later, the rules and market structure implemented to achieve the goals of a National Market System are now inhibiting competition between markets and restricting the information available to investors. Regulatory obstacles block Island from having its quotation information included in the two main components of the National Market System—the Consolidate Quotation System (CQS) and the Intermarket Trading System (ITS).

We do not believe that any public-policy benefits are served by stifling competition and barring Island from sharing its pricing information. Consider that when Island trades the stock of America Online, at various times during the trading day, Island has the best quote in the National Market System. Unfortunately, due to the current regulatory structure, market participants (other than Island subscribers) are denied the opportunity to see and to access the better price on Island. This is completely inconsistent with the spirit of the National Market System.

In addition, we would witness significant public-policy benefits by promoting competition and integrating Island into the NYSE's pricing mechanism. Most importantly, Island's price information would no longer be fragmented from the rest of the marketplace. The market for NYSE-listed stocks would immediately become more integrated and efficient. The resulting competition between marketplaces (again, a central goal of the National Market System) would result in benefits for the investor.

In light of the proven benefits to investors and the efficiency of the market, it is time to take immediate action to give ECNs access to the Consolidated Quotation System. ECNs, such as Island, must be permitted to disseminate their quotation in listed stocks to all market participants. Yet in moving forward on this issue, we

must still confront and deal with a version of price-time priority currently operating for the listed market. As discussed earlier, under the plan governing the operation of the Intermarket Trading System, each participant exchange is prohibited from trading at a price inferior to another participant.

Just as the Federal government does not negate customer choice by requiring consumers to buy goods from the lowest price merchant, market participants should not be required to buy from the best-priced market. As long as market participants know the price in each market and have the ability to access each market, there is no need for the Federal government to require the market participant to favor any one market. Accordingly, in addition to allowing ECNs to disseminate their quotations directly through the consolidated quote, the elimination of the trade-through rule is another important step toward more fully realizing Congress's objectives in the National Market System.

Question 5. What Benefits will electronic exchanges provide that traditional exchanges do not?

Response: Electronic exchanges provide investors with a faster, cheaper, more reliable, and transparent method of trading equity securities. Prior to the introduction of ECNs, investors did not have any choice but to send their orders to market makers for execution. Following the SEC's 21(a) Report detailing collusion and fraud by market makers as well as the Justice Department's investigation into similar conduct, the SEC adopted the Order Handling Rules which permitted ECNs to display customer orders directly in the market without the participation of a traditional intermediary. By placing a limit order on an ECN, investors are empowered to determine their own price at which they want to buy or sell or security. In addition, by eliminating the traditional intermediaries, ECNs provide faster and lower cost executions than traditional market centers. Due to their rather simple business model and state of the art technology, ECNs are also able to provide services that traditional markets cannot or, in order to protect their franchises, will not provide. For example, Island was the first equity market in the United States to make its limit order book available for free over the Internet. Island was also the first equity market in the United States to announce its intention to trade in decimals on the Congressionally mandated deadline of July 3, 2000.

Moreover, by eliminating the informational disparities, ECNs are inherently safer, fairer, and easier to surveil. For example, participants on the floor of an exchange generally possess more trade and order information than the average investor sitting at home. Through surveillance and the implementation of restrictions on the activities of those in the trading crowds, regulators attempt to prevent the misuse of information. As recent events have shown, however, no amount of surveillance or regulation can completely prevent the misuse of information.

ECNs, such as Island, reduce the opportunities for improprieties by eliminating informational disparities. ECNs empower all investors by allowing them to step into a virtual trading crowd and compete directly. Since all orders are delivered to the virtual trading crowd and instantaneously displayed to everyone, no single person has an informational advantage that needs to be regulated or surveilled. That means we have been able to deliver to investors the benefits of lower cost, more transparent, fairer markets, while still complying with strict Commission standards designed to ensure the integrity of our trading systems. Island, for example, must comply with regulatory standards concerning the security, capacity and reliability of our system. In fact, due to its use of the latest, most advanced technology as well as its proprietary architecture, Island has a superb record for reliability and performance. For example, during the past year when the Nasdaq market has periodically experienced system delays due to the tremendous surges in trading volume, Island has never experienced a capacity-related problem. Even during peak trading periods. Island's average turnaround time is approximately three one-hundredths (.03) of a second—exponentially faster than our nearest competitor. By combining the latest technology with our advanced system architecture, Island has created a scalable, robust trading system with virtually no capacity limitations.

Furthermore, because electronic markets automatically capture and store all information, a complete audit trail is available for every order entered into the system. Accordingly, electronic markets can monitor a much larger and complete dataset for trading abuses such as price manipulation. At Island, we are able to monitor not just completed transactions, but all open orders in the system. This gives us the ability to not only detect violations that have already occurred, but also to prevent future violations.

Finally, we have never taken our eye off the bottom-line for the investor; we have always believed that any money funneled out of the marketplace comes directly out of the investors' pockets. Consequently, Island has sliced its margins razor thin. Island, for example, only receives $.00075 per share per side on every transaction exe-

cuted on its system; in other words, a trade for 1,000 shares of stock means only seventy-five cents for Island. I like to point this out to my staff when others question our spartan offices—like a recent New Yorker magazine profile noting that we have "upgraded our offices from grungy to nondescript." I like to believe that there are millions of investors across the country benefiting from the fact that Island has the least stylish offices on Wall Street.

Question 6. Is the Nasdaq supermontage an ECN? What types of problems do you anticipate in a market in which your regulator competes with you?

Response: When evaluating the Super-Montage Proposal, it is important to understand that there are two aspects to the proposal. First, there is the initiative that would allow market participants to display greater depth to the market on a voluntary basis. Strangely hidden in the proposed rule, however, is a proposal for the creation of something named the "Order Collector Facility." Although Nasdaq has gone to great lengths to trumpet the benefits of the greater transparency, it has ignored the competitive implications of the combination of the Order Display Facility (the system that will actually display the orders of market participants) with the Order Collector Facility (the system for the execution of orders displayed on the Order Display Facility). Yet, the Super-Montage Proposal states that the Order Collector Facility would be established as the "single point of order entry and single point of delivery of liability orders and executions." By creating a platform for both the display and execution of orders, Nasdaq is essentially proposing the functional equivalent of a consolidated limit order book. One of the key attributes of the system is that, as Nasdaq states in a footnote, it would meet "the requirements of the Display Alternative, Exchange Act Rule 11Ac1-4(c)(5)." In other words, the Super Montage proposal would create a Nasdaq sponsored ECN.

To understand the competitive implications of the new system it is important to understand how Nasdaq operates today. Currently, Nasdaq operates as a communications system that links the various market participants by: 1) consolidating the quotation information of the various market participants; and 2) operating the SelectNet system that allows market participants to electronically access the orders displayed in Nasdaq's consolidated quote. SelectNet allows Nasdaq market participants to route orders to the best price with the subsequent execution occurring on the system of the market participant receiving the order. The Super-Montage Proposal, however, would require executions to occur, not on the system of the ECN or market maker that receives the order, but on the Nasdaq operated Order Collector Facility. As a result, every market participant would become dependent on Nasdaq technology. Island strongly believes, however, that both competition and investors would be better served if, instead of trying to become the execution point for all Nasdaq market participants, Nasdaq substantially upgraded the SelectNet system. This upgrade, in conjunction with new rules requiring all market participants respond to orders in an automated fashion, would heighten competition on Nasdaq and, thus, bring greater benefits to investors.

It is also important to note that regardless of whether the Super-Montage proposal is approved, the current regulatory structure is tilted in favor of Nasdaq. Not only does Nasdaq have the authority to pass and interpret rules governing the activities of ECNs but, Nasdaq uses the revenue it makes from ECNs to finance initiatives intended to compete with ECNs. For instance, all Nasdaq market participants, including ECNs such as Island, are required by Commission rules to report every transaction to Nasdaq. Not only does Nasdaq charge Island a fee for every transaction that Island is required by regulation to report to Nasdaq, but Nasdaq then sells that same trade information for hundreds of millions of dollars. In fact, Island believes that it is one of Nasdaq's largest sources of revenue. The fact that the Nasdaq may separate itself from the NASD-R is irrelevant to these issues. Even after the separation, Nasdaq still would retain the ability to adopt rules that could disproportionately impact ECNs and use its monopoly position to disadvantage ECNs. For example, ECNs are required by SEC rules to maintain connectivity to Nasdaq. Yet, Nasdaq dictates the price and quality of that connectivity. If ECNs encounter problems with their Nasdaq operated connections they must call Nasdaq for assistance. This conflict of interest has already created problems and will only intensify if the relationship between Nasdaq and ECNs is not re-structured to ensure fair competition. By heightening competition and spawning innovation, ECNs have played a major role in strengthening the Nasdaq market. The Super-Montage proposal risks undermining these accomplishments.

Question 7. Which regulations most inhibit ECNs from competing with exchanges?

Response: See answer to question 4 above.

Question 8. What is the Intermarket Trading system. How should it be changed?

Response: The Intermarket Trading System ("ITS") is the system that links all exchange markets. For instance, if an investor sends an order to buy shares of IBM

to the Chicago Stock Exchange when there is a better price available on the NYSE, ITS allows the Chicago Stock Exchange specialist to route that order to the NYSE to obtain the better price. As has been recognized by the Securities and Exchange Commission itself, however, ITS is based on obsolete technology, outmoded miles, and a dysfunctional governance structure. The best solution is to completely replace ITS and rethink many of the assumptions that underlie its creation. Island will be submitting a comment letter to the Commission in the near future that will provide a detailed proposal with respect to the future of ITS. It is important to note, however, that ITS is not the key competitive barrier that prevents ECNs from effectively competing in NYSE listed stocks. Instead, the key issue is representation. Island must be able to disseminate its quotation as part of the consolidated quotation in order to compete on a level playing field in NYSE listed securities.

Question 9. What is the Consolidated Quotation System? How should it be changed?

Response: The Consolidated Quote System is the system that displays the best quotation from all 8 Self-Regulatory Organizations that trade listed securities. ECNs, however, due to regulatory barriers do not have their quotes represented in CQS. While Island, for example, has developed a robust business in trading Nasdaq securities (accounting for approximately 1 in every 8 transactions), the inability of Island to disseminate its quotations through CQS have prevented Island from capturing a significant share of the volume in securities listed on the NYSE. By preventing fair competition between ECNs and traditional markets for listed securities, the current regulatory scheme harms investors.

The Commission must take immediate action to allow ECNs to include their quotation information in the Consolidated Quotation for listed securities. Traditionally, ECNs have resisted posting their quotation in CQS because, by posting a quote in CQS, ECNs would be required to participate in ITS. Given the consensus that ITS is obsolete, Island recently the order of an ECN, such quote would contain an identifier indicating that it is the quote of an ECN not accessible through ITS. In turn proposed that the SEC take steps that would allow ECNs to *immediately* begin representing their quotations for NYSE-listed stocks in CQS without participating in ITS until a more permanent long-term solution is found. Specifically, Island proposed that ECNs be permitted to immediately begin displaying their quotations in listed stocks through Nasdaq. If the Nasdaq quote in CQS reflected, other markets could access the ECN quote by linking directly to the ECN or by simply contacting the phone desk of the ECN. The phone desk would provide at least the same quality of access that is currently provided by ITS. More importantly, the inclusion of ECN quotes in CQS would bring true competition to the listed market and allow investors to obtain better prices.

Question 10. Has the current regulatory structure of the National Market System actually created market fragmentation by disallowing ECNs to share pricing information?

Response: The two main goals of the National Market System were to heighten competition between markets and increase the amount of quotation information available to investors. Ironically, almost 25 years later, the rules and market structure implemented to achieve the goals of a National Market System are now inhibiting competition between markets and restricting the information available to investors. Regulatory obstacles block Island from participating in the two main components of the National Market System—the Consolidate Quotation System (CQS) and the Intermarket Trading System (ITS).

Consider that when Island trades the stock of America Online, at various times during the trading day, Island has the best quote in the National Market System. Unfortunately, due to the current regulatory structure, market participants (other than Island subscribers) are denied the opportunity to see and to access the better price on Island. This is completely inconsistent with the spirit of the National Market System.

Instead, we should promote competition and integrate Island into the NYSE's pricing mechanism. Most importantly, Island's price information would no longer be fragmented from the rest of the marketplace. The market for NYSE-listed stocks would immediately become more competitive and efficient. The resulting competition between marketplaces (again, a central goal of the National Market System) would result in benefits for the investor.

Question 11. Have you applied to become an Exchange? What is the status of your application?

Response: Island applied to the SEC become a registered securities exchange on June 28, 1999. Island is in regular dialogue with the SEC on the status of the application, and awaits specific recommendations from the SEC.

Question 12. How is Nasdaq's super-montage like a Central Limit Order book?

Response: See answer to question 6 above.

Question 13. What are the key problems with a Central Limit Order Book?

Response: The debate over the creation of a Consolidated Limit Order Book (CLOB)—a government-mandated, central order book, based on strict time-price priority between markets—has highlighted many of the problems with a CLOB. Its advocates insist that a CLOB is now necessary because ECNs have "fragmented" the marketplace. In fact, the rise of ECNs has, by increasing competition, have led to consolidation of the marketplace. A decade ago, the top four market participants (before ECNs were around) accounted for 40 percent of the total Nasdaq volume; today, the top four (now including ECNs) account for 60 percent. Building upon this suspect fragmentation claim, the traditional market professionals then seek to impose a CLOB across markets.Interestingly enough, the immediate and most important effect of a CLOB is to deny an ECN's ability to compete with traditional players on the basis of speed, technology, and reliability. The CLOB inhibits competition by forcing markets to route orders to other marketplaces for execution. The resulting inter-dependence between the markets would prevent any one market from distinguishing itself on the basis of speed, reliability and quality of service. For example, if an order is sent to Market A for execution but Market B was displaying a better price, Market A would be required to send the order to Market B for execution. As a result, the quality of service that Market A could offer its customer is only as good as the quality of service of Market B. The basis for competition between markets would be eliminated since the only factor that would determine which market received the order would be price.

Question 14. In what ways is a CLOB anti-competitive?

Response: To understand why rules mandating price-and-time priority between markets and—in their most extreme form—the Consolidated Limit Order Book are anti-competitive, consider the following example:

Assume that ECN A is a market that provides its members with the fastest and most reliable trading system in the industry. In addition, assume that Traditional Market B utilizes obsolete technology that lacks adequate capacity. If, under a regime of price/time priority, Market B is the first to display the best offer of $100 in stock XYZ, any order to buy XYZ at $100 received by ECN A must be routed to Traditional Market B—despite its inferior technology. Thus, even if you as an investor intentionally sent your order to ECN A to take advantage of its superior speed of execution, ECN A would be required to route your order to Traditional Market B. Thus, ECN A would be completely dependent on a response back from Traditional Market B in order to fill your order.

This simple scenario demonstrates why price/time priority fails to serve the investor:

1.) It is impossible for ECN A to offer a faster execution or better service in its competition with Traditional Market B, since Market A will always be dependent on Traditional Market B for execution and vice versa;
2.) ECN A and Traditional Market B are dependent on the linkage between them and cannot offer service any faster or more reliable than permitted by the linkage.
3.) In light of the first two points, investors will become insensitive to which market the order is entered, leaving no basis for competition between markets.

In sum, not only do we prevent markets from competing with one another on any basis beside price, but we actually undermine the very technological breakthroughs that have strengthened our Nation's equity markets.

Question 15. Recently we have seen an increase in message bottlenecks due to capacity problems with individual systems. Would the existence of a CLOB exacerbate the capacity problems we have been witnessing?

Response: Yes. The very definition of a CLOB is a centralized system where all market participants are dependent on such system for the execution of orders. Since the system's development must be a cooperative effort led by the government, there is every reason to believe that the end result would be a system that was technologically obsolete before it was even completed. Given the advances in technology, our markets can only maintain their technological lead by constantly innovating. To the extent that one monolithic system was created, innovation would be extinguished.

Question 16. The idea of a Central Limit Order Book (CLOB) was first tossed around in the 1970s when fragmentation was high because technology could not facilitate efficient order interaction without centralization. Has current technology rendered the notion of a CLOB obsolete?

Response: Yes. Given the tremendous advances in technology, market participants are now able to route orders to the best market without a CLOB performing such a function. There are many proprietary systems available today that allow traders

to determine and subsequently route an order to the best market. In fact, many systems do this in an automated fashion. As the level of investor sophistication has increased, these systems will continue to proliferate and become more efficient.

COMPETITION IN THE NEW ELECTRONIC MARKET: PART II

THURSDAY, MAY 11, 2000

HOUSE OF REPRESENTATIVES,
COMMITTEE ON COMMERCE,
SUBCOMMITTEE ON FINANCE AND HAZARDOUS MATERIALS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 223, Rayburn House Office Building, Hon. Michael G. Oxley (chairman) presiding.

Members present: Representatives Oxley, Greenwood, Shimkus, Towns, Stupak, Engel, Luther, and Rush.

Staff present: Linda Dallas Rich, majority counsel; David Cavicke, majority counsel; Brian McCullough, professional staff, Shannon Vildostegui, professional staff; Robert Simison, legislative clerk; and Consuela Washington, minority counsel.

Mr. OXLEY. The subcommittee will come to order. The Chair would indicate that I am instructed the House will have a series of six votes on the floor beginning almost immediately, and so it would be the idea to give my opening statement and if the ranking member is here, his opening statement; and we will recess until we can get those votes out of the way and then return. The Chair apologizes for that inconvenience, but some of you have been around long enough to know how things work around here. So the Chair would recognize himself for an opening statement.

I am pleased to convene this, our second hearing, to examine the implications of how technology is transforming our capital markets. Indeed, technology has completely rewritten the rules of competition and survival in the new electronic marketplace. As we learned at the subcommittee's last hearing on this subject, barriers to entry are falling as knowledge, creativity, and the Dell computer can make a couple of young guys in a basement office a significant force in the equities market. But not all barriers to entry have fallen, and they remain regulatory anachronisms that stand in the way of optimum efficiency and fairness for all participants in these new markets.

At our last hearing, we heard from representatives of the new ECNs who are pioneering changes and gaining a hold on the market through the innovative use of technology. At that hearing, we learned about some of the regulatory anachronisms and barriers that remain such as the intermarket trading system. I look forward to hearing today's witnesses point of view on how ITs should be changed or replaced to address the problems of outdated technology and inefficient and unfair market access.

This morning we will hear from market participants who have been around since the prehistoric times when faxes were considered high-tech. Technology has had no less impact on these players. Their business models are changing as we speak, the direct result of the forces of innovation and computation.

Increased competition is translated into reduced transaction costs, faster executions, and more choices in trading venue for retail and institutional investors. Retail investors can now trade on-line with e-brokers at a fraction of the cost of the commissions they would pay a traditional full service broker. Even the most stalwart of the traditional brokers have followed suit offering investors the option of trading on-line.

One thing that concerns me, however, is that investors can be better served by not only lower commissions but better executions of their trade. On a 1,000 share trade, one-sixteenths of a point, which is currently the thinnest spread available on an exchange, amounts to $166.67. That is more than 23 times the cheap $7 commission that some firms charge.

As I have said for some time now, when the markets move to decimal pricing, investors will save bills in the form of narrower spread. I can't emphasize enough how important it is that the markets move expeditiously to pricing in dollars and cents and join the rest of the world. The decimal pricing alone will not ensure that investors get the best execution of their trades.

We will hear from our witnesses today, and in particular the fund companies here today that invest on behalf of investors, about how the rules of today's markets work or don't work to ensure that investors get the best possible price on their trades.

Technology has also forced the reevaluation of the role and structure of traditional exchanges. Indeed one commentator suggested in Monday's Wall Street Journal that there is no reason to have stock exchanges at all. James Glassman, the author who has testified before this committee, observed that the Internet can instantly link buyers and sellers around the world, so why is there a need for a place for buyers and sellers to physically get together to come to terms on shares of stock or carloads of wheat? That anybody is even asking this question illustrates how fundamentally the sweeping changes of technology have affected our markets.

ECNs, best described as hybrids of exchanges in brokers, have led the challenge to the exchange structure. Because the linkage provided by the current SROs was, in their view, inefficient, they connected their own order books and pools of liquidity. In fact, last fall the ECNs links with one another allowed continuous trading even when NASDAQ systems were stressed by trading volume.

This linkage did not, however, address the question of how to ensure the public is informed of the better prices for listed stocks that might exist on ECNs. In response, traditional exchanges are contemplating introducing their own ECNs dissolving current linkage systems and planning privatization. I doubt we will recognize their business models even a year from now. These new proposals raise important questions about the proper role of regulation by self-regulatory organizations that compete with the entities they regulate. I look forward to addressing some of these questions today.

Though these changes are stunning, I believe they are just the beginning of a complete revolution in the securities industry. I did not call this series of hearings to contemplate a future design for the market. That is surely not the role of government. I am confident competition will shape the market more liquid, transparent, and efficient than one we can structure. However, this can only happen if we ensure that regulations that govern our market foster competition in response to the changing landscape of the industry.

I am pleased to welcome today's witnesses. We have an extensive and distinguished panel of experts representing many sectors of the marketplace including traditional brokers, institutional investors, the first ECN, and traditional exchanges. With all points of view represented today, I look forward to a lively debate on how best to promote competition, efficiency, and fairness to investors in our electronic marketplace.

The Chair now is pleased to yield to the ranking member, the gentleman from New York, Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman. I also want to thank you for holding this hearing this morning. As I have observed at previous hearings, the securities market are important to the State of New York and vital to the New York City economy. Therefore, they are very, very important to me. I really want to make that clear.

This subcommittee is front and center on the debate about how markets are changing, how competition and efficiency can be enhanced and how investors can benefit. We must look carefully at all the changes which are occurring. And let me pause here and say, Mr. Chairman, I salute you. And let the record reflect that I remain committed to market-oriented solutions to the changes that are taking place in the securities markets.

The hearings we are holding on these issues provide an important platform for the industry, the regulators, and the investing public to be heard. I particularly want to welcome Bob McSweeney, the senior vice president of the New York Stock Exchange this morning. Since the subcommittee's last hearing on these issues, the Exchange has released its market structure report. The report makes recommendations on expanded choices of investors of the New York Stock Exchange. Building on the existing strength of the SEC floor system, these expanded choices will include automatic electronic execution and opening the specialist book to on-line investors through the Internet.

The report also supports elimination of the intermarket trading system in favor of a private sector technological initiative. One of the most important recommendations is improving the education of investors about order execution and market-structure issues.

Mr. Sweeney, I look forward to your testimony this morning. I would also like to express my concerns about the SEC concept release on securities market data. I strongly disagree with the idea raised by some broker dealers that investors do not have cheap access to real-time market data. In fact, free quotes are available on cable television and the Internet. I support the New York Stock Exchange's decision to leave the Consolidated Tape Association.

I believe that with careful supervision by the SEC, each exchange can sell its own data and allow market forces to determine

who offers the best product. The SEC should not regulate market data fees through cost base rating making procedures like a public utility does. That method of regulation would add new levels of bureaucracy to the SEC and would distract the agency from more urgent investor protection issues. So, Mr. Chairman, I look forward to hearing from all the witnesses, and on that note I yield back.

[Additional statement submitted for the record follows:]

PREPARED STATEMENT OF HON. TOM BLILEY, CHAIRMAN, COMMITTEE ON COMMERCE

I commend the Chairman for holding this hearing today on competition in our new electronic capital markets.

More than half of all Americans now have an ownership stake in our economy through investments in the stock markets. I am optimistic that the number of investors in our markets will continue to rise and will allow every citizen to participate. It is no coincidence that this trend corresponds directly to improvements in technology.

Personal computers are as powerful as the old mainframes, and combined with the Internet investors now have real time access to information and to the markets. The speed and efficiency offered by these developments have increased competition and reduced trading costs for both institutional and individual investors.

Technology has brought our markets new forms of trading, perhaps most dramatically illustrated by the evolution of electronic communication networks (ECNs). This and other technological developments have led to questions about the utility and efficiency of the existing regulatory model of our securities markets, including the concept of a traditional exchange.

At the last hearing we heard some of the newest ECNs describe their ability to match customer orders electronically without human intervention. Today we will hear from the pioneer in that field, Instinet, the broker-dealer that brought us the first ECN. We will also hear from the traditional auction and dealer markets, as well as the users of both newfangled and oldfangled markets—the buy side.

The National Association of Securities Dealers and the New York Stock Exchange are contemplating changes to their business models and regulatory structure to better compete with ECNs and foreign competitors. I suspect some of these changes would not have been contemplated a few years ago absent the development of the electronic trading facilities. I am very interested to learn more about the proposed changes and their impact on competition.

In particular, the New York Stock Exchange has suggested that the Intermarket Trading System (ITS) may have passed its time in this age of instantaneous execution. I congratulate them on recognizing the need to improve outdated systems and technology, and am curious to learn how that system might be changed or replaced to provide fairer and more efficient markets.

Additionally, the NASD has proposed a centralized trading system. I am concerned about possible conflicts that could arise when a Self Regulating Organization enters into competition with the very entities it regulates.

We are not here to decide which business model is correct. Competition is the force that best serves investors and our markets. But biased or outdated regulatory restrictions get in the way of that positive force. Today we will learn what steps are necessary to ensure that the rules of the game actually permit competition to flourish.

I welcome our witnesses today.

Mr. OXLEY. I thank the gentleman and the Chair does indicate there is a series of six votes on the floor of the House, and so, reluctantly, we will have to stand in recess until we return. I would hope it would be within a half-hour or so. So enjoy yourselves. The committee stands in recess.

[Brief recess.]

Mr. OXLEY. The subcommittee will reconvene. Once again the Chair apologizes for the delay. I hope you enjoyed our hospitality here at the Commerce Committee during our absence. Let me introduce our distinguished panel, Mr. Douglas M. Atkin, CEO and president of Instinet; Mr. John J. Wheeler, manager, equity trading of American Century Investments from Kansas City; Ms. Holly A.

Stark, director of trading, Kern Capital Management in New York; Mr. Robert J. McSweeney, senior vice president of special committee on market structure, governance, and ownership, New York Stock Exchange; Mr. Richard G. Ketchum, president, National Association of Securities; Mr. Peter Jenkins, director of equity trading, Scudder Kemper Investments in New York; and Mr. Kenneth Kamen, president, Princeton Securities Corporation in Princeton, New Jersey. Mr. Steven Galbraith, senior analyst for Sanford C. Bernstein & Co. was expected to be here, was taken ill; but I ask unanimous consent that his statement be made part of the record. All of your formal statements will be made part of the record.

So let us begin with Mr. Atkin, and again we appreciate your patience with the committee. Mr. Atkin?

STATEMENTS OF DOUGLAS M. ATKIN, CEO AND PRESIDENT OF INSTINET; JOHN J. WHEELER, MANAGER EQUITY TRADING, AMERICAN CENTURY INVESTMENTS; HOLLY A. STARK, DIRECTOR OF TRADING, KERN CAPITAL MANAGEMENT; ROBERT J. McSWEENEY, SENIOR VICE PRESIDENT, SPECIAL COMMITTEE ON MARKET STRUCTURE, GOVERNANCE, AND OWNERSHIP, NEW YORK STOCK EXCHANGE, INC.; RICHARD G. KETCHUM, PRESIDENT, NATIONAL ASSOCIATION OF SECURITY DEALERS, INC.; PETER W. JENKINS, DIRECTOR OF EQUITY TRADING, SCUDDER KEMPER INVESTMENTS; AND KENNETH A. KAMEN, PRESIDENT, PRINCETON SECURITIES CORPORATION

Mr. ATKIN. Thank you, Mr. Chairman, and members of the subcommittee. First of all, the last time that I enjoyed recess I think was about 32 years. I was a bit disappointed we weren't able to use the gym to shoot baskets. I hear it is for Members only. It is a pleasure to be here. My name is Doug Atkin, and I am president and CEO of Instinet Corporation. We are the world's largest agency broker. We trade over 300 million shares a day in U.S. markets. We operate in 40 markets overseas and earned over $1 billion a year in revenues in 1999.

Only in the NASDAQ market, I think it's important to understand, do we operate as an ECN due to the unique nature of that market. To date, this subcommittee has heard a lot of arguments made by market intermediaries or the middlemen who trade against their customers' principle. We have also heard from the NASD and New York Stock Exchange's self-regulatory organizations currently operated as quasi-government utilities but with firm plans to become for-profit competitors in the near future.

I think, today, the subcommittee will hear not just from the intermediaries but from the real parties at interest, the investors, the people really providing capital to the markets. After all, markets exist to serve issuers and investors, not the middlemen. When I talk about investors, I just don't mean Wall Street professionals. Everyone who buys and holds a mutual fund or is involved in a State pension plan is an investor. For over 30 years, we have allowed buyers and sellers of securities to meet electronically and unlike dealers, we are a pure agent meaning we don't trade for our own account. We never buy or sell securities for our own account, and we have provided this service to investors such as mutual

funds and pension plans and have recently expanded our service directly to retail investors as well.

In the last year alone, according to outside studies, Instinet has saved investors over $2 billion in transaction-cost savings. However, just as competition is beginning to make real inroads, the old order, as in any time of transition, is trying to rewrite the rules of the game to preserve its advantage. NASDAQ SuperMontage is just one example of this type of anticompetitive behavior.

In the Internet age, rather than carry forward outdated structures, rules, and practices, we would be far better off by introducing competition. Some would say more competition. I would say some competition into our markets. Currently the NASDAQ, under NASDAQ, controls 100 percent of the trading in its market. Those that trade NASDAQ stocks have to use its infrastructure and publish its quotes to its market.

We believe U.S. investors are not getting what they want and need out of the present market structure. We think what they want is inefficient market which lowers their total trading costs. Let me identify just two examples of what I mean. Certainly trading in decimals would make markets easier for investors to understand. It would also allow spreads between buy and sell orders to narrow allowing investors to get better prices.

We operate, as I said, in 40 markets. We operate in decimals in 39 markets. The only market we don't is the United States, and we don't think that that is the best market for investors. Also, today when an investor improves the price for its security, that is, an investor is the first one willing to pay more than another buyer or accept less than any other seller, their order can sit unfilled all day while others' orders get filled at the very price that they set. I don't believe that is the best for the market, best market for investors either.

I think today's network technology is bringing buyers and sellers together directly in industry after industry. The Internet is changing the way travelers buy airline tickets, the way car manufacturers buy auto parts, the way utilities buy electricity. Compared to these examples, the way people buy and sell stocks has hardly changed particularly at the market level. In our industry, mainframe-era rules and structures continue to protect middlemen to the detriment of investors.

Mr. Chairman, you mentioned the Wall Street Journal article. I too found that very interesting calling into question this very fundamental issue. For example, the self-regulatory organizations, at present, are able to use their regulatory authority to write rules that keep themselves and the dealers in the middle and capture the benefits of other people's innovations.

I would also say, though, again this isn't just an SRO issue. It is also an SEC SRO issue. There is a lot of issues that are intertwined between the SEC and NASDAQ for example. I think the members of this committee have worked extremely hard to end monopolies and introduce greater competition as in the telecommunications industry fostering innovation and reducing consumer costs. To achieve this result in the industry, I believe we must dismantle the outdated rules written in the 1970's based on 1960's technology that protects the entrenched interest.

Let me offer three examples of the kind of change I am talking about. First we cannot allow one competitor to write the rules for another competitor. That is like allowing the pitcher to determine the size of the strike zone. It just is not a level playing field. If the pitcher were able to determine the size of the strike zone, I don't think Sammy Sosa or Mark McGwire would have hit 50 or 60 home runs.

Mr. OXLEY. Could you sum up. We are trying to stick to the 5-minute rule since we have so many on the panel.

Mr. ATKIN. Certainly. The new world of competitive opportunity created by technology is not limited to our shores. Trading U.S. stocks overseas was not possible 25 years ago, but it is possible today. I think European exchanges are already offering more efficient operations than their U.S. counterparts; and I think, to sum up, what we really need in this country is to make sure that before NASDAQ or any other SRO is able to build, in essence, a competing order matching functionality or system, what we need is to allow ECNs who are really frustrated stock exchanges to operate on a level playing field and to be able to compete fairly or have that choice.

[The prepared statement of Douglas M. Atkin follows:]

PREPARED STATEMENT OF DOUGLAS M. ATKIN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, INSTINET CORPORATION

I. MARKETS SERVE ISSUERS AND INVESTORS

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to appear before you today. My name is Doug Atkin and I am the President and Chief Executive Officer of Instinet Corporation.

There is an exciting transformation now underway in the securities markets, as new competitors to the old, established brokerage firms and technological innovations are offering investors benefits and advantages once reserved only for market "insiders," leveling what has long been an uneven playing field. Over the past several years, the National Association of Securities Dealers (NASD) and the New York Stock Exchange have faced increasingly vigorous competition from electronic brokers like Instinet. By empowering investors to trade directly with one another, we have brought competition to stock trading, which ensures that investors get the best price at the lowest transaction cost by driving down spreads.

Two months ago, this Subcommittee started hearings on the future of the markets. To date, you have heard a lot of arguments made by market intermediaries—the "middlemen" who trade against their customers as principal, and the NASD and NYSE—self-regulatory organizations currently operated as quasi-governmental non-profit utilities, but with plans to become for-profit competitors in the very near future.

Today, the Subcommittee will hear not just from the intermediaries but from the real parties at interest: the investors, the people providing capital. After all, markets exist to serve issuers and investors, not to serve the middlemen. And when I talk about investors, I don't just mean Wall Street professionals. Everyone who buys and holds a mutual fund is an investor.

For over 30 years, Instinet has allowed buyers and sellers of securities to meet electronically. Unlike middlemen, we are a pure agency broker—we never buy or sell securities for our own account. We have provided this service to investors such as mutual funds and pension funds and will very shortly expand our service directly to retail investors as well.

Given the bull market of recent years, it may seem strange to suggest that the U.S. stock markets are not as efficient as they should be. But the fact is, our markets remain dominated by monopoly competitors still using mainframe technologies. And, just as competition is beginning to make real inroads, the old order—as in any time of transition—is trying to rewrite the rules of the game to preserve its advantage. Nasdaq's "SuperMontage" is just one example of this type of anticompetitive behavior. In the Internet Age, rather than carry forward outdated structures, rules and practices, we will be far better off by introducing more competition into our

markets. This will serve investors better, as well as maintain our global competitiveness.

II. INVESTORS ARE NOT GETTING AN EFFICIENT MARKET

Today U.S. investors are not getting what they want and need: an efficient market. Let me identify a few examples of what I mean:

- Trading in decimals would make markets easier for investors to understand. It also would allow the spreads between buy and sell orders to narrow, allowing investors to get better prices. However, because of a market structure that has a single point of failure, we don't even know when trading in decimals will begin. That's not the best market for investors.
- Today, trading takes place around the world 24 hours a day. Investors demand information about prices and trades before the traditional markets open and after they close. This information is generally not available to investors today. That's not the best market for investors.
- Today, when an investor improves the price for a security, that is, is the first one willing to pay more than any other buyer or accept less than any other seller, his order can sit unfilled all day while others' orders get filled at the very price he set. That's not the best market for investors.

III. REMOVE OBSTACLES TO MAKE MARKETS MORE EFFICIENT FOR INVESTORS

As Members of this Committee know well, today's network technology is bringing buyers and sellers together directly in industry after industry. The Internet is changing the way travelers buy airline tickets, the way car manufacturers buy auto parts, the way utilities buy electricity. In financial markets, futures, derivatives and bonds are increasingly traded over electronic systems. We recently launched Instinet Fixed Income, which will bring better performance and cost effectiveness to trading in fixed-income securities.

Compared to these examples, the way people buy and sell stocks has hardly changed. In our industry, mainframe-era rules and structures continue to protect middlemen to the detriment of investors. For example, the self-regulatory organizations are able to use their regulatory authority to write rules that keep themselves in the middle and capture the benefits of other people's innovations.

The members of this Committee have worked hard to end monopolies and introduce greater competition in the telecommunications industry. The Committee currently is reviewing monopolies and barriers to competition in the energy market. As in telecommunications, as in energy, we need to introduce more competition in the securities markets, to unleash the benefits of technology, speed, efficiency and lower costs. Our markets need to work for issuers and investors rather than the middlemen. To achieve this, we must dismantle the outdated rules written in the 1970's, based on 1960's technology, that protect the entrenched interests.

Let me offer three examples of the kind of change in thinking I am talking about.

First, we cannot allow one competitor to write the rules for another competitor. That's like allowing the pitcher to determine the strike zone—even Sammy Sosa or Mark McGwire would have a tough time in that situation! And yet it is happening in our securities markets. The New York Stock Exchange and the NASD write the rules that all competitors must play by. And they are planning to become for-profit competitors themselves.

When you write the rules and play in the game, you face an inherent conflict of interest. As an example, consider the NASD's proposed "SuperMontage." Today, the NASD runs a system that lets market participants control who they send orders to. In SuperMontage, the NASD is proposing to control who market participants send their orders to. It would give the NASD an unfair advantage over its competitors, ultimately harming investors.

Instinet's April 20, 2000 comment letter to the SEC on the NASD's SuperMontage proposal is attached to this testimony in exhibit. Let me briefly explain why SuperMontage really should be called "SuperMonopoly":

- It is not really voluntary. The proposal requires all markets trading Nasdaq stocks to submit their quotes to SuperMontage. In addition, brokers will feel tremendous pressure to use the order execution system run by their regulator—ultimately reducing investor choice.
- It could give investors worse prices than they get today. As currently designed, the algorithm at the heart of SuperMontage coupled with Nasdaq's pricing conventions would put certain ECNs last in line to execute orders entered through Nasdaq, even when those ECNs offer the best prices for investors. This would inappropriately disadvantage certain market participants, particularly those

who have brought down spreads and helped provide investors with the best price.

- It could provide investors with less information than they get today. As James Glassman described in the *Wall Street Journal* this week, ECNs already expose their entire limit order books to their subscribers and some even to the public over the Internet. SuperMontage displays only the three best price levels. If SuperMontage draws order flow away from ECNs because of its privileged regulatory status, that will be a step backward in transparency.

To eliminate this inherent conflict, we must end the ability of one competitor to regulate another. Regulation must be carried out by independent, unbiased regulators. 100% separation of the Nasdaq from the NASD and NASD Regulation should be an absolute precondition for the privatization of the Nasdaq.

Second, we must remove outdated and biased trading rules that serve the middlemen rather than investors. Current rules allow unfair trading practices such as "internalization." Internalization allows middlemen to profit from the difference between their customers' buy orders and sell orders, without ever exposing those orders to the market. This reduces competition, which in turn produces worse prices for investors. Not only that, the order placed by an investor who first sets the best price can go unfilled. One possible solution to internalization is to prevent any intermediary from trading against its customers as principal unless it improves the best available price in the market.

Finally, we must promote fair competition. Competition breeds innovation, and innovation benefits investors. This Committee wrote the law requiring the Baby Bell phone companies to allow competition for local service before they can offer long distance service. If not for this requirement, the Baby Bells would be using their monopoly revenues from local service to subsidize their long distance business. As Congress realized, monopoly subsidies are unfair, inefficient and stifle innovation. The current monopoly on revenues from market data illustrates these risks.

Today, the rules allow the self-regulatory organizations to engage in exactly this type of unfair and inefficient behavior. For example, all brokers must report their market data to their SROs. The SROs then enjoy exclusive rights to revenues from the sale of that data. They earn monopoly revenues in this area and can use it to subsidize other areas of business—including efforts to compete with their own members.

The solution to this problem is to allow innovators to keep the benefits of their innovations. To continue the example I gave, Instinet and other market participants already use their data as important parts of their business strategy. The monopolies should not be able to dictate the terms on which their competitors may use their data.

IV. CONCLUSION

The new world of competitive opportunity created by technology is not limited to our shores. Trading U.S. stocks overseas was not possible 25 years ago, but it is possible today. European exchanges are already more efficient than their U.S. counterparts. They have been free to trade one another's shares without having first to get approval from their competitors. For example, the London Stock Exchange set up the electronic SEAQ International to trade French, German and Swiss stocks. SEAQ International captured a significant share of trading from the traditional exchanges. This competition forced European exchanges to respond by adopting more efficient electronic systems, benefiting issuers and investors across Europe. If SEAQ International had been required to go to the European exchanges for permission to trade their stocks, or forced to operate through their systems—as the ECNs must today with the NYSE and Nasdaq—the European exchanges likely never would have innovated. The recently-announced merger of the London Stock Exchange and the Deutsche Boerse will create an efficient all-electronic stock market that rivals U.S. markets in size.

By contrast, in the United States competition to the Nasdaq for trading Nasdaq stocks is limited. ECNs essentially are frustrated exchanges that are not able to compete with the Nasdaq on an equal footing. Even those ECNs that have applied to become exchanges have not been able to. This is even more important, now that the Nasdaq is becoming a for-profit competitor and is proposing to use its regulatory authority to hobble its competitors before competition even begins.

If the U.S. markets do not become more efficient, securities trading could easily move overseas. I have argued for a change in thinking, to allow more competition in securities trading. This will be good for issuers, good for investors, and will maintain the international competitiveness of the U.S. markets. If we build a market that best serves investors, we can continue to control our destiny. If we try to erect

barriers around an inefficient market, we will harm investors and lose control to others.

Mr. OXLEY. Thank you.

Mr. Wheeler?

STATEMENT OF JOHN J. WHEELER

Mr. WHEELER. Thank you. Chairman Oxley, distinguished representatives of the subcommittee, my name is John Wheeler; and it is an honor to be here today representing 2 million shareholders at American Century Investors with over $110 billion in assets. I am the manager of the domestic trading operation at American Century. I have been with the firm for over 9 years; and previous to that time, I spent 5 years in the over-the-counter marketplace as a market maker.

[Slide.]

I would like to start this morning with a little bit of historical perspective. This slide represents a survey taken at Trader Forum, a buyside organization, done over 5 years ago. If you focus in on the three qualities of a marketplace that the institutional investors said that they wanted exchanges to adopt, three responses garnered more than 90 percent positive votes. That would be order anonymity, full but anonymous disclosure of supply and demand schedules, basically a depth of book argument, and integration of price discovery, execution and transaction reporting.

Second, a little bit of historical perspective on what we have done at American Century. We started doing business with Mr. Atkin's firm, Instinet, over 10 years ago; and as you can see by the blue line represented here, our average commission rate paid by our mutual fund shareholders has dropped precipitously over the last 10 years from a rate above 6 cents a share to most recently below 3 cents a share on average. If you look at the bottom line, electronic brokers that we do business with at American Century, rates have dropped on a very dramatic percentage basis from over 3 cents a share to right now at a penny a share on average for our electronic brokers.

There has been a lot of talk recently about fragmentation. It is our view at American Century that ECNs like Instinet, Archipelago, Bloomberg's B-Trade product do not fragment markets. They have invested a lot of money in technology into integrating linkages between markets. We believe that ECNs link markets to the benefit of our investors.

Last year, one out of three NASDAQ trades were made by wholesalers who were free riding on ECN quotes in our view. There is currently not an incentive in NASDAQ nor at the New York Stock Exchange for an investor, small or large, to disclose a trading interest to the rest of the remaining investing public. There is, in fact, an incentive to withhold quotes and withhold orders, withhold limit orders from the public because they are preyed upon by the intermediaries of those market plays in today's world.

Internalization runs rampant at the New York stock exchange and regional exchanges, as well as NASDAQ currently. Large block trading houses internalize order flow. Retail firms pay for order flow and internalize that order flow at great, great profit to their

particular firms at the expense of investors large and small. We view this as a very serious problem.

Preferencing arrangements between competing intermediaries, we should be competing with each other again is a very big concern at American Century. As documentation of a previous point, this is a snapshot of four stocks, Friday January 8, 1999. Just to take a brief look at how those stocks are quoted within NASDAQ, who is driving the inside market? Who is telling the world their best bid? Who is displaying to the world the best offer and price? You can see it is predominantly the ECNs alone at the inside marketplace and those four stocks. If you look at the next column, market makers alone at the inside, on average about a quarter of the time with ECNs half the time or more.

Mr. OXLEY. Before you switch that, I am not quite sure I follow that.

Mr. WHEELER. Percentage of time throughout the trading day that the inside quote was only in an ECN as the best bid or only in an ECN as the best offering, in other words, Archipelago, Instinet, e-trade driving the inside market not NASDAQ market makers not NASDAQ member firms. Predominantly it is the ECNs that are driving the inside market because NASDAQ dealers have the ability to free ride off of the quotes of limit orders that are inputted by the investing public.

Mr. OXLEY. Thank you.

Mr. WHEELER. At the expense of going over and not being able to complete the rest of my testimony, I want to spend a little bit of time on this particular slide. This I just prepared last week. This is a snapshot of our over-the-counter trading at American Century for the last 12 months of data. I compared our trading on two ECNs, our two largest ECNs, Archipelago and B-Trade, and I compared that to our over-the-counter trading at the infamous MGM, Morgan Stanley, Goldman Sachs, and Merrill Lynch.

Mr. Chairman, actually you touched earlier on the difference between explicit commission rates and the true cost of execution. I think this slide graphically illustrates that point. Our average trading costs with those three Wall Street firms average 286 basis points of round trip overall cost to our shareholders and would be commission costs, the explicit commission costs plus the market impact costs through linkages of information et cetera, et cetera. Compared to the cost incurred by Archipelago and B-Trade of just 98 basis points. We saved our shareholders over $220 million in marketing impact costs by executing over $11 billion in transactions on these two ECNs last year alone.

I would like to touch on decimals, if time allows. Where are decimals right now? The marketplace has been calling for them for years. Regulators have been calling for decimals for years. Trades are occurring on ECNs and in our marketplaces at 1/256ths of a point currently, and we currently restrict our investing public to display their limit orders in fractions of a 1/16th of a point. It is very discouraging for us to see that the day traders and professional traders all day long can quote stocks in 1/256 and gain standing a step ahead of customers' limit orders or 1/256th of a point when we tell the investing public that they must abide by 1/16ths.

Last, ACIM thinking about our markets, investors have long been ignored by traditional intermediaries. The biggest point we would like to drive home is that ECNs force brokers and exchanges to compete by meeting those needs that investors ask for. New technology platforms give investors anonymity, full disclosure of supply and demand schedules and integration of price discovery, execution, and transaction reporting, features long requested by mutual fund investors.

Competition from cost-efficient ECNs has lowered our commission rates and will save our shareholders $35 million in explicit commission costs this year alone. When you look at overall market impact costs, we are looking at a number approaching $500 million this year alone saved at American Century through cost-efficient ECNs.

[The prepared statement of John J. Wheeler follows:]

PREPARED STATEMENT OF JOHN J. WHEELER, MANAGER OF EQUITY TRADING, AMERICAN CENTURY INVESTMENT MANAGEMENT

Chairman Oxley, Rep. Markey and other distinguished members of the Subcommittee, thank you for the opportunity to share my vision for the securities markets and the regulatory environment needed to accommodate that vision. I am John J. Wheeler, and as an active voice for two million investors entrusting more than $100 billion to American Century mutual funds and retirement programs, I'm excited to participate in this dialogue. For too long, the voices at hearings like this have represented the deep pockets and economic interests of entrenched financial intermediaries—and not the direct voice of investors who daily face the arcane, archaic and anti-competitive rules of member-owned exchanges.

As Manager of the domestic trading desk at American Century Investment Management (ACIM), now recognized as one of the earliest and most aggressive users of electronic trading technologies, I oversee a staff of ten traders responsible for executing equity trades for our forty equity mutual funds. I was a Market Maker of NASDAQ traded OTC stocks for five years before joining ACIM as a Senior Trader in 1991. During my tenure at ACIM, I have served as a member of the New York Stock Exchange's Institutional Traders Advisory Committee (ITAC) and various NASDAQ committees as well. My immersion into the complexity of the "rules of engagement" at both the NYSE and NASDAQ has been both educational and troubling.

I serve on these committees because the method and costs for securities trading directly affect investment performance for our investors, whose portfolios reflect prices after trading costs are paid. Both large and small investors suffer equally and proportionately when there are marketplace inefficiencies and inequalities.

Investor Benefits from Emerging Trading Technologies

Our 1992 response to the Securities and Exchange Commission's Market 2000 Concept Release was one of only four filed by investor constituents. The issues in that release are eerily similar to those contained in the Commissions' recent request for comment on market fragmentation. In the early 90's study, opponents to newly emerging and efficient technology platforms spawned language that asked whether such systems threatened "fragmentation," "segmentation," and "balkanization" of the nation's securities markets. I remain convinced now, as I was then, that such language reflects the howls from entrenched exchanges and brokers who have been insulated from competition by rules that masquerade as investor-friendly safeguards.

Our data indicates that ACIM's overall trading costs, including commissions and market impact have fallen steadily and progressively throughout the 1990s. (see exhibit 4) The enactment of the Order Handling Rules in mid-1997 generated significant additional savings. We can attribute virtually all of the cost savings—which go right into our investor's pockets—to the use of ECN's and other electronic trading technologies. The data suggests that new ways to trade have saved our investors as much as $110 million each year for the past 10 years as compared to our costs for traditional brokerage services. (see exhibits 3) In the last year alone, our traders'

use of more efficient platforms have saved our investors more than $500 million[1]—the size of a pretty good-sized mutual fund. Consequently, our traders rely on alternative trading systems for about 40% of the dollars traded by ACIM on behalf of investors.

The efficiency of such systems appears to extend only to NASDAQ-registered securities. The NYSE somehow escapes obligations under the Order Handling Rules and continues to refuse direct electronic access by investors to the specialist order book. That would appear to contravene the spirit of the 1975 amendment to the Exchange Act that calls for markets to provide buyers and sellers an opportunity to discover prices "without the intermediation of a dealer."

Internalization and Payment for Order Flow

While we do not perceive a "fragmentation" threat from the emergence of new automated transaction systems since they match, cross and route orders automatically, *we are nonetheless troubled by the "fragmentation" foisted upon the market by dealer intermediaries who either internalize or pay for order flow.* Many wholesale broker dealers and exchange markets engaged in internalization practices rely on the national market's disclosure of visible, limit orders to price and trade market orders generated by captive constituencies. Investors who display the desire to trade by using limit orders instead subsidize internalization practices. Ultimately, I expect to see internalization practices constrict the number and size of limit orders in the marketplace with a likely increase in volatility. Internalization and payment for order flow threaten transparency of trading processes. For instance, brokers now regularly receive so-called "VWAP" orders for specific securities—sometimes hundreds of thousands of shares—on both sides of the market.[2] Potentially millions of shares are now internalized at the VWAP price, without ever participating in the market's price discovery processes and without any semblance of order interaction with other investor orders. Many of these orders are now "book entered" overseas by U.S. brokers.

Major wholesale market-making firms, whose business models rely on payment for order flow, were engaged in about one-third of all trades in NASDAQ securities last year (see exhibit 5) and have seen increasing market share gains as more and more retail investors trade individual stocks. At the same time, market makers often are represented in the market as the "best" buying or selling price only 25% of the time in many high profile, actively traded stocks while ECNs typically represent the market's best price more than 50% of the time.[3] (see exhibit 6)

Internalization practices prove anti-competitive in a host of trading venues—and the traditional exchange markets retain "members-only" benefits, marketing agreements and other "practices" that erode our confidence in trading on even the most well branded exchanges.

Internalization at the NYSE

The NYSE suggests that fragmentation caused by internalization might be mitigated by a market-wide price improvement rule. In other words, orders could only be internalized by dealers who pay a price "better" than the national market's best prices for both buys and sells. In principal, we believe that this simple change in intermarket rules would be favorable for investors. At the same time, we can't understand how the NYSE might impose that rule on other exchanges or dealers when much of the physical, floor-based model of that exchange depends on layers of such internalizing rules:

- **Price and time priority exists in only one place at the NYSE—**on the specialist's book. If one customer sends a buy order to the exchange and a second customer sends an additional buy order to the floor at the same price, the first customer's order must be filled before the second customer's receives attention. This would appear to be a fundamentally fair outcome. However, third and fourth in-line buyers could place an order with member firms represented in the floor "crowd" and they are granted the right to share pro-rata in every trade at the first customer's price. The second customer must wait patiently. Where is the notion of price improvement in this circumstance?
- The "clean cross" rule allows member brokers to "internalize" blocks of 25,000 shares or more at the same price as smaller, pre-existing orders on the specialist book without satisfying those orders that established the price of the

[1] Extrapolation of most recent 6-month OTC trading costs at Goldman Sachs as compared to Archipelago

[2] Many trading consultants now evaluate the efficacy of trading by measuring how closely trades approximate the day's volume weighted average price for all trades in a given stock.

[3] Source: NASDAQ Stock Market data

trade. How is this functionally different than the practices employed by wholesale dealer firms who only match prices set in other markets when they pay for order flow? How does the small investor benefit by posting limit orders if they are afforded no protection when a "clean cross" occurs at their price?

- "Participate" orders are instructions given to floor brokers (and even specialists) on the NYSE floor that ask them to passively "go along" with other trades until an order is complete. The rules of the NYSE give these orders standing in the markets even though they do not contribute to price formation. No information is transmitted about these trades because they can only occur when someone else commits to make a trade at mutually agreeable prices. How does one ever "price improve" a participate order at the NYSE?
- "Freezing the book" is a little understood specialist practice used to manage the trading process. If an electronic order arrives to buy a stock at the offered price on the book, the specialist may "freeze" the book to enable the floor crowd to make the trade at that price. After the trade is completed, he then "unfreezes" the book to allow the new electronic order to take its place in queue. Discussions with exchange officials suggest that this is a "practice" rather than a rule-enabled function of the specialist.
- The NYSE has resisted institutional calls for years to show more than the market's best bid and offer—to create a supply and demand schedule for the market. The NYSE has created rules that actively discourage the use of technology to trade there. Simply put, if you want equal (or advantageous) standing on the NYSE, you are required to hire a NYSE floor broker. There is no alternative choice.

Competition and the NYSE

At the New York Stock Exchange, our orders cannot be traded without the intervention of a dealer—the specialist. Not much data exists about the profitability of specialist operations but the recent prospectus offering by LaBranche, the second or third largest NYSE specialist firm, provided a glimpse at the following:

- LaBranche consistently earns more than 75% of profits from dealer trading activity;
- That specialist unit has been profitable every quarter for 22 years; that would include the market's record single day drop in 1987, the major bear markets in 1980 and 1982, and other periods of market "distress."
- The company averages consistent returns on capital and equity of more than 70%;
- The company posts consistent profit margins of about 70%;

How do they earn such economic rents? *I would suggest that the designation of the NYSE as the "primary" market on which all other pricing should be based has established the NYSE as the principal "operating system" for the market.* That status has been conferred upon member-owned exchanges by the Congress and by SEC regulatory interpretations over time.

It strikes me that an analogous situation might be the establishment by Congress of Microsoft as the official operating standard for the computer. Obviously Microsoft was the first to discover the true power of a standard operating system for the desktop computer. Recent events here and in the courts would suggest that Microsoft also discovered that bundling increasing numbers and kinds of software applications into the operating system pleased consumers—but displeased those who believe that competition spurs innovation.

The NYSE sits as the sole arbiter on a number of shared exchange operating committees like the Intermarket Trading System—the effective operating system for the nation's exchanges. The use of veto power in a number of these venues successfully stymies efforts to stimulate interconnectivity of markets. And the NYSE has, over the years, incorporated innovations begun at regional markets only after a concept is proven and is considered a potential threat to the established hierarchy of exchanges.

Innovation by Regional Exchanges

The recent launch of the OptiMark trading utility of the Pacific Stock Exchange (PSE) provides needed insight into the anti-competitive practices at both the primary and regional exchange markets.[4] OptiMark's system relied on effective linkages between markets—as promised by the Intermarket Trading System (ITS). The historical record reflects that the SEC was forced to broker a compromise between competing parties on the ITS operating committee after principals exhausted more than a year in fruitless, back room debate on how OptiMark could or should be

[4] American Century Companies (ACC), along with a number of major Wall Street firms, owns a small equity position in the OptiMark auction utility.

linked to the NYSE market. That process helped draw down a new competitor's intellectual and economic resources required to compete effectively. The final solution reflected the economic staying power of NYSE monopoly position rather than a rational attempt to further the goals of a National Market System.

Shortly after effective launch of the new system, the NYSE effectively shut down ITS access to the OptiMark utility—based on arbitrary volume limitations. As an early user of the utility, our company documented numerous failures by NYSE specialists to abide by conventions of the ITS agreement and filed that report with both the Commission and exchange officials. In several documented cases, we were unable to execute orders sent from the Pacific Exchange to New York that were subsequently and immediately executed when sent through the NYSE proprietary Super DOT, order delivery system.

Our experience with the OptiMark utility also produced an eye-opening understanding of the marketing arrangements of regional exchanges that subvert competitive quote-making among exchanges. ACIM recognized early that the Pacific Stock Exchange (PSE), in combination with the OptiMark utility, might provide an effective mechanism to generate competing quotes with the NYSE. We asked ECNs with whom we do business to build an order display link to the PSE such as that already in existence at the NYSE.[5] American Century traders subsequently sent orders to the PSE that "improved" the NYSE best bids and offers. Those orders were intended to serve as an advertisement on the Consolidated Quote System of potentially larger block trading opportunities available through the OptiMark utility. Instead, we found that PSE specialists almost immediately sent these "price improving" limit orders across ITS from the West Coast to the NYSE specialists' books.

In trying to provide price competition, we discovered that PSE specialists have marketing obligations to a number of broker-dealers who internalize order flow. To protect those firms' ability to internalize customer orders, the specialist offers "*primary market protection*" on the regional floors. That protection essentially promises "internalizing" firms that if stocks trade at the retail order's price on the "primary" exchange, the PSE specialist would use his capital to execute the order at that price on the regional exchange. There were three problems with the new competing orders that we were sending for display to the PSE. One, the large size of the orders on the PSE book meant that small retail orders, previously internalized, had to wait in queue until the larger block traded. When ACIM offered to forego "primary market protection," the specialists requested that we also allow small retail orders to be traded in front of the large order, even if they arrived at a later time. The PSE could not excuse one firm from that "marketing arrangement" without compromising the entire business model of the exchange. Two, the large size of the orders provided an unacceptable risk to undercapitalized specialists who did not wish to "protect" our orders against trades in other markets. And three, it narrowed the spread that could be internalized by PSE firms that sent listed orders to that venue for trading—thereby cutting the profitability of that practice.

This, to us, is prima facie evidence that regional exchanges—under current rules—provide neither competitive quoting nor innovation. We are inspired by the recent announcement that the PSE and Archipelago will attempt to create a truly competitive and automated stock exchange. We can only hope that promises of price/time priority and electronic and non-dealer intermediated access to the PSE will not be perpetually stalled by entrenched and dominant exchanges, operating committees and member firms—all wrapped in concerns about investor protection.

Regulatory Requirements

The SEC has long sought to respond to the language of the 1975 Amendment to the Exchange Act and its call for markets that:

- maximize the opportunity for investors' orders to interact in an agency auction and;
- for buyers and sellers to execute without the intervention of a dealer.

A recent survey of more than 40 traders of major institutions showed strong consensus that "ideal market" attributes would include:

- Anonymity of orders entered within a system;
- Time priority of orders entered at a price;
- Full, but anonymous, disclosure of the supply and demand schedule;

[5] Archipelago Holdings, LLC built such a linkage to the PSE which allowed us to send large orders to that market for posting by the specialist there. ACC subsequently purchased a small and indirect economic interest in Archipelago through JP Morgan Capital.

• Integration of price discovery, execution and transaction reporting.[6]

We support the call for markets with transparency and "quote" competition. The current state of affairs in the NASDAQ market, with wholesale market makers and even at the NYSE fails to meet the minimum standards that the buyside requires to best protect investor interests. (see exhibit 2) The explosive growth of ECNs in the U.S. marketplace and across Europe validates such surveys of investor preference. If ECNs were allowed to compete directly with the NYSE, we think sizeable economic benefits would accrue to investors.

For years, ACIM has advocated a strict price and time priority intermarket linkage. We continue to believe that the best market for investors would foster maximum order interaction and transparency. At the same time, recent experience with the ITS trading system, the rules of trading at the NYSE and the structural problems related to ECNs and mandated SelectNet linkages suggests that the SEC focus first on order disclosure, priority and interaction rules within individual markets.

How Can We Get There?

The explosive growth of the Internet in part provides the solutions to these vexing issues. Electronic, non-intermediated auctions on-line are drawing huge resources and attention from buyers and sellers of Beanie Babies, airline tickets and auto parts. Ford, Chrysler and GM seek such a venue to reduce supplier costs. Why do member firms of the major exchanges resist the major virtues that their own securities analysts extol as "beneficial" to the economy in enterprises outside of securities trading?

We believe that the Commission should regulate the form of individual markets and refrain from regulating the technology that might be used to integrate markets. Already, eight ECNs are building a virtual private network to link order books and dispersed pools of liquidity. These robust networks tie together systems that already incorporate the four major tenets of the buyside investor's "ideal market" without creating a single point of technology failure—a virtual limit order book. The systems recognize that the "market" no longer is limited by access to the physical trading floor on Wall Street.[7]

The government's time is misspent trying to regulate the technology capacity of markets. If competitively-limiting linkages like ITS were simply eliminated, one must consider whether the market would not quickly establish network linkages as a direct response to customer demand. These linkages would recognize and penalize inefficient systems—like those currently operated by the NASDAQ stock market—where legacy systems impede the delivery and reliability of trading information.

Insight into the regulator's role over tariff setting within the securities markets can also be gained from the implementation of the Order Handling Rules. The sudden mixing of dealer systems (where all customer charges are implicit) and of agency auction systems (ECNs who explicitly charge for access) squarely placed the Commission in the role as a rate-setter. Dealers argued they should not have to pay for access to ECNs because dealer-to-dealer trade in NASDAQ is "free." However, dealer trading is free only if dealers have zero profitability in the business model. Rather, dealer trading imputes hidden tariffs. As an investor, I would rather see charges assessed explicitly. Why should the SEC sit as judge as to what constitutes reasonable charges?

One could argue that competing venues should be able to charge whatever fee for access to a proprietary pool of liquidity would be economically competitive. That would imply that linkages could not be forced upon centers but that such centers must be compelled to accept orders from other markets or exchanges. I would expect that technology integrators would quickly create algorithms allowing me to choose a trading venue based on price, time and cost of access metrics. If one market's cost of access were too high or the system's response too slow, I would expect liquidity to migrate to the most dependable, lowest cost, and most secure venue.

The Role of Decimals

The markets currently are digging their heels in on the issue of decimal trading increments. We remain the only market in the world that continues to rely on centuries old pricing conventions—pieces of eight. At the NYSE, an immediate move to decimals combined with price time priority, would create significant competitive pressure on payment for order flow and internalization business models that rely

[6] Economides and Schwartz, "Assessing Asset Managers' Demand for Immediacy: Equity Trading Practices and Market Structure" substantiates the institutional traders' desire for such rules of engagement.

[7] See Domowitz and Steil, "Automation, Trading Costs and the Structure of the Securities Industry

on "fixed price spreads" to support the economics of the business. Within NASDAQ, we are deeply concerned about the ongoing practice of disseminating public quotes and customer limit orders in 16's while professional investors can post limit orders in increments as fine as 256's. If Mr. Daytrader can have limit order protection for one 256, shouldn't we allow Mr. Smith to buy the same protection for one penny? We would argue that a move to decimals would simplify NASDAQ and once again unify quotes, trades and trade reports at the same increment while lowering trading costs for all investors. (see exhibit 8)

Summary and Conclusions

We believe that true competition among markets and among quotes may be harmed by mandated linkages—without the complete reform of anti-competitive structures like ITS and the elimination of order internalization practices by dealers, brokers and exchanges.

We believe that a "hard CLOB" or central limit order book which consolidates all orders in disparate venues is undesirable and would be subject to a single point of technology failure. That said, we encourage the virtual development of a market that guarantees investors:

- Anonymity of orders entered within a system;
- Time priority of orders entered at a price;
- Full, but anonymous, disclosure of the supply and demand schedule;
- Integration of price discovery, execution and transaction reporting.

We believe that price and time priority structures within markets and an intermarket "price improvement" feature would be beneficial to investors. That rule would allow internalization of market orders only at prices better than those quoted among competing market centers—even a penny of price improvement changes the economics of the payment for order flow business.

We believe that truly competing markets and exchanges should be required to accept non-intermediated, electronic orders from other exchanges or markets; furthermore each market center should be free to establish the cost for access to that market.

True competition often creates fear and uncertainty. We must not fear such competition in the structure of the capital markets. Thank you for the opportunity to share my thinking with this subcommittee.

ACIM Thinking About Our Markets

- Investors long ignored by traditional intermediaries
- ECNs force brokers and exchanges to compete by meeting those needs:
  - *New technology platforms give investors anonymity, full disclosure of supply and demand schedules, and integration of price discovery, execution and transaction reporting -- features long requested by mutual fund investors*
  - Competition from cost efficient ECNs have lowered ACIM commissions and will save $35 million for our investors this year
  - ECNs drive down the total costs of trading, including market impact, for ACIM's two million investors -- as much as $500 million this year
  - Traditional exchanges and brokers ignored investor needs until ECNs began to flourish -- we must allow such competition

Exhibit 1

What Investors Say They Want from a Marketplace...

	Yes	No	Don't Know	N.A.	Total	Yes
Order Anonymity	43	0	0	1	44	98%
Maximum Order Confluence	38	1	0	5	44	86%
Decimal Prices	33	10	0	1	44	75%
Time Priority of entered orders within price	38	2	4	0	44	86%
Single price auction at opening	31	8	2	3	44	70%
Full, but anonymous, disclosure of supply/demand schedule	40	1	0	3	44	91%
Free entry and exit by those offering microliquidity	37	5	2	0	44	84%
Multilateral price negotiation capability	39	1	1	3	44	89%
Integration of price discovery, execution and transaction reporting	43	0	0	1	44	98%

Exhibit 2 Source: Trader Forum, February 2, 1995

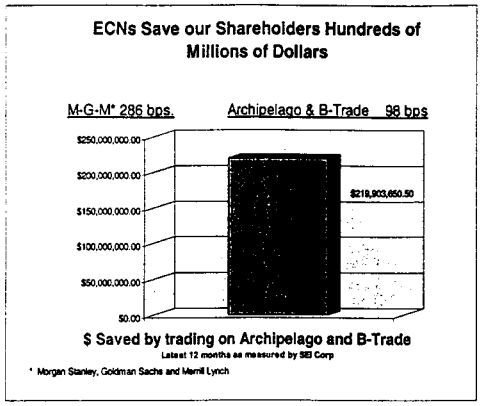

Exhibit 3

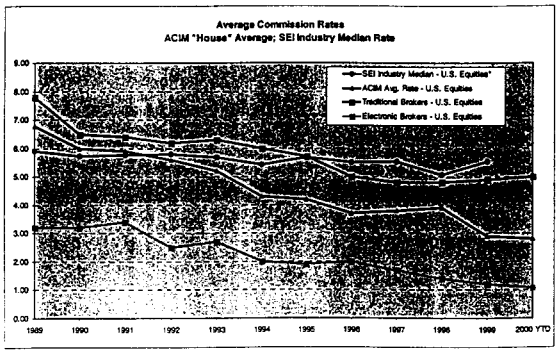

Exhibit 4

What is fragmentation?

- ECNs do not fragment markets! Fragmentation is the withholding of orders from the market by dealers who do not reveal what they charge customers for their services
- One out of three NASDAQ trades now made by wholesalers "free riding" on ECN quotes
- Brokers and exchanges often refer to investor orders as "my orders." Don't those orders really belong to the investors who have placed agency trust in the intermediary?
  - internalization at the NYSE, regional exchanges and NASDAQ
  - by large block trading houses
  - by retail firms that pay for order flow
  - preferencing arrangements among "competing" intermediaries who should be competing with each other

Exhibit 5

Internet Stock Trading
Friday, January 8, 1999

	Percent of Time		
	ECN Alone at Inside	MM Alone at Inside	ECN and MM at Inside
AMZN	49.0%	27.3%	23.7%
BCST	47.2%	31.1%	21.6%
EBAY	52.6%	30.5%	17.0%
YHOO	68.6%	16.8%	14.7%

Exhibit 6

Our preference

- Immediate implementation of market-wide decimal pricing to attack internalization and simplify NASDAQ
- Market-wide price improvement through virtually-linked market centers that protect interests of all buyers and sellers, large and small, willing to use limit orders; limit orders are the backbone of fair and efficient markets around the world
  - NYSE XPress does not
  - NASDAQ super montage does not!
  - Regional exchanges today do not -- Primary Market Protection prevents effective competition with NYSE
  - VWAP systems do not!
  - Crossing systems do not!
  - Wholesale market makers do not!
  - **ECNs today do protect limit orders!**

Exhibit 7

Where are Decimals!

- Trades occurring in 256's on numerous ECNs -- that's .309625 cents per share; can we possibly make it any more complicated?
- Payment for order flow depends on economic assumptions where even one penny of price improvement could lead to more order interaction
- Decimals should not be held hostage to new NASDAQ technology development plans
- Combined with price time priority, decimals should eliminate free-riding and internalization practices on the floor of the NYSE and in other markets

Exhibit 8

Regulatory Roles

- Fix or kill the Intermarket Trading System
- Facilitate cross-market linkages by focusing on transparency
  - anonymity
  - price, time priority within markets
  - price improvement within markets
  - no exceptions for market class; e.g. block trading exception
  - we should not regulate the technologies -- private companies will solve linkage problems in a competitive framework far more ably than government
  - let market centers charge for access

Exhibit 9

Mr. OXLEY. Thank you.
Ms. Stark.

STATEMENT OF HOLLY A. STARK

Ms. STARK. Chairman Oxley, I would like to thank you and the other distinguished members of the subcommittee for allowing me the opportunity to share my views on the evolving structure of the U.S. equities markets.

My name is Holly Stark, and I serve as the director of trading for Kern Capital Management, LLC, a privately held investment advisor in New York, managing in excess of $2 billion. Our specialty is small and microcap growth investing. We act as subadvisor for a number of mutual funds as well as manage assets for a roster of clients ranging from ERISA plans to college endowments.

I would like to talk a little bit about fragmentation, internalization, and transparency. Fragmentation has emerged recently as a major issue in the equities markets with the SEC publishing a concept release soliciting the views of market participants on the subject. Fragmentation occurs when orders trade in multiple market venues without interaction with each other. Some have argued that fragmentation has increased with the emergence of multiple ECNs, as an investor must search out many market places including those of ECNs where a stock might trade to determine the best price and access sufficient liquidity to complete the trade.

In a fast-moving volatile market, this exercise becomes extremely difficult, and the difficulty increases with the size of the trade. However, functionality has been introduced by a number of ECNs to permit a trader to access orders across multiple venues so that those fragmented bids or offers are readily available to execute

against. What these tools do not offer is the ability to access orders that are internalized by broker dealers.

Internalization occurs when broker dealers do not expose their orders to the marketplace. They are able to buy on the prevailing bid or sell on the offer capturing the posted spread while never accessing or interacting with limit orders displayed in the marketplace. The investor who has posted the limit order has in effect set a price for other investors to trade at, though he himself will not participate in any volume that trades at his displayed price. The limit order investor may even have set a new bid or offer when entering his order, but internalization practices preclude him from receiving an execution. The stock will, in effect, trade around him; and he may never fill his order at his publicly displayed price.

Have the investors whose orders are internalized received best execution? Has the limit order investor been treated equitably? Such practices more so than the existence of multiple ECNs reduce market efficiency and serve to fragment the market. If an investor is hesitant to display a limit order for fear that his order may never be executed, market transparency, depth and liquidity may well be compromised.

Certainly broker dealers are not required to display market orders. They must execute the order at the best available price in the market. With the adoption of the display rule by the SEC in 1996, broker dealers and market makers are required immediately upon receipt of a customer's qualified limit order to display the order in their quote if it improves the price or adds to the size of their quote. If the order is not displayed, it must be executed or routed to other market centers for display or execution.

But on May 4, 2000, the SEC released a report describing violations by both market makers and specialists in their handling of customer limit orders. The violations included failure to display proper order size and failure to display orders within 30 seconds after receipt. Surprisingly, the report concluded that the SROs' surveillance and enforcement of limit order handling was not up to par. Without required limit or display, limit order buyers and sellers might be dissuaded from placing such orders, compromising market transparently and ultimately liquidity.

An investor who publicly displays limit order is not guaranteed an execution even if a stock trades at his price because provisions for price and time priority across markets do not exist. In NASDAQ, the first dealer displaying the best bid offer has no priority over other dealers displaying the best bid or offer—the same bid or offer. On the New York Stock Exchange, orders on the specialist book do receive price and time priority status, but floor brokers may participate in executions that would satisfy orders on the book, in effect jumping the cue that is on the specialist book.

The floor brokers standing in the crowd do not have to publicly display to the greater market place their trading intention. They can merely go along with other participants and benefit from the price discovered by limit order investors. Because of such actions, some have called for the creation of a central limit order book, or CLOB, that would consolidate all orders in one trading venue with strict time and price priority. Launching a national CLOB would be problematic. Who would create it and maintain it? Who would

pay for it? Who would regulate it? If all market participants were required to participate, would reliance on a single point of entry risk market failure should that point of entry be disabled? Would the fostering of innovation in market structure be compromised? Instead, a more workable solution would be to encourage intermarket linkages that provide for strict price and time priority and preclude any one market center or participant from controlling the linkages.

Technology would allow for the creation of a virtual limit order book that could satisfy the need for price/time priority across markets without relying upon a single entity to establish and maintain the linkage.

I would like to make one comment about decimals. U.S. markets have the dubious distinction of being the only markets in the world that still trade in fractions. Decimals are far easier to comprehend. Decimals are already the preferred means of operating on many institutional trading desks. Prices reported in fractions are immediately converted into decimals when executions are entered into order management systems. Realtime prices flow from quote vendors into order blotters in decimals. Stocks are cleared in decimals and the trades are cleared in decimals. While it is critical that all market systems are able to handle anticipated increase message and quote traffic, every reasonable effort should be made to move ahead on decimal pricing sooner rather than later.

Thank you.

[The prepared statement of Holly A. Stark follows:]

PREPARED STATEMENT OF HOLLY A. STARK, DIRECTOR OF TRADING, KERN CAPITAL MANAGEMENT, LLC

I would like to thank Chairman Oxley and the other distinguished members of the Subcommittee for allowing me the opportunity to share my views on the evolving structure of the US equities markets. My name is Holly Stark, and I serve as the Director of Trading for Kern Capital Management LLC, a position I have held since the end of February. Kern Capital is a privately held investment advisor in New York managing in excess of $2 billion. Our specialty is small and micro cap growth investing. We act as sub-advisor for a number of mutual funds as well as manage assets for a roster of clients ranging from ERISA plans to college endowments. My trading experience spans 18 years, and I have served on advisory committees at the New York Stock Exchange, the American Stock Exchange, and Nasdaq. I currently serve on Nasdaq's Quality of Markets Committee and the Investment Company Institute's Equity Advisory Task Force.

The US equities markets have changed dramatically during my tenure as a trader, with many positive changes taking place in the last few years. However, as I have become more familiar with the intricacies of market structure and the sometimes-arcane rules that govern our markets, I strongly believe that more change is necessary, especially if we are to maintain our global preeminence versus other world equities markets. While some may consider the changes to be seismic, others view it as evolutionary. Whatever the characterization, the impact of technology, competition, and new rules that govern our markets will result in profound changes that will result in meaningful reform.

Market Fragmentation, Internalization and Transparency

Fragmentation has emerged recently as a major issue in the equities markets, with the SEC publishing a concept release [1] soliciting the views of market participants on the subject. Fragmentation occurs when orders trade in multiple market venues without interacting with each other. Some have argued that fragmentation has increased with the emergence of multiple ECN's, as an investor must search out many marketplaces, including those of ECN's, where a stock might trade to deter-

[1] Securities Exchange Act Release No. 42450 (February 23, 2000) 65 FR 10577 (February 28, 2000) ("Concept Release")

mine the best price and access sufficient liquidity to complete the trade. In a fast-moving, volatile market, this exercise becomes extremely difficult, and the difficulty increases with the size of the trade. However, functionality has been introduced by a number of ECN's to permit a trader to access orders across multiple venues, so that those "fragmented" bids or offers are readily available to execute against. What these tools do not offer is the ability to access orders that are internalized by broker-dealers.

Internalization occurs when broker-dealers do not expose their orders to the marketplace. They are able to buy on the prevailing bid and sell on the offer, capturing the posted spread, while never accessing or interacting with limit orders displayed in the marketplace. The investor who has posted the limit order has in effect set a price for other investors to trade at, though he himself will not participate in any volume that trades at his displayed price. The limit order investor may even have set a new bid or offer when entering his order, but internalization practices preclude him from receiving an execution—the stock will "trade around" him, and he may never fill his order at his publicly displayed price. Have the investors whose orders are internalized received best execution? Has the limit order investor been treated equitably? Such practices, more so than the existence of multiple ECN's, reduce market efficiency and serve to fragment the market. If an investor is hesitant to display a limit order for fear that his order may never be executed, market transparency, depth and liquidity may well be compromised.

Certainly, broker-dealers are not required to display market orders; they must execute the order at the best available price in the market. With the adoption of the Display Rule by the SEC in1996, broker-dealers and market makers are required to immediately, upon receipt of a customer's qualified limit order, display the order in their quote if it improves the price or adds to the size of their quote.

If the order is not displayed, it must be executed or routed to other market centers for display or execution. On May 4, 2000, the SEC released a report (Press Release 2000-59) describing violations by both market makers and specialists in their handling of customer limit orders. The violations included failure to display proper order size and failure to display orders within 30 seconds after receipt. Surprisingly, the report concluded that the SRO's surveillance and enforcement of limit order handling was not up to par.

SEC Chairman Levitt has been a consistent supporter of limit orders and their proper display. He is quoted in the release, "Limit orders have been a powerful force for competition in our markets—narrowing spreads, increasing transparency, and supplying liquidity. The report's findings of neglect and inattention on the part of some market participants to display requirements should be a wake-up call. Market participants must redouble their commitment to ensure that the full power of limit orders is felt in our markets. Their effect on the price setting process simply cannot be compromised." Without required limit order display, limit order buyers and sellers might be dissuaded from placing such orders, compromising market transparency and ultimately liquidity.

Central Limit Order Book and Price/Time Priority

As discussed above, an investor who publicly displays a limit orders is not guaranteed an execution, even if stock trades at his price, because provisions for price and time priority across markets do not exist. The order has no priority over other orders entered later, and market centers are not obligated to route orders that would fill the investor limit order to another market center. In Nasdaq, the first dealer displaying the best bid or offer has no priority over other dealers displaying the same bid or offer. On the New York Stock Exchange, orders on the specialist book do receive price and time priority status, but floor brokers may participate in executions that would satisfy orders on the book, in effect jumping the queue that is on the specialist book. The floor brokers, standing in the crowd, do not have to publicly display to the greater market their trading intention. They can merely "go along" with other participants and benefit from the price "discovered" by limit order investors.

Because of such actions, some have called for the creation of a central limit order book, or CLOB, that would consolidate all orders in one trading venue, with strict price/time priority in force. Nasdaq's proposed Super Montage is a laudable initial step in the right direction to provide price and time priority for limit orders, and to permit display of a more complete picture of trading interest, not only at the inside quote, but at prices several increments away from the best bid or offer. Most ECN's already permit a complete "look at the book" for their users, and all market centers and trading venues should be required to permit such information to be readily disseminated to investors. While the institution of the Super Montage will

help to further transparency and fairness in the Nasdaq market, it is not a panacea, as it permits internalization of customer orders by broker-dealers

Launching a national CLOB would be problematic. Who would create and maintain it? Who would pay for it? Who would regulate it? If all market participants were required to participate, would reliance upon a single point of entry risk market failure should that single point of entry be disabled? Would the fostering of innovation in market structure be compromised? Instead a more workable solution would be to encourage intermarket linkages that provide for strict price and time priority—and preclude any one market center or participant from controlling the linkages. Technology would allow for the creation of a "virtual" limit order book that could satisfy the need for price/time priority across markets without relying upon a single entity to establish and maintain the linkage.

Web sites currently exist that will search other sites for the best price on a particular book or model of computer, with the purchase of the book or computer completed with several mouse clicks. A buyer might choose one web site over another because one is easier to navigate, or has a better delivery timetable. It is not hard to envision similar tools, with appropriate regulatory safeguards in place, available to all investors. Investors would be able to access all market centers and pools of liquidity, without necessitating the intervention of a dealer. Would physical trading floors still be needed? If they can provide innovative trading solutions for market participants while not hampering fair and equal access, there is no reason that physical trading floors cannot coexist with electronic markets. The key, however is to ensure that price/time priority is afforded to all participants.

Decimal Pricing

The phase-in of decimal pricing beginning July 3, 2000 that was ordered by the SEC at the end of January has been suspended due to Nasdaq's lack of preparedness to accommodate decimal prices in their systems by the target date. In requesting the delay, NASD Chairman Frank Zarb pointed out that Nasdaq volume levels have more than doubled and Nasdaq quote message traffic that has more than tripled since 1998.

US markets have the dubious distinction of being the only markets in the world that still trade in fractions. Decimals are far easier to comprehend—not many know the decimal equivalent of 17/32's or 59/64's without resorting to a calculator. Decimals are already the preferred means of operating on many institutional trading desks. Prices reported in fractions are immediately converted into decimals when executions are entered into order management systems employed by the buy side. Real-time prices that flow from quote vendors into electronic blotters appear as decimals, not fractions, and end-of-day average prices are reported in decimals. Trades are cleared in decimal prices. While it is critical that all market systems are able to handle anticipated increased message and quote traffic, every reasonable effort should be made to move to decimal pricing sooner rather than later.

Conclusion

Technology can and should play an important role in determining the future structure of our markets. Market integration using technological innovation should be a priority, and regulatory bodies must weigh carefully their role to oversee and regulate markets while not hampering market reform. Entrenched practices that are detrimental to fair access of markets by all participants must be reformed. Systems and linkages that allow for true price and time priority across markets, full but anonymous display of supply and demand, and a means of allowing unfettered price discovery must be encouraged. Internalization, without price improvement, must be discouraged, while the display of limit orders that add depth and transparency to the market must be afforded the opportunity to interact with all participants.

Perhaps the changes we face are in fact seismic and not evolutionary. It is conceivable that a better, faster, fairer and cheaper exchange platform that is owned by a foreign entity could become a significant force in the trading of US equities. We must not let that earthquake happen, but if significant changes are not made in the structure of markets as they exist today, we run the risk of losing our place as the world's leader in equities trading.

Thank you for the opportunity to share my views with this subcommittee, and I would be pleased to answer any questions that you may have.

Mr. OXLEY. Thank you.

Mr. McSweeney.

STATEMENT OF ROBERT J. McSWEENEY

Mr. MCSWEENEY. Chairman Oxley and members of the subcommittee, thank you for the opportunity to testify this morning. The New York Stock Exchange appreciates the leadership on these complex issues and remains committed to assisting in your deliberations. This ongoing debate is extremely important and will strengthen the competitive position of our Nation's equity markets.

Chairman Oxley, much of my testimony will focus on issues that are discussed in detail in the exchanges market structure report. A copy of that report is appended to my testimony, and I ask that it be included in the record as part of my complete statement.

Mr. OXLEY. Without objection.

Mr. MCSWEENEY. A special committee of the NYSE's board of directors composed entirely of public directors produced the report which lays out a blueprint that will allow the NYSE to evolve into a platform for customer choice. We have labeled this continuous process of reinvention "network NYSE." The NYSE must provide a market structure that offers investors the best execution of their orders. One which is flexible enough to accommodate multiple investor objectives including best price, the opportunity for price improvement, and low costs as well as speed and certainty of execution.

By next year, the NYSE will unveil two order execution systems that will empower investors with greater choices as to how to access the NYSE's unrivaled depth of liquidity, Institutional Xpress and NYSE Direct+. Institutional Xpress will allow institutional investors new ways of accessing the NYSE floor. NYSE Direct+ will make available automatic execution of smaller trade.

A related initiative will soon be on-line which is virtual NYSE, a realtime virtual representation of the exchange floor. A fourth initiative will provide investors access to each specialist book of limit orders. The NYSE supports the phasing out of three components of the National Market System, NMS. The Intermarket Trading System, commonly referred to as ITS, should be replaced by industry initiatives to ensure investor access to the best available price.

Second, the Consolidated Tape Association, or as it is known, CTA; and the Consolidated Quotation System, commonly referred to as CQ, should be replaced by market-based initiatives. ITS, CTA, and CQ have all played an important role in fostering intermarket competition, and we are not suggesting the elimination of the consolidated data or connectivity.

While the NYSE remains dedicated to the goals of the National Market System, we no longer believe that ITS, CTA, and CQ are needed to secure those goals. The philosophy of competing markets embodied in the National Market System have served investors well. We believe, however, that developments in communications technology have eliminated the need for a government-mandated intermarket order routing system such as ITS. The combination of 21st century technology with the fiduciary obligation of brokers to achieve best execution, warrants a different approach today from the solutions from a quarter of a century ago. Today, the electronic systems developed by broker dealers themselves make equities

trading a global operation. When there are insufficient linkages, market participants will create their own superior linkages.

To the extent policymakers believe that ITS continues to be needed, membership should require self-regulatory status as approved by the SEC. Broker dealers should link to ITS only through SROs participating in the ITS plan. This is essential in maintaining the integrity of our markets, and governance should be consistent with allowing each market to retain control over its own business model. In addition, if a market executes a majority or even a substantial minority of its orders through the ITS, it is probable that those entering orders on the alternative system are doing so primarily to free ride the liquidity of the competing markets. The NYSE and other ITS participants should not be subject to free riding. NYSE membership is valuable because of the benefits it confers, namely, access to the world's most liquid marketplace.

CTA and CQ are two other NMS systems that we believe should be phased out. Market data must be consolidated and should be done at the vendor level by competing consolidation services. At the same time, each market should have the right to market its data based upon the inherent value of that data. While we believe that the SEC has a continuing role in ascertaining that these prices are fair and reasonable, we believe that the market participants are best suited to judge the value of that information for themselves.

The NYSE continues to be concerned about practices like payment for order flow and internalization. We believe that these practices promote unproductive fragmentation, diminished price discovery, and can benefit intermediaries at the expense of investors. Much of the debate over the future of the markets has focused on CLOBs. The NYSE would not support such a monolithic trading system. We believe it would result in two separate pools of liquidity for retail and investor order flow and would increase market volatility.

We should maintain our primary goal, the achievement of marketplace connectivity, with competing arenas for order flow and guaranteeing best system-wide pricing as our standard. It is essential that best execution fostered by connectivity and transparency dictate where a customer's order is executed. The NYSE is committed to the plan of action they have outlined for you. Our competitive position demands nothing less. Implementation of cutting edge technology is part of the plan. Equally important is permitting technology to provide market-based answers to problems that once demanded government solutions.

Mr. Chairman, I ask that my complete statement be entered in the record and of course would gladly answer whatever questions you or the members may have.

[The prepared statement of Robert J. McSweeney follows:]

PREPARED STATEMENT OF ROBERT J. MCSWEENEY, SENIOR VICE PRESIDENT, NEW YORK STOCK EXCHANGE, INC.

Chairman Oxley, Congressman Towns, and Members of the Subcommittee, thank you for the opportunity to testify this morning. The New York Stock Exchange appreciates your leadership on these complex issues, and remains committed to assisting your deliberations. This ongoing debate is extremely important and will strengthen the competitive position of our nation's equities markets.

Network NYSE—a platform for customer choice

Chairman Oxley, much of my testimony will focus on issues that are discussed in detail in the Exchange's Market Structure Report. A copy of that Report is appended to my testimony and I ask that it be included in the record as part of my complete statement.

A Special Committee of the NYSE's Board of Directors, composed entirely of public directors produced the Report, which lays-out a blueprint that will allow the NYSE to evolve into a platform for customer choice. We've labeled this continuous process of reinvention "Network NYSE." The NYSE must provide a market structure that offers investors the best execution of their orders; one which is flexible enough to accommodate multiple investor objectives—including best price, the opportunity for price improvement and low costs, as well as speed and certainty of execution.

By next year, the NYSE will unveil two order execution systems that will empower investors with greater choices as to how to access the NYSE's unrivalled depth of liquidity—*Institutional Xpress* and *NYSE Direct+*. *Institutional Express* will allow institutional investors new ways of accessing the NYSE floor. *NYSE Direct+* will make available automatic execution of smaller trades. A related initiative that will soon be online is *Virtual NYSE,* a real-time virtual representation of the Exchange floor. A fourth initiative will provide investors access to each specialist's book of limit orders.

The National Market System

The NYSE supports the phasing-out of three components of the National Market System ("NMS"). The Intermarket Trading System (commonly referred to as "*ITS*") should be replaced by industry initiatives to ensure investor access to the best available price. Second, the Consolidated Tape Association (or as it known "CTA") and the Consolidated Quotation System (commonly referred to as "CQ") should be replaced by market-based initiatives. *ITS*, CTA and CQ have all played important roles in fostering inter-market competition, and we are not suggesting the elimination of consolidated data or connectivity. While the NYSE remains dedicated to the goals of the National Market System, we no longer believe that *ITS*, CTA and CQ are needed to secure those goals.

The philosophy of competing markets embodied in the National Market System has served investors well. We believe, however, that developments in communications technology have eliminated the need for a government-mandated intermarket order-routing system such as *ITS*. The combination of 21st Century technology with the fiduciary obligation of brokers to achieve best execution warrants a different approach today from the solutions of a quarter century ago.

Today, the electronic systems developed by broker-dealers themselves make equities trading a global operation. When there are insufficient linkages, market participants will create their own superior linkages.

To the extent that policy makers believe that *ITS* continues to be needed, membership should require self-regulatory status as approved by the SEC. Broker-dealers should link to *ITS* only through SROs participating in the ITS plan. This is essential to maintaining the integrity of our markets, and governance should be consistent with allowing each market to retain control over its own business model.

In addition, if a "market" executes a majority, or even a substantial minority, of its orders through the *ITS,* it is probable that those entering orders on that alternate system are doing so primarily to "free-ride" the liquidity of competing markets. The NYSE and other *ITS* participants should not be subject to free-riding. NYSE membership is valuable because of the benefit it confers—namely, access to the world's most liquid marketplace.

CTA and CQ are two other NMS systems that we believe should be phased-out. Market data must be consolidated—but that can and should be done at the vendor level by competing consolidation services. At the same time, each market should have the right to market its data, based on the inherent value of that data. While we believe that the SEC has a continuing role in ascertaining that these prices are fair and reasonable, we believe that market participants are best-suited to judge the value of that information for themselves.

Other issues

The NYSE continues to be concerned about practices like payment for order flow and internalization. We believe that these practices promote unproductive fragmentation, diminished price discovery, and can benefit intermediaries at the expense of investors.

Much of the debate over the future of the markets has focused on "CLOBs." The NYSE would not support such a monolithic trading system. We believe that it would

result in two separate pools of liquidity for retail and institutional order flow, and would increase market volatility. We should maintain as our primary goal the achievement of marketplace connectivity—with competing arenas for order flow and guaranteeing best system-wide pricing as our standard. It is essential that best execution, fostered by connectivity and transparency, dictate where a customer's order is executed.

Conclusion

The NYSE is committed to the plan of action that I have outlined for you. Our competitive position demands nothing less. Implementation of cutting-edge technology is part of the plan. Equally important is permitting technology to provide market-based answers to problems that once demanded government solutions.

Mr. Chairman, I ask that my complete statement be entered in the record, and of course, would gladly answer whatever questions you or the members may have.

Mr. OXLEY. Thank you, Mr. McSweeney.

Mr. Ketchum?

STATEMENT OF RICHARD G. KETCHUM

Mr. KETCHUM. Thank you, Chairman Oxley. I want to thank very much the committee for giving me the opportunity to testify on the competition of the new electronic market, and I want to compliment you, Mr. Chairman, on focusing attention on these critically important issues.

In today's trading environment, investors want to know in realtime the prices at which securities can be bought and sold. They want that information simple and in one place, and they want rapid executions at the lowest cost possible. The NYSE believes that transparency, execution quality, and competition among intermediaries and markets will propel the market overall to fulfill these fundamental principles.

The SEC's order-handling rules took a major step in enhancing market transparency by requiring the customer limit orders be displayed immediately. In the NASDAQ market, these rules have helped to enhance transparency, increase competition, narrow quotation spreads and meet market makers and ECNs and their customers. NASDAQ's market structure also provides open, efficient, and quick access to deep pools of liquidity. NASDAQ promotes price discovery through a system where multiple market makers risk their capital and compete for order flow.

We believe that this competition combined with immediate electronic executions has been critical to NASDAQ's ability to respond to the speed and market liquidity demands posed by the explosion of on-line trading. NASDAQ is also the only market in the United States which fully integrates ECNs, those entities which open their electronic books to investors and allow them to advertise prices at which they are willing to trade. Investors benefit directly from this innovation and competition through dramatically reduced commissions and other trading costs.

In fact, I also want to compliment you and indicate how pleased I am to participate on this panel with representatives from both the investor community and the broker community, all of which either directly or through their firms provide an important contribution to the NASD and NASDAQ in evaluating many of these issues.

While NASDAQ has been successful in integrating both ECNs and market makers into a single highly transparent high speed environment, additional progress should be made. That is why NASDAQ has proposed the addition of an order display window,

often referred to as the Super Montage. In today's market environment of multiple ECNs, lower trading increments, and on-line trading, it is not enough to provide a consolidated picture of just the best bids and offers. The Super Montage, which is pending approval by the SEC, will allow market participants to view the best bid and offer and two price levels away.

Market makers and ECNs will be permitted, but not required, to display their customer and proprietary orders at each of these price levels. Super Montage also will be open to any exchange wishing to compete in NASDAQ securities. The Super Montage should help to reduce fragmentation and enhance transparency by encouraging investors to show greater size in the NASDAQ market and allowing market participants to see a more complete view of the depth of that market. I should note in that connection that, indeed, as was stated earlier, with respect to the real parties at interest, the investors, it is interesting to note that a recent independent study developed and conducted by the institutional committee of the Stock Traders Association, 89 percent of those responding to the study, those institutional investors, favored the implementation of the Super Montage without suggesting that they may also favor additional market structure changes in the market.

The Super Montage is built on the general premise that orders placed in the system should be executed based on price and time priority. I would believe that strict adherence to price time priority across all markets, market makers, and ECNs would unnecessarily limit broker dealers flexibility to provide a complete mix of execution services to meet their customers' needs. This flexibility is particularly critical in the new on-line trading world where investors demand immediacy, low cost, and liquidity. The NASD believes the Super Montage will provide, at least as a first step, a preferable market structure solution to fragmentation than more radical structural changes such as proposals to implement a consolidated limit order book, or CLOB, which would remove some of the flexibility to innovate the market professionals now have.

In sum, we believe that to satisfy investors needs in the e-commerce world, market structure must be both open and inclusive, not closed and exclusive. NASDAQ Super Montage is open and inclusive and, therefore, responds to investors' needs.

Again, I want to thank the subcommittee for allowing me to come here today, and I would be happy to answer any questions.

[The prepared statement of Richard G. Ketchum follows:]

PREPARED STATEMENT OF RICHARD G. KETCHUM, PRESIDENT, NATIONAL ASSOCIATION OF SECURITIES DEALERS, INC.

INTRODUCTION

I want to thank the Committee for giving me the opportunity to testify on competition in the new electronic market. As a pioneer of electronic commerce, Nasdaq has been at the forefront of the electronic commerce revolution. It is no coincidence that many of the companies that are leading this revolution—Intel, Microsoft, Cisco Systems, Yahoo!, Dell, and Amazon.Com—to name just a few, choose to list on Nasdaq. These pioneers of the electronic age understand that for electronic commerce to flourish, it must be conducted in an atmosphere that promotes robust competition and innovation. What is true for the marketplace at large is equally true for U.S. capital markets. To promote vibrant capital markets, we must ensure that they remain transparent, provide a fair and efficient means for investors to access deep pools of liquidity and remain open to innovation.

I believe that Nasdaq's success is a testament to its ability to provide such a market structure. Indeed, Nasdaq currently accounts for more than one-half of all equity shares traded in the nation and is the largest stock market in the world in terms of dollar value of shares traded. Nasdaq lists the securities of over 4,700 domestic and foreign companies, more than all other U.S. stock markets combined. There are over 70 million investors in Nasdaq companies. In the first quarter of 2000 Nasdaq's average daily volume reached a record of 1.8 billion shares, an increase of 81.8 percent from the first quarter of 1999 and a gain of 33.6 percent from the fourth quarter of 1999. On February 17, 2000, Nasdaq's volume exceeded two billion shares for the first time. Subsequently, Nasdaq experienced nine additional days in the first quarter of 2000 when daily volume surpassed 2 billion shares.

I believe that Nasdaq has achieved this success by providing a high speed, electronic market that is open to all market participants, is transparent, encourages competition, and promotes innovation. I posit that these attributes should serve as yardsticks by which we measure how successful our securities markets are in promoting the capital formation that is fueling the electronic age. Today I will discuss some of the ways in which I believe that Nasdaq's current market structure helps to promote competition in the electronic market. In addition, I will discuss some of the innovations Nasdaq is developing to better serve the needs of all market participants.

OVERVIEW—WHAT DO INVESTORS WANT

In today's trading environment, as always, investor interests are paramount. Investors want to know in real time the prices at which securities can be bought and sold. They want that information assembled in one place, so that they have complete information on which to make a trading decision. When an investor decides to trade, he or she expects to be able to obtain a rapid execution at the best displayed price and at the lowest cost possible. Thus, the markets and their intermediaries need to create structures and systems that facilitate these investor demands. The NASD believes that transparency, execution quality, and competition among intermediaries and markets will propel the market overall to fulfill these fundamental principles. The NASD firmly believes that, as explained below, Nasdaq provides to investors today what others are trying to build for tomorrow.

TRANSPARENCY

Transparency is one of the keys to Nasdaq's success. Transparency is the ability of market participants to determine from all markets the best available price and the size or depth of that interest. Transparency is critical to the maintenance of fair and orderly markets and is a key to the success of any market structure. The SEC's Order Handling Rules require that customer limit orders be displayed immediately. The enhanced transparency brought about by these rules has increased competition in the Nasdaq Stock Market by allowing customers that choose to do so to set the inside quotation spread. This increased competition naturally reduces quotation spreads and allows investors to obtain better prices for their securities.

The Order Handling Rules also help to ensure that no matter where a limit order is displayed, whether it be in Nasdaq or in an Electronic Communications Network or ECN, that order will be accessible to all investors. Gone are the days when ECNs stood as "private markets" for the fortunate few where large institutions and market professionals could access better prices than were available to the public at large. The Order Handling Rules have helped Nasdaq to link market makers and ECNs and all of their customers to ensure that the best prices for Nasdaq securities are publicly disseminated.

OPEN, EFFICIENT AND QUICK ACCESS TO LIQUIDITY

Another key component of Nasdaq's market structure that promotes competition and capital formation is its ability to provide open, efficient and quick access to deep pools of liquidity. It is not enough that investors see the best prices that are available in the market. They must also be able to obtain those prices and do so quickly at a low cost. Nasdaq's market structure provides all of these benefits. Nasdaq was founded on the premise that the best way to promote price discovery in the securities markets is through a system where multiple market makers risk their capital and compete for order flow. This competition combined with every broker-dealer's responsibility to obtain best execution for its customers' orders was viewed as the optimal way to create a fair and efficient marketplace. Nasdaq's system is also open to ECNs, which open their electronic order books to investors and allow those investors to advertise prices at which investors and market professionals are willing to trade. No other market in the world has set up a structure like this.

By linking competing dealers and ECNs electronically rather than through a physical trading floor, Nasdaq helps to ensure that spatial considerations alone are not a factor in determining the number of firms that may provide liquidity to the Nasdaq market. As a result, Nasdaq has dozens of competing market makers and ECNs in many of its most actively traded stocks, which provide dozens of sources of liquidity and dozens of opportunities for innovation. Investors have benefited directly from this innovation and competition through dramatically reduced commissions and other trading costs.

Moreover, through its various facilities, Nasdaq provides a broad array of choices for investors to access the pools of liquidity provided by Nasdaq's multiple market makers and ECNs. For over a decade, investors have been able to obtain what is often an instantaneous electronic execution of an order at the best publicly displayed price through Nasdaq's Small Order Execution System or SOES. Since 1997, Nasdaq's SelectNet system has allowed market participants to rapidly and electronically reach the quotations displayed in Nasdaq's deep and abundantly populated Quote Montage. This year, Nasdaq is enhancing SOES to provide for automatic execution of orders up to 9900 shares and to allow market professionals to enjoy automatic executions. We are confident that SuperSOES will be a great boon to investors by helping them to receive automatic executions for large orders at a single price.

But investors that wish to obtain a rapid automatic execution are not limited to the SOES system. Under Nasdaq's approach to its market structure, individual market makers have the flexibility to offer their own automatic execution guarantees and often are willing to do so for size that exceeds that which is displayed in the market. In this way, market liquidity and efficiency of execution are enhanced dramatically for investors using the services of these market makers.

For investors who are more interested in seeking price improvement than an automatic execution at the best publicly displayed price at a given time, Nasdaq will continue to provide SelectNet, its facility for negotiating prices. SelectNet will also continue to play the important role of linking ECNs to the Nasdaq market. Like market makers, ECNs provide an important source of liquidity for Nasdaq stocks. ECNs also provide innovative means for moving securities positions, not the least of which is anonymity. By trading anonymously institutions and other large investors, such as pension funds, can trade in and out of large positions without signaling other market participants and thereby risk impacting a security's price to the investor's detriment.

SUPER MONTAGE

While I believe that Nasdaq's market structure is the best suited for promoting competition in an electronic age, I also understand that its continued success depends on its ability to remain innovative and adapt to the ever-changing marketplace. To help Nasdaq stay at the forefront of e-commerce, it is developing a number of innovations that are designed to improve Nasdaq's market structure. One of the more important of these is known as the "Super Montage."

The Super Montage, which is pending approval by the SEC, will allow market participants to view the best bid and offer and two price levels away from the best bid and offer in Nasdaq securities. Market makers and ECNs will be permitted but not required to display their customer and proprietary orders at each of those price levels. The Super Montage also will permit exchanges granted Unlisted Trading Privileges to Nasdaq securities ("UTP Exchanges") to display their customer orders at each of those price levels.

The Super Montage also will permit market participants to indicate a reserve size for an order, which is additional depth that is "in the wings" so to speak, waiting for the right market conditions before it will be available for interaction with other trading interest. Reserve size should help to bring larger orders, which are now often executed "upstairs," down to interact with the rest of the marketplace.

While participation in the Super Montage is voluntary, Nasdaq is confident that its many advantages will encourage a broad range of market participants to use the system. For instance, the system should help to reduce fragmentation by allowing market participants to transmit to Nasdaq multiple levels of orders and aggregate and dynamically display all orders at the inside price and two price levels away. The system's "non-attributable" order feature encourages market participants to show greater size in Nasdaq, rather than disbursing that size over several trading venues to avoid adverse market impact. Moreover, market participants will see for the first time in the Super Montage a more complete view of the depth of the inside market and two price levels away, thereby enhancing transparency.

The SuperMontage is built on the general premise that orders placed in the system should be executed based on price/time priority. At the same time, however, we believe that strict adherence to the principle of price/time priority across all markets, market makers and ECNs would unnecessarily limit broker-dealers' flexibility to provide a creative mix of execution services to meet their customers' needs in a manner that is consistent with the duty of best execution. It is Nasdaq's belief that, as long as no order is executed at a price worse than that which is publicly displayed, market makers and ECNs should continue to have the flexibility to interact with their own order flow. We believe that this flexibility is particularly critical in the new on-line trading world where investors demand immediacy, low cost, and liquidity. Some market makers have responded to these demands by providing guaranteed executions up to two thousand shares at the best bid or offer or better regardless of the displayed quotation size. Some ECNs have responded to these needs by providing low cost crossing executions in their systems and sophisticated order routing algorithms into Nasdaq for orders that the ECN cannot execute. These innovations benefit investors daily and care should be taken with respect to any actions that might deprive investors of these valuable execution services.

With the addition of the Super Montage, Nasdaq will be able to link all markets, including UTP exchanges, that trade Nasdaq securities. In this way, the Super Montage should encourage competition by providing an open and inclusive model in which competing market centers may operate. While the Super Montage proposal provides a central means for accessing liquidity in Nasdaq securities, it in no way establishes the Nasdaq system as the sole means for providing or accessing liquidity. NASD members (including market makers, ECNs and order entry firms), individual investors, and members of other exchanges will be free to route their orders to, and access pools of liquidity in, any linked market center trading Nasdaq securities. We believe that all of these attributes make the Super Montage a strong means for combating what many perceive as a fragmenting of our securities markets.

In this connection, the NASD believes that the Super Montage will provide a preferable market structure solution to fragmentation than more radical structural changes, such as a composite CLOB. Many variations of a CLOB have been discussed over the past several months. One such approach would effectively link all markets' limit order books and dealer quotations by requiring that all displayed trading interest be executed according to strict price and time priority. Although in theory executions could occur at the local market level, we believe that in practice such a proposal would require the creation of a national utility, which would sacrifice marketwide competition at a cost that would outweigh the benefit to be derived from such a proposal.

It is our belief that a system based on strict price/time priority may disadvantage investors by funneling all market orders toward a single liquidity source, whether it be a customer limit order or a dealer quotation. Investors would be required to wait to determine whether they had received an execution. If they did not, they would be forced to route their orders to the next trading venue that displayed the best price with time priority. This process of chasing liquidity would slow down the trading process and greatly reduce the likelihood of obtaining an automatic execution.

A proposed solution to this problem, which we believe would be even more chilling, would be the creation of a composite CLOB. Unlike Nasdaq's current market structure and the structure it will enjoy with the Super Montage, however, a strict price time priority CLOB could not by its nature offer the flexibility for multiple competing liquidity sources, all of which could offer an automatic execution at a guaranteed minimum size at the best publicly displayed price. Moreover, strict time priority would preclude market makers from interacting with their own order flow and therefore remove an important incentive for risking capital and providing an innovative service mix that includes automatic execution at a minimum guaranteed size.

We believe that Nasdaq's current market structure and the proposed Super Montage will address many of the concerns raised about fragmentation while continuing to provide incentives to liquidity providers and choices for liquidity seekers. Because the Nasdaq system provides incentives for market makers to continuously display quotations and provide immediate guaranteed executions in size to investors, it has been able to respond to the revolutionary demands of the online trading world. Mandatory CLOBs and system-wide time priority requirements do not effectively incorporate or provide incentives for multiple market makers and ECNs who now provide liquidity and immediate executions on Nasdaq, and who thus help to ensure that investors have quick and easy access to the markets in good times and in bad. In sum, our view is that to satisfy investor needs in an e-commerce world, market

structure must be open and inclusive, not closed and exclusive. Nasdaq's Super Montage is open and inclusive and, therefore, responds to investor needs.

OTHER INITIATIVES

In our view, the Super Montage will provide the most benefits to investors and to market participants if it is carried out under a corporate structure that can respond nimbly to competitive and technological changes in the marketplace. That is why the NASD Board and its members approved a restructuring plan that is designed to enhance the competitiveness of Nasdaq, while reducing members' regulatory costs and strengthening NASD Regulation.

Nasdaq is also committed to building on our successful domestic stock market model internationally. As a result, we continue to explore overseas ventures and alliances with market participants abroad with the ultimate goal of providing investors with rapid, open, low cost access to deep pools of liquidity around the world.

ITS, CQA AND CTA PARTICIPATION BY NON-SROS

Now I would like to turn to two related issues addressed in the Subcommittee's invitation letter: the desirability of opening the Intermarket Trading System to membership by non-self-regulatory organization market participants and whether the Consolidated Quotation Association and Consolidated Tape Association should permit competition in market data by non-SROs. First, we share the general frustration of all market participants with ITS, which is clearly technologically outmoded, a trading hindrance that Nasdaq and the Cincinnati Stock Exchange have been able to reduce somewhat by offering automatic executions for ITS commitment. As the Subcommittee may know, Nasdaq and its members were hampered for over twenty years with limited access to all of the securities traded through ITS. Recently, however, the rules restricting Nasdaq's access to ITS as well as NYSE Rule 390 (which restricted off-board trading of certain listed companies) were rescinded, thereby creating a more level playing field between Nasdaq and the listed markets. Therefore, the NASD believes that it is time to make a concerted effort to improve the way markets access each other. For its part, the NASD has already adopted rules and developed technology to open its NYSE-listed trading facilities to a broader array of market participants. The NASD has opened its facilities to ECNs as well as registered market makers and thus opened access to ITS and the Consolidated Quotation System to ECNs, which may now participate in these systems.

The question raised by the Subcommittee, however, is whether individual broker-dealers, including ECNs, should directly display their quotes and trade in these national market systems. ITS membership is currently limited to the NASD and registered national securities exchanges, all of which are registered with the SEC as SROs. As such, the SROs are required to establish and maintain regulatory programs to ensure that their members act in accordance with the requirements of the ITS Plan and the federal securities laws, including the rules of the SROs, which are adopted under those laws. To open membership to the ITS to entities that are not subject to those same regulatory safeguards could create a regulatory gap for orders that are routed through ITS to a non-SRO.

With respect to CTA and CQA membership, the fees that are generated from such membership are used to offset the costs of regulation. Marketplaces that are not subject to the same regulatory burden but that enjoy the fees derived from CTA and CQA membership would enjoy a windfall. The NASD is not, as a matter of principle, opposed to expanded membership in these National Market System plans, but it must be done on a level playing field. Thus, if an entity providing a trading venue wants to operate as a registered SRO, like the other National Market System Plan participants, it should be able to participate fully in CTA, CQA and ITS. On the other hand, if that entity determines that its business model is better served by being a broker-dealer, it should only participate in these plans as a member of one of the SROs that is a direct participant.

DECIMALS

Finally, I wanted to address the possible benefits that the move to decimals is likely to have for investors. First, let me say that the NASD's decision to request an extension of the SEC's July 3, 2000, target date for starting the implementation of decimals was not one that we took lightly. As you know, the NASD supports the move to decimals. I believe that it should benefit investors by making securities prices easier to understand and by keeping the U.S. securities markets competitive with major markets abroad, which quote in decimals already. Therefore, I wanted to give you my assurance that the NASD is committed to building the necessary ca-

pacity enhancements to ensure that the move to decimals occurs as quickly and safely as possible.

CONCLUSION

Again I wanted to thank the Subcommittee for allowing me to come here today to share the NASD's views on competition in the electronic market. It is a subject that is at the very core of the existence of the NASD and the Nasdaq Stock Market. I believe that Nasdaq's market structure is the best model for continuing to promote the type of capital formation that has been so important for the development of our electronic age. I would ask that you join me in encouraging the transparency, openness, and accessibility that have been the hallmark of Nasdaq.

Thank you, and I will be happy to answer any questions that you may have.

Mr. OXLEY. Thank you.

Mr. Jenkins?

STATEMENT OF PETER W. JENKINS

Mr. JENKINS. Chairman Oxley and members of the subcommittee, thank you. I would like to thank you for this opportunity to express my views on competition in the new electronic marketplace and the structural changes taking place in the equity markets today. I am director of Global Equity Trading at Scudder Kemper Investments, managing approximately $280 billion. With the limited time, though, I have today before this committee, I would like to focus my attention on three areas that I believe are most important in shaping the future of the electronic marketplace.

First is protection of limit orders, second is transparency of markets, and the third, of course, is the linkage of the trading venues and exchanges.

On the protection of limit orders, limit orders are the basis for pricing securities in the markets today. On the New York Stock Exchange and the regional exchange, limit orders reside on the specialist book. These orders allow for floor brokers to determine strong levels of supply and demand. They allow specialists and position traders off the floor to make bigger markets for their customers, who allow for greater liquidity for institutional and retail customers.

The institutional buyside traders rely on the limit orders to help price blocks of stocks for their clients. These limit orders allow the institutional trader a reference so we can be realistic when approaching upstairs position traders or specialists when we request the use of their capital. Limit orders also offer quantitative traders the ability to size up a market and offer traders over entire portfolios because these orders are firm and real.

In the over-the-counter market, the success of the ECNs was built on limit orders. Traders from both the buyside and sellside migrated to these systems because of the existence of those orders and rules protecting them. Because of the limit order facility, ECNs have captured greater than 20 percent of the over-the-counter market. Why don't we try to protect these orders in all venues? These orders are the backbone of the future virtual marketplace. If protected these orders could be successful in increasing the depth and structure of the market.

Today, in the listed marketplace when an offer is too large on one exchange, we allow trades to take place at the same price on an exchange where there is less depth. On the New York Stock Exchange, we have created rules such as the Clean Cross Rule that

allows the trader to shut out a bid or an offer as long as the size you want to trade is greater, and this rule was actually put in place to try to keep block flow on that exchange. On the floor of the New York Stock Exchange after a hundred shares trade at a specific price, the crowd splits evenly afterwards. Nothing to support price improvement.

In the over-the-counter market, the best bids and offers displayed by dealers as well as the best bids and offers posted on ECNs is not protected. This practice is known as internalization of order flow, as stocks are crossed outside of those markets. Close to a third of all NASDAQ orders are internalized. Wholesalers are paying for the order flow to trade against the limit orders and markets exposed. This practice has become very profitable for the wholesalers.

The SROs seem to be protecting this practice instead of encouraging order interaction. If institutional limit orders were given greater protection, traders would populate these limit order books. Limit order transparency has been argued for many years. I served on the New York Stock Exchange Institutional Traders Advisory Committee as chairman in the early 90's. A look at the specialist book was the No. 1 focused topic on that committee for my tenure. We are just getting around to this issue today. As the markets move to decimalization, it will be imperative for the institution to see below the top of the book.

The ECN success is also due to its transparency. The trading information gained through seeing orders interact on the limit order book allow for the institutional trader to make a more informed trading decision. Decimalization will move the most liquid stocks to one penny spreads over time. The volumes will increase as the spreads tighten. The need to see where the large orders reside will be most important to the institutional trader. With this depth of book, inefficiencies of access will erode the competitive positions of the primary exchange.

Last, linkages, Scudder Kemper Investments supports the concept of a virtual global limit order facility. To achieve this, the most important aspect of efficient market structure will be the linkage between the ECNs, the exchanges, and the crossing networks. Competition will force systems with weak linkage out of business. Firms with less than adequate technology should not be subsidized by the industry. To move to a virtual limit order book and to protect limit orders in the different trading venues, linkages need to be efficient and meet minimum technological standards.

I applaud the New York Stock Exchange for its proposed automatic execution system through Institutional Xpress. Although it is just the start, institutions as well as retail investors need direct electronic access to these limit order facilities. If the inefficient Super Dot system has been a problem and often when transmitting an order, you do not receive what you expect. ITS links the various exchange quotes, but does not allow for time priority across its markets. With the Archipelago and Pacific Coast Stock Exchange combination, we hope to see the first steps in efficient linked market with price/time priority without the involvement of specialists or the dealer.

Mr. OXLEY. Would you summarize.

Mr. JENKINS. In the long term, Scudder Kemper Investments would like to see protection across all markets of all limit orders and price time priority. If the linkages do not allow interaction, we at the very least would like to see price time priority in each trading venue with trade through rules.

We support a regulatory focus on order interaction. We are concerned with the wholesalers' increased practice of internalization without price improvement. This trend could undermine transparency and support for limit order exposure. The fragmentation of the equity markets is the product of technological innovation and competition. The industry is dealing with this through electronic connectivity.

We support speedy conversion to decimals, but decimals without a fully transparent book will be problematic. The quick move to decimals will allow for less confusion, tighter spreads, and may help generate a stronger limit order book. Depth of book use is needed and should be made available to all market participants. Thank you very much.

[The prepared statement of Peter W. Jenkins follows:]

PREPARED STATEMENT OF PETER W. JENKINS, MANAGING DIRECTOR, HEAD OF GLOBAL EQUITY TRADING, SCUDDER KEMPER INVESTMENTS,

Chairman Oxley and members of the subcommittee on Finance and Hazardous materials, my name is Peter Jenkins, I am the Director of Global Equity Trading at Scudder Kemper Investments. I would like to thank you for this opportunity to express my views on competition in the new electronic market place and the structural changes taking pace in the equities markets.

Scudder Kemper Investments leads the Global Investments management business of the Zurich Financial Group. With more than $280 billion currently under management and almost 80 years of experience Scudder Kemper Investments is among the world's largest and most experienced asset managers. Scudder Kemper's client base includes institutions, individual investors and financial intermediaries worldwide. We trade equities in sixty-nine different markets around the globe and staff a 22-hour trading desk out of our offices in New York City.

I have been involved in equity market structure issues since 1988 when I was asked to be on the NYSE market performance committee, and the NASDAQ institutional Committee. I served as Chairman for both the NYSE Institutional Traders Advisory Committee and the STA Institutional Committee. I have been trading equities since 1980 and have experienced a great deal change.

With the limited time I have before this committee I would like to focus my attention on three areas that I believe are most important in shaping the future electronic market: 1. Protection of Limit Orders; 2. Transparency of markets; and 3. Linkage of trading venues and exchanges.

PROTECTION OF LIMIT ORDERS

Limit orders are the basis for pricing securities in the markets today. On the New York Stock Exchange and the regional exchanges limit orders reside on the specialist book. These orders allow for floor brokers to determine strong levels of supply and demand. They allow specialists and position traders off the floor to make bigger markets for their customers who allow for greater liquidity for institutional and retail customers.

Institutional Buyside traders rely on limit orders to help price blocks of stocks for their clients. These limit orders allow the institutional trader a reference so we can be realistic when approaching "upstairs position traders," or specialists when we request the use of their capital.

Limit orders offer quantitative traders the ability to size up a market and offer trades over entire portfolios, because these order are firm and real.

In the over the counter market the success of the ECN's was built on limit orders. Traders from both the buyside and the sellside migrated to these systems because of the existence of those orders and rules protecting them. Because of the limit order facility, ECN's have captured greater than 20 percent of the Over the Counter Market.

Why don't we try to protect these orders in all venues? These orders are the backbone of the future virtual market place. If protected these orders could be successful in increasing the depth and structure of the market.

Today in the Listed market place, when a bid or offer is too large on one exchange we allow trades to take place at the same price on an exchange where there is less depth.

On the New York Stock Exchange we have created the "clean cross rule" that allows a trader to "shut out" a bid or offer as long as the size you want to trade is greater. This rule was actually put in place to try to keep block order flow on that exchange. On the floor of the New York Stock Exchange after 100 shares trade at a specific price where there are limit orders the crowd splits each new trade at that price equally.

In the Over the Counter market the best bids and offers displayed by dealers, as well as the best bids and offers posted on ECN's, are not protected. This practice is known as internalization of order flow. Close to a third of all NASDAQ orders are internalized. Wholesalers are paying for order flow to trade against the limit orders and markets exposed. This practice has become very profitable for these wholesalers. The SRO's seem to be protecting this practice instead of encouraging order interaction.

If institutional limit orders were given greater protection traders would populate the limit order books.

TRANSPARENCY OF MARKETS

Limit order transparency has been argued for many years. I served on the New York Stock Exchange Institutional Traders Advisory Committee as Chairman in the early 90's. A look at the specialist book was the number one focus topic on that committee for my tenure. As the markets move to decimalization it will be imperative for the institution to see below the top of the book.

The ECN's success is also due to its transparency. The trading information gained through seeing orders interact with the Limit book allow for the institutional trader to make a more informed trading decision.

Decimalization will move the most liquid stocks to "one penny" spreads over time. The volumes will increase as the spreads tighten. The need to see where the larger orders reside will be most important to the institutional trader. Without this depth of book, inefficiencies of access will erode the competitive positions of the primary exchange.

LINKAGE OF TRADING VENUES AND EXCHANGES

Scudder Kemper Investments supports the concept of a virtual global limit order facility. To achieve this, the most important aspect of efficient market structure will be the linkage between the ECN's, exchanges and crossing networks. Competition will force systems with weak linkage out of business. Firms with less than adequate technology should not be subsidized by the industry. To move to a virtual limit order book, and to protect limit orders in the different trading venues, linkages need to be efficient and meet minimum technological standards.

I applaud the New York Stock Exchange for its proposed automatic execution system through Institutional Express. Institutions as well as retail investors need direct electronic access to limit order facilities. The inefficient Super Dot system has been a problem, and often when transmitting an order you do not receive what you think you will get. ITS links the various exchange quotes but does not allow for Price Time Priority, across the markets. With the Archipelago and Pacific Coast Stock Exchange combination, we hope to see the first steps to an efficient linked market with Price Time Priority without the involvement of the specialist as dealer.

The move by ECN's to set up direct efficient linkages to pools of liquidity is a promising step for buyside trading desks. Maybe these direct linkages will offer competition to the NASDAQ SelectNet system, which to date has proven less than adequate.

SOLUTIONS AND CONCLUSION

In the long term Scudder Kemper Investments would like to see protection across markets of limit orders in Price Time Priority. If the linkages do not allow interaction we would at the very least like to see Price Time Priority in each trading venue with trade through rules.

We support a regulatory focus on order interaction. We are concerned with the Wholesalers increased practice of internalization without price improvement. This trend could undermine transparency and support for limit order exposure. The frag-

mentation of the Equity Markets is the product of technological innovation and competition. The industry is dealing with this through electronic connectivity.

We support a "speedy conversion" to decimals. But decimals without a fully transparent book will be problematic. The quick move to decimals will allow for less confusion, tighter spreads and may help generate a stronger limit order book.

Depth of book in all venues is needed, and should be made available to all market participants.

Thank you very much for this opportunity to offer my views on market structure to this sub-committee.

Mr. OXLEY. Thank you, Mr. Jenkins.

Mr. Kamen.

STATEMENT OF KENNETH A. KAMEN

Mr. KAMEN. I would like to thank Chairman Oxley, Mr. Towns, and Mr. Greenwood for the opportunity to testify on these critical issues. I am testifying today as the chairman of the board of the Regional Investment Bankers association and on behalf of the small issuer marketplace we service. While Wall Street's largest brokerage firms and investment banks have lobbied the Securities and Exchange Commission to adopt a sweeping new market system, the voice of small regional firms and the small issuer market they serve have gone largely ignored.

Amidst the euphoria surrounding the bull market and the proliferation of electronic communication networks and alternative trading systems, certain investors, market practitioners, and regulators have abandoned the small business issuer. In the process, they are potentially threatening the longest economic expansion in the history of this country.

U.S. capital markets are preeminent because they enable entrepreneurs to raise capital efficiently and provide a reliable secondary market to investors. The U.S. securities industry is unique in the degree of participation in capital provided by retail investors. Indeed, these investors are the life blood of the small issuer marketplace. The vibrant small issuer equity market includes an estimated 22 million investors and small publicly traded companies, approximately 9,000 small issuers, and tens of thousands of officers, directors and employees.

While some of these companies are speculative investments, informed investors accept these risks because of the opportunities they offer. It is important to remember that the large cap companies driving our markets to record highs were in many cases at one stage in their development small businesses. An efficient and liquid small issuer market helps channel risk capital from investors to innovative emerging companies, affording them the opportunity to expand, make acquisitions, and retire debt.

The companies listed on the NASDAQ Small Cap and the Over-The-Counter Bulletin Board are clear examples of the contribution that small equity markets make to our company. While these companies represent all sectors of the economy, the information technology and biotechnology companies that are at the forefront of current U.S. economic growth are listed overwhelmingly on these markets. It is the small underwriters and broker dealers who commit their own capital and provide necessary liquidity to the small issuer capital market.

Few if any ECNs or ATSs are operating in the lower tiers. Unlike the ECNs, market makers must maintain fair and orderly markets at all times. In addition, they provide valuable liquidity to the small issuer markets. The active support and services provided by the Regional Investment Bankers Association member firms is necessary. Their absence would threaten small issuer markets.

In the past few years, technology and regulatory change has caused rapid, dramatic, and unprecedented changes in the equity trading markets. While all these developments are worthy of appropriate regulatory reforms, the highly successful dealer markets servicing small issuers must not be sacrificed. Too often, however, regulatory reforms have been shaped almost exclusively by the analysis of the top tier of the market, consisting mostly of the most actively traded securities in U.S. equity markets.

Although the consequences are unintended to the lower-tier markets, we continue to suffer from this apparent benign neglect. The potential erosion of the small issuer equity market is a growing concern for small business entrepreneurs in every region of the country. Failing to consider the contribution of the lower-tier markets may stifle the growth and innovation that is sustaining and expanding our current booming economy.

Small issuers have recently enjoyed an enormous increase in the funds received from venture capital firms and so-called angel investors who have made capital investments in anticipation of an initial public offering. These angel investors often evaluate companies less on the long-term growth capabilities than on their short term IPO prospects. If changes in market structure adversely affect the small cap markets and the market makers ability to service them, the venture capital stream will likely dry up.

I'd like to comment on some of the specific issues under consideration by the committee. First, I would caution regulators to consider the potential for large firms to dominate the self-regulatory process in a new market structure. Under the influence of large firms, for-profit self-regulatory organization can raise the cost of regulation to levels that would force small firms out of the industry.

Second, the concept of single centralized markets such as a centralized limit order book also raises concern for individual investors that may be handicapped by institutional investors who are able to dominate markets by mobilizing vast amounts of capital instantaneously. Third, I would emphasize that pricing for market data must be streamlined. Buying discounts favoring larger financial service firms should not disadvantage regional brokerage firms servicing the small issuer marketplace.

Fourth, the spate of recent proposals for new market linkages in execution firms should prompt an examination of the practical impact on the lower-tier markets. Regulatory policymakers must ask whether the future of ITS', SelectNet, and Super SOES will provide appropriate applications for lower-tier markets. Finally, I urge the SEC to clarify its best execution standards and specify their application to the lower-tier markets.

In conclusion, I would like to take this opportunity to highlight what I see as the most important issue, the benign neglect of the lower-tier markets by regulators and policymakers. To avoid the

kind of adverse consequences I have discussed with you today, I have two specific recommendations: first, I ask all policymakers and regulators to move ahead more cautiously and deliberately in considering the effects of future changes on all marketers. Second, I urge to make good use of the expertise of the Regional Investment Bankers Association and the small issuers that rely on the lower-tier markets for their lifeblood.

I would like to commend the full committee and its staff for reaching out and soliciting the views of the small broker dealer community. We hope that your leadership in creating a more inclusive debate becomes the standard rather than the exception. Thank you.

[The prepared statement of Kenneth A. Kamen follows:]

PREPARED STATEMENT OF KENNETH A. KAMEN, EXECUTIVE VICE PRESIDENT, PRINCETON SECURITIES CORPORATION

RIBA

I am testifying today as the Chairman of the Board of Directors of the Regional Investment Bankers Association (RIBA) and on behalf of the small issuer marketplace we service.[1] RIBA was organized in June, 1994 as a national association of regional and independent broker-dealer and investment banking firms seeking to improve conditions in our industry, strengthen the free-enterprise system and provide a vital source of information and education to RIBA members and the investing public.

RIBA is committed to assisting regional broker-dealers in the syndication of their capital formation projects. While our initial goal was to provide a forum for small-cap companies seeking public financings, we have since expanded our focus to address the overall concerns of the lower tier market. Toward this end, RIBA has represented the interests of smaller broker-dealers to the securities regulators who govern our industry and the policymakers in Washington, DC. RIBA now holds regularly scheduled conferences where member firms exchange ideas, voice opinions on pending legislation and become educated on matters affecting the industry. As the bonds among RIBA members continue to strengthen, we hope to enhance our contribution to regulatory and legislative matters.

INTRODUCTION

While Wall Street's largest brokerage firms and investment banks have lobbied the Securities and Exchange Commission (SEC) to adopt a sweeping new market system, the voices of small regional firms and the small issuer market they serve have gone largely ignored. Amidst the euphoria surrounding the bull market and the proliferation of electronic trading systems such as electronic communications networks (ECNs) and alternative trading systems (ATSs), certain investors, market practitioners and regulators have abandoned the small business issuer. In the process, they are potentially threatening the longest economic expansion in the history of this country. RIBA urges that any sweeping new market restructure consider its impact on the small issuer marketplace. RIBA believes the failure to do so is irresponsible and risky economic policy. Unfortunately, the current dramatic proposals to reform market structure may ultimately reduce liquidity and capital flow in the small issuer market.

The U.S. capital markets are preeminent because they enable entrepreneurs to raise capital efficiently and provide a reliable secondary market to investors. The U.S. securities markets are unique in the degree of participation and capital provided by retail investors. Unlike our European and Asian competitors, the U.S. markets rely on a confident and vigorous retail investing public. These investors are the lifeblood of the small issuer marketplace. The lower tier market functions are facilitated by the small underwriters who bring emerging companies to the public market and by market makers who commit capital to maintain a market for these companies' securities. The vibrant small issuer equity market includes an estimated 22

[1] Mr. Kamen has 20 years industry experience and is currently Executive Vice President of Princeton Securities Corporation.

million investors[2] in small publicly traded companies, approximately 9,000[3] small issuers and tens of thousands of officers, directors and employees. While some of these small companies are speculative investments, informed investors accept the risks they pose because of the opportunities they offer. It is important to remember that the large cap companies driving our markets to record highs were in many cases, at one stage in their development, small businesses.

An efficient and liquid small issuer market helps channel risk capital from investors to innovative emerging companies, affording them the opportunity to expand, make acquisitions and retire debt. Capitalizing these companies creates an enormous number of new jobs. The companies listed on Nasdaq SmallCap and the Over The Counter Bulletin Board (OTCBB) are clear examples of the contribution that small issuer equity markets make to our economy. Although the Nasdaq SmallCap and the OTCBB companies represent all sectors of the economy, the information technology and biotechnology companies that are at the forefront of current U.S. economic growth are listed overwhelmingly on these markets.

It is the small underwriters and broker-dealers, not the ECNs and ATSs, who commit their own capital and provide necessary liquidity to the small issuer capital market. Few, if any, ECNs or ATSs are operating in the lower tiers. Unlike the ECNs, market makers are obliged to maintain fair and orderly markets in both rising and falling markets. In addition, they provide valuable liquidity to the small issuer markets through their buying and selling activities. Market makers temper the price volatility of securities and preserve market integrity by identifying overvalued and under-valued companies, leading to pricing efficiencies in the market. This dealer market should be preserved and enhanced as new securities regulatory policy is developed. Small issuers continue to need the active support and services provided by RIBA member firms. In the absence of their support, no market exists for these small issuers.

RIBA recommends establishing a special small issuer capital market task force to evaluate and shape market reform proposals unique to the small issuer. The SEC and Nasdaq should also consider the negative impact of current rules and regulations on the small issuer market. RIBA is willing to take an active role in establishing this task force and will work with regulators, market practitioners, issuers and investors to make recommendations that address the interests of the small issuer capital market.

A SHORT HISTORY OF MARKET CHANGE.

The 1975 Amendments to Securities Laws: Creation of a National Market System.

Nearly 25 years ago, in response to new data processing and communication techniques, Congress amended the securities laws to create a fair and efficient national market system. The amendments were designed to improve the execution quality of securities transactions and foster fair competition among various participants in the markets, including brokers, dealers, exchanges and markets other than the listed exchange markets,

Congress believed that expanding the availability of quotation and transaction information would result in the execution of investor orders in the best market available, possibly without the participation of a dealer. To accomplish its goals, Congress ended fixed commissions on what is now known as "May Day". May Day referred to May 1, 1975, when the SEC eliminated the fixed commissions brokers were charging for all securities transactions. This change allowed regional firms to compete on price and quality of service. Further, the inception and rise of discount brokerages grew out of the "May Day" Proclamation. In this landmark legislation, Congress also called for the development of a consolidated quotation system and consolidated tape, as well as the creation of the inter-market trading system (ITS). Finally and perhaps most significantly, a statutory directive ordered the SEC to take steps to foster the development of a national market system consistent with these goals.

1994: The SEC Market 2000 Study.

Almost twenty years after the 1975 Amendments, the SEC embarked on an ambitious project. After conducting several years of research, the SEC's Division of Market Regulation issued its voluminous Market 2000 Report in 1994 (the Report). The Report was several hundred pages long and summarized the state of the securities markets and made several recommendations for substantive change. Despite its extraordinary length, the Report focused almost exclusively on the conclusion that fur-

[2] Small Business Administration. Office of Advocacy.
[3] *Id.*

ther changes in technology and product development had caused dramatic changes in large-cap markets since the 1975 amendments. Unfortunately, the question of applicability of these findings to the small-cap markets went unnoticed.

Although the Report concluded that the equity markets were operating efficiently and effectively, and that no major revision of equity market regulation was needed, it did recommend several improvements. The Report found that securities professionals, for example, needed to devote greater effort to securing the best prices for their customers and to the full disclosure of relationships that could interfere with the customers' interests. The Report also urged more timely and comprehensive information with respect to quotation, price and volume data. The Report also anticipated that the development of alternative trading vehicles required regulatory adjustments, and that increased market access for competitors was essential.

1996: Adoption of SEC Order Handling Rules.

Soon after the release of the Market 2000 Report, in the spring of 1994, a widely publicized economic study suggested that the largest Nasdaq market makers implicitly colluded to maintain artificially wide inside spreads by avoiding odd-eighth quotations in many stocks.[4] In addition, media accounts reported widespread allegations that market makers routinely refused to trade at their published quotes, intentionally reported transactions late in order to hide trades from other market participants, and engaged in other market practices detrimental to individual investors. Certain National Association of Securities Dealers (NASD) member firms, sometimes referred to as SOES Bandits, also alleged that the NASD had targeted them for regulatory and disciplinary action because the largest market makers that dominated and controlled the NASD disapproved of the trading practices engaged in by these firms. The Department of Justice and the SEC investigated the NASD and the Nasdaq Stock Market for almost two years and then issued a series of enforcement actions alleging that activities by market makers had contributed to a two-tier market in Nasdaq securities and had artificially maintained the size of spreads paid by retail investors for Nasdaq securities.[5]

In September 1996, the SEC adopted Order Handling Rules designed to reduce spreads and protect investor interests.[6] Concurrently with the investigation of the NASD and before drafting the rules, the SEC performed a comprehensive study of top tier Nasdaq securities. However, the SEC did not study how the proposed Order Handling Rules would affect the liquidity and volatility of small cap stocks. In hindsight this omission was a critical error. Despite the limited range of its evaluation, the SEC adopted the Order Handling Rules and applied them to all stocks trading on the Nasdaq market.

Subject to certain limited exceptions, the Order Handling Rules require market makers to include customer limit orders in their own quotes and mandate that dealer orders in ECNs be included in the inside market. The enactment of these Order Handling Rules reduced the spread between the best bid and best offer quoted on Nasdaq.[7]

Since the adoption of the Order Handling Rules, RIBA members have noted a dramatic increase in market volatility in the small cap market. While RIBA recognizes the effects of many factors, in addition to the Order Handling Rules, RIBA recommends that the SEC evaluate the unintended negative consequences of the application to the lower tier markets.

1998: Adoption of Regulation ATS.

The Adoption of Regulation ATS in December, 1998 by the SEC was a radical development whose impact is driving the current debate on market structure. The new regulation put into place many of the changes first raised in the Market 2000 Report. The new regulation defined the registration and regulatory requirements for alternative trading systems, including ECNs and exchanges, and floated the concept of a "for-profit" exchange. Ultimately, Regulation ATS sparked the push by various exchanges and the NASD for demutualization and contributed to the proliferation and expansion of ECNs and ATSs. As was the case with the Order Handling Rules,

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[4] William G. Christie & Paul H. Schultz, *Why Do NASDAQ Market Makers Avoid Odd-Eighth Quotes?*, 49 J. Fin. 1813, 1813-40 (1994) [hereinafter the "Christie-Schultz Study"].

[5] *See* SEC, Report Pursuant to Section 21(a) of the Securities Exchange Act of 1934 Regarding the NASD and the Nasdaq Market (1996) [hereinafter the "NASD 21(a) Report"].

[6] *See* Proposed Rules on Order Execution Obligations, 60 Fed. Reg. 52792 (Sept. 29, 1995); Adopted Rules on Order Execution Obligations, Securities Exchange Act Rel. No. 34-37619A (Sept. 6, 1996).

[7] The SEC emphasized that the duty of best execution could require brokers to do more than simply execute orders at the NBBO. It stated that brokers had a duty to "regularly and rigorously" assess the quality of the executions provided to customers.

Regulation ATS was adopted without the benefit of a comprehensive evaluation of its impact on the lower tier markets.

The catalyst for the changes wrought by Regulation ATS has been the growth of ECNs as market centers. Unfortunately, technological change has produced a degree of uncertainty for some market participants. RIBA recognizes the tremendous potential that new technology brings to the capital markets. In order to be prepared for uncertainties, however, new regulation must allow flexibility in deciding how to regulate the markets of the future. RIBA believes that what in theory looks sound may in practice be less advantageous to all market tiers.

Very little, if any, of the underlying philosophy and the practical application driving the development of Regulation ATS concerned small tier markets. Because ECNs were created to facilitate matching investor orders, ECNs are not reliable liquidity providers. Rather, ECNs are most efficient for the highly capitalized markets where there are large numbers of both buyers and sellers. As a result, Regulation ATS effectively discourages small broker-dealers from providing market liquidity. It remains to be seen who will provide liquidity to the lower tier capital markets during a sustained downturn. RIBA believes this is a critical issue worthy of Congressional inquiry, as liquidity often dictates whether a fair and orderly market may be maintained. For many ECNs, volume comes largely from retail orders and it is instructive to note that the current stock market boom is fueled by retail investors. However, even in today's robust market, ECNs cannot efficiently trade in the less capitalized markets, such as the Nasdaq SmallCap market and the OTCBB, as small broker-dealers can. Given this reality, it seems poor public policy to embrace a one-size-fits-all approach to regulating all market tiers.

RIBA members report the one-size-fits-all approach has added to the volatility discussed above. In addition, the current regulatory environment has greatly reduced the number of RIBA underwritings. According to RIBA statistics, the number of small underwritings has declined precipitously from 190 offerings totaling $2.3 billion in 1994 to just 38 totaling $221 million in 1999.[8]

It is critical for beltway policymakers to remember that small underwriters and broker-dealers, not ECNs, provide the necessary liquidity to the small issuer capital market through the comm' ment of their own capital and through buying and selling activity. One of the fundamental market principles is the obligation of market makers to maintain fair and orderly markets in both rising and falling markets. Market makers temper the price volatility of securities and preserve market integrity by identifying over-valued and under-valued companies, leading to pricing efficiencies in the market. This lower tier market should be preserved and enhanced as new securities regulatory policy is developed. Without support there is no market for these small issuers.

CURRENT ISSUES.

Fragmentation.

Assuring fair competition among market centers is a principal objective for the national market system. Market centers (including exchange markets, over-the-counter market makers, and ATSs) compete to provide a forum for the execution of securities transactions, particularly by attracting order flow from brokers seeking execution of their customers' orders. One of the results of this fierce competition among market centers, however, can be fragmentation of the buying and selling interest for individual securities. Due in large part to the regulatory reforms discussed earlier, market fragmentation has stimulated healthy competition. In the past four years, several ECNs and ATSs have successfully challenged traditional market centers and offered improved efficiency to investors. This positive development has yet to be realized by the lower tier markets. However, substantial time, energy, analysis and regulatory resources have already been expended to manage constructively the fragmentation of the top tiers. RIBA believes a similar analysis and resources dedicated to the small issuer markets is overdue.

For-Profit Exchanges.

Under its current structure, the Nasdaq Stock Market is owned by the NASD, a nonprofit membership corporation with over 5,500 members. In an effort to strengthen its financial position without significantly burdening existing members, the NASD has announced plans to restructure Nasdaq. Under the new regime, the NASD would retain a minority stake in Nasdaq, while the majority would be owned by current NASD members, security firms, issuers, buy-side firms, technology partners and the public. Control over the new entity would shift from the NASD to its

[8] RIBA, 1993-1999 Underwriting Survey Totals.

new owners when Nasdaq is registered as an exchange with the SEC. The new plan was approved by a membership vote on April 14, 2000.[9]

Any final plans will involve separating NASD-Regulation from the for-profit market. In prepared testimony before the Senate Committee on Banking, Housing and Urban Affairs on September 28, 1999, Frank G. Zarb, the NASD Chairman explained that "early in the process we decided that an NASD-Regulation, independent from a for-profit marketplace, was the best means of maintaining our high regulatory standards." This view is consistent with that expressed by SEC Chairman Levitt in a major policy address at Columbia Law School that "strict corporate separation of the self-regulatory role from the marketplace it regulates is a minimum for the protection of investors in a for-profit structure."[10] RIBA supports an independent Self-Regulatory Organization (SRO) as long as the SRO is charged with recognizing the inherent differences in the various market tiers. As stated earlier, one-size-fits-all regulation can be very harmful to small issuers andtheir shareholders.

Under a for-profit Nasdaq, RIBA is concerned about whether the Nasdaq SmallCap market will receive the attention and resources it deserves. Resources dedicated to small cap marketing and regulation in a for-profit environment must take immediate priority. If the lower tier markets suffer from benign neglect today, RIBA is very concerned that in the future, small issuers and small broker-dealers will suffer and eventually individual investors and the economy will be negatively affected as well.

RIBA also notes that it is unclear whether the OTCBB market is going to be part of the new Nasdaq or remain under the NASD. There has been no announcement about the OTCBB's fate. In fact, the lack of information about the role of the OTCBB in the Nasdaq demutualization plan underscores RIBA's concern about the future treatment of this market and its participants. The private placement memorandum circulated to the NASD members prior to the vote contained just 69 words regarding the OTCBB. RIBA understands that the OTCBB is not the catalyst for page one news stories of multinational business mergers. Nonetheless, thousands of domestic small issuers rely on the OTCBB for their public capital. Recently, these companies have been benefiting greatly from the investments made by venture capital and angel investors. If the NASD does not support the small tier market sufficiently, small broker-dealers will continue to abandon the market, potentially hurting small issuers, individual investors and the economy. If that were to happen it remains to be seen what effect a shrinking IPO market will have on all private equity financing in the future. RIBA believes it is critical that the SEC and Congress require the application of proper due diligence to such a fundamental restructuring.

Market Data/Fees.

Market information fees are addressed most directly by various provisions of the Exchange Act, all of which were added to the Act by the 1975 Amendments discussed above.[11] With the enactment of the 1975 Amendments, Congress granted the SEC flexible reign in overseeing the establishment of a national market system for securities. Consistent with the central market approach initiated by the SEC, the two "paramount objectives" of the national market system were "the maintenance of stable and orderly markets" and "the centralization of all buying and selling interest so that each investor will have the opportunity for the best possible execution of his order, regardless of where in the system it originates."[12] To achieve these objectives, Congress recognized that "communication systems, particularly those designed to provide automated dissemination of last sale and quotation information with respect to securities, will form the heart of the national market system."[13] The Amendment provisions are designed to ensure the fair and reasonable dissemination of market information on terms that are "not unreasonably discriminatory."[14]

Under the amended rules, national securities exchanges and national securities associations must also allocate their fees equitably among members. The legislative history of these provisions indicates Congress' intent that the fees collected from ev-

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[9] In reportedly the highest NASD member vote recorded, 4075 ballots were cast, 3423 in favor and 652 against the restructuring. *See* Securities Week, April 17, 2000.

[10] Speech by Arthur Levitt, SEC Chairman, *Dynamic Markets, Timeless Principles,* Columbia Law School (September 23, 1999).

[11] Pub. L. No. 94-29, 89 Stat. 97 (June 4, 1975). See Sections 6(b)(4), 11A(c)(1)(C), 11A(c)(1)(D) and 15A(b)(5) of the Exchange Act.

[12] S. Rep. No. 94-75, 94th Cong., 1st Sess. 7 (1975) ("Senate Report").

[13] H.R. Rep. No. 94-229, 94th Cong., 1st Sess. 93 (1975) ("Conference Report").

[14] Exchange Act, Section 11A(c)(1)(D).

eryone using an SRO's facilities could appropriately be directed to funding the "costs associated with the development and operation of a national market system."[15]

In 1975, Congress found that new data processing and communications techniques created the opportunity for more efficient and effective market operations, and that the linking of all markets through such data processing and communications facilities would increase the information available to brokerdealers and investors. Congress was particularly concerned about entities that would be exclusive processors of market information to SROs. Unfortunately, Congressional intent did not lead to the application of these improvements to the lower tier markets. Thousands of small companies continue to trade solely over the phone among market makers willing to commit risk capital. While readily available, efficient technological innovations have yet to be universally applied. RIBA believes that the SEC should require a more equitable distribution of resources and technology.

As noted above, Congress did not include a strict, cost-of-service standard in the Exchange Act, opting instead to allow the SEC some flexibility in assessing the fairness and reasonableness of fees. Nevertheless, the fees charged by service monopolies (such as the exclusive processors of market information) need to be tied to some type of cost-based standard to preclude excessive profits if fees are too high and to prevent underfunding or subsidization if fees are too low. RIBA believes that the total amount of market information revenues should remain reasonably related to the cost of generating such market information. Today that is not the case; small broker-dealers shoulder proportionately higher costs which are in turn passed along to small issuers and their shareholders. RIBA feels strongly that this is wrong and should be corrected.

The cost of *member* regulation should not be considered part of the cost of *market* information. The financial soundness of broker-dealers is undoubtedly an essential factor in the overall integrity of the markets; however, the connection between regulatory oversight of market integrity and the quality of market information is much more attenuated than in the case of market operation and market regulation.[16] An SRO's member regulation costs are more directly associated with the regulatory fees charged to members than with any other source of funding. Also, the cost of market information should omit costs that are directly associated with other SRO services, such as advertising and marketing expenditures to obtain corporate listings.[17] This segregation is essential in today's highly competitive environment. Failure to segregate will continue to disadvantage the small regional firms unfairly.

The arrangements for disseminating market information should be modified in several respects. RIBA's review of its membership has indicated the importance of adapting market information fees to the increasing retail investor demand for real-time information and to the changing structure of the securities industry. RIBA endorses the concept of a flexible, cost-based approach to evaluating the fairness and reasonableness of such fees and revenues. SROs should provide greater public disclosure of their fees, revenues and costs. The same standards of disclosure enforced by the SROs should be applied to the SROs. Furthermore, vendors, broker-dealers and users of market information should participate in the process of setting and administering fees. Failure to seek a more open process will continue the effective isolation of RIBA member interests.

Since the enactment of the 1975 Amendments, the SEC has relied primarily on consensus among the SROs and the securities industry to resolve issues concerning market information fees and revenues. RIBA believes that recent changes in the securities markets may require a revised approach that provides greater guidance to the SROs and the rest of the securities industry. The advent of for-profit SROs, whose financial objective will be generating profits for their owners, could result in increased pressure to raise fees and revenues and to cut back on costs not directly associated with a source of revenue. RIBA believes that SRO fees and financial structures may warrant increased oversight by the SEC. RIBA members are very concerned that failure to do so may result in regional firms being priced out of the market due to open-ended fee increases.

Since market information fees cannot be unreasonably discriminatory, any disparities in fees should be justified by such legitimate factors as differences in relevant costs or degree of use.[18] RIBA believes it is important to recognize that the basic information stream will be the same, and will have the same production costs, no matter how many vendors and subscribers receive the information. As the SEC

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[15] Conference Report, at 92.

[16] *See* Regulation of Market Information Fees and Revenues, Securities Exchange Act Rel. No. 34-42208; File No. S7-28-99 (December 9, 1999).

[17] *Id.*

[18] *Id.*

states in its market data release, "although there may be differences in costs of disseminating information to different categories of vendors and subscribers (such as the costs of administering a fee structure), it is vendors and broker-dealers who, for the most part, bear the costs of receiving the data stream and passing it on to individual subscribers. These redistribution costs are not appropriately incorporated into a fee structure."[19]

In order to assure the wide availability of market information, individual SRO fees should be evaluated in terms of the objectives of the national market system. RIBA feels that market data fees should not be set at levels that effectively restrict the availability of real-time information. The current effect is anticompetitive and disadvantages the smaller firms.

Fee structures often include various discounts that are based on the size of the subscribing firm or on whether the firm is a member of an SRO that participates in the particular network.[20] RIBA believes these discounts are inconsistent with the Exchange Act objective that exclusive processors of information should remain neutral in their treatment of firms and customers. Once again, disparities in fees should be Justified by such legitimate factors as differences in relevant costs, degree of use, or quality of service. Market data providers should demonstrate that the size of the discounts corresponds with the size of the relative difference in administrative costs. Today's discounts clearly benefit the largest broker-dealers at the expense of RIBA members. Additionally, the proportionally inflated fees paid by RIBA members subsidize the top tier markets. RIBA feels the SEC should address this inequity. Ultimately these unique costs are partially subsidized by the issuers and their shareholders.

RIBA is also concerned about the anti-competitive fees that ECNs charge non-subscriber users to access their quotes through Nasdaq. Nasdaq market makers do not charge access fees. In order for a broker to comply with his best execution duties it may be necessary to access the NBBO that is quoted on an ECN and pay the access fees. We feel, and SEC Chairman Arthur Levitt has agreed, that the ECNs should apply uniform charges to subscribers and non-subscribers alike eliminating the access fees.[21] Today's regulatory regime is anti-competitive and anti-small business.

After-Hours Trading.

On October 25, 1999, Nasdaq began a voluntary pilot program extending the availability of the Nasdaq quotation, trade reporting and communications until 6:30 p.m. Eastern time. As of February 7, 2000, Nasdaq calculates and disseminates the inside market. Firms were initially called upon to input trade reports voluntarily on a real-time basis for trades occurring between 5:15 and 6:30 p.m. Real time reporting became mandatory as of November 15, 1999. Although the application of SEC and Nasdaq rules on the handling and protection of limit orders was temporarily deferred until December 6, 1999, the rules are now in effect during the extended trading hours. RIBA members report that the practical effect is that lower tier market liquidity does not support after-hours trading. RIBA members who keep their trading desks open in after-hours sessions are forced to assume operating costs without the likelihood of offsetting revenue.

On October 8, 1999, three working groups delivered reports on issues relating to extended trading hours: the Committee on Investor Protection and Education (CIPE), the Committee on Clearance, Settlement and Operations (CCSO) and the Working Group on Trading Conventions (WGTC). Unfortunately small, regional broker-dealers were not represented on these committees. The reports of these groups highlighted some of the issues that extended hours trading may present. CIPE, for example, emphasized "complete and full disclosure of the nature and risks of extended hours trading for investors," and urged "that best practices be adopted industrywide."

CIPE also noted that the risks of extended hours trading include lack of liquidity, volatility, fragmentation of the market, impact of news announcements and the lack of depth and breadth in the extended hours markets expected initially. CIPE suggested that investors should actively be required to "opt-in" to extended hours trading.

Nasdaq's foray into extended hours is directed, in large part, toward West Coast customers and traders. Although its after-hours entry had little effect on the first night (Nasdaq reported only 27,000 shares traded compared to the 933 million

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[19] *Id.*

[20] *Id.*

[21] *See* Speech by Arthur Levitt, SEC Chairman, *Dynamic Markets, Timeless Principles,* Columbia Law School, (September 23, 1999).

shares traded overall that day) it is anticipated that the volume will grow despite limited and costly access. Many ECNs currently operate even longer hours, including at least two ECNs that operate 24 hours a day. Small broker-dealers are often unable to compete because of staffing costs associated with keeping extended hours. Unfortunately, the SEC failed to consider adequately the negative effects on small issuers and small broker-dealers that arise when investors lose money because of price swing in less liquid stocks traded after hours. Stung by their losses, investors are more likely to avoid the after-hours market, thus injuring the liquidity of some small businesses.

Solutions.

The SEC's attention to market fragmentation derives from its commitment to the interests of investors pursuant to Section 11A(a)(1) of the Securities Exchange Act of 1934.[22] The market ideally should offer the greatest opportunity for interaction among buyers and sellers while encouraging fair competition among market centers. Fairness and efficiency translate into reduced transaction costs and more accurate pricing of securities. This time-honored goal must be applied to all market tiers. The SEC must expand its analysis and consider the opportunities for markets servicing small issuers.

Fragmentation can occur when market forces combine to isolate investors' orders and hamper price competition. The potential decrease in liquidity and increase in price volatility deprive investors of the benefits of fairness and efficiency. The market currently addresses fragmentation in three major ways: (i) price transparency, (ii) intermarket links to displayed prices, and (iii) the brokers' duty of best execution.

Price Transparency.

Price transparency is an essential component of a unified national market system. All significant market centers are required to make available to the public their best prices and the size of the order associated with those prices.[23] The market centers provide quote and trade information through central processors that are responsible for collecting and disseminating the market information for different types of securities. The processors consolidate the information of individual market centers, determine the NBBO and distribute the information to broker-dealers and information vendors who make the information available to the public. Due to the lack of dynamic quotes and the absence of electronic order execution, these technological advances improving transfers have yet to reach the OTCBB.

Linkages.

ITS and SelectNet.—As noted above, one component of the national market system designed to address fragmentation is the establishment of systems that link the various market centers and provide access to the market center with the best displayed prices. The Intermarket Trading System (ITS) was created under the NMS Plan as an attempt to link the country's then existing markets. The ITS linkage handles a relatively small proportion of trading in listed equities. In September 1999, for example, ITS volume represented 2.2% of total NYSE-listed trades.[24] The ITS linkage has weaknesses that must be addressed, including restricted ECN access and slow and inefficient execution procedures.

In recent speeches, SEC Chairman Levitt stated that the SEC is considering ways to address the problem of market fragmentation: "At the Commission, we know well that ITS has not kept pace with the technological changes sweeping our markets. Its archaic structure and cumbersome governance provisions are not fit for today's market, let alone the market of the future."[25] Such inefficient governance has led to stagnated technology, requiring private market-based trading systems to address inefficiencies. The growth of alternative trading systems such as ECNs has occurred outside of ITS.

On December 8, 1999, the SEC took the first step toward reforming market linkage with the adoption of an amendment ITS plan, expanding the ITS/Computer As-

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[22] Section 11A(a)(1) reads: "The interests of investors (both large and small) are preeminent, especially the efficient execution of their securities transactions at prices established by vigorous competition."

[23] *See, e.g.,* Exchange Act Rule 11Ac1-1, 17 CFR 240.11Ac1-1; Exchange Act Rule 11Ac1-4, 17 CFR 240.11Ac1-4; NASD Rule 4613; NYSE Rule 60.

[24] Securities Exchange Act Release No. 34-42450; File No. SR-NYSE-99-48; Proposed Rescission of NYSE Rule 390 Commission Request for Comment on Issues Relating to Market Fragmentation; (February 23, 2000).

[25] Arthur Levitt, Chairman SEC, "Visible Prices, Accessible Markets, Order Interaction", Northwestern School of Law, (March 16, 2000).

sisted Execution System (CAES) linkage to all listed securities. The amendment allows all members of ITS to trade non-Rule 19c(3) listed securities[26] thus enabling non-exchange members of ITS[27] to trade in listed securities. This amendment also paved the way for the admission of ECNs into the ITS, enabling ECNs to trade all listed securities while linked to each other and to the exchanges. On March 16, 2000, the SEC approved the NASD proposal allowing ECNs to become part of CAES and therefore linked with ITS. In reaction to these attempts at reforming ITS, the NYSE has recently proposed to withdraw from ITS. Though ITS may not be the ideal form of market linkage, RIBA believes that the NYSE must play a central role in any future National Market System linkage plan and so recommends that the SEC reject any unilateral withdrawal by the NYSE.

The market centers that trade Nasdaq equities currently are linked by the NASD's SelectNet system, by telephone and through private links. In September 1999, approximately thirty percent of trades in Nasdaq equities were routed through SelectNet, a sharp reduction from just five years ago. Chairman Levitt stated that SelectNet continues to be plagued with shortcomings, delays during heavy trading volume, and even outages. Given the decentralized nature of the Nasdaq market, this is a critical and core flaw—and one that must receive intense scrutiny and committed resources until resolved.[28] The SEC recently approved a proposed rule change by the NASD to establish a revised order delivery and execution system-the Nasdaq National Market Execution System (NNMS).[29] The new system, also known as Super-SOES, will consolidate the Small Order Execution System or "SOES" and SelectNet and allow delivery against the best prices displayed in the Nasdaq Display Window. Customers will enjoy virtually instant automatic executions against market maker quotes. The system will provide, among other things, automatic execution for customer and market maker orders up to 9900 shares. Once again, it appears to RIBA that the new rules and new system have been developed for the top thirty percent of the Nasdaq participants only.

RIBA believes that any proposals regarding linkages should be concerned with the entire range of securities in the markets, not just the very top tier of actively-traded issues. The relevant question is whether the efficiency of the markets for all or any particular category of securities could be substantially improved through market structure changes. Ultimately, only fair and vigorous competition can be relied upon to set efficient prices.

The advent of decimal pricing introduces another example of the inherent differences among market tiers. The current momentum surrounding the conversion to decimal pricing in the most liquid stocks, is certainly warranted. While most experts agree that decimal pricing will substantially reduce spreads, perhaps down to a penny in the most liquid stocks, RIBA suggests that in the lower tier markets its effects may be unforeseen. A pilot program in the lower tier markets may be a constructive first step in evaluating the impact of decimal pricing in the lower tiers.

At present, there is no linkage of quotations or trading on the options markets. This deficiency impairs the price discovery mechanism and makes it difficult for brokers to get the best price for their clients, particularly in light of the increased dual listing of options. This is particularly difficult for regional firms with fewer resources and strategic business partners. SEC Chairman Levitt has on several occasions called for a linkage between the options markets, and has imposed a deadline on the options exchanges to come up with a plan.[30] An integrated options trading market should present an opportunity for increased competition for regional broker-dealers.

Central Limit Order Book.—As a result of the tension between encouraging competition and having a centralized marketplace, the SEC has called for a study of centralization of order flow through a centralized limit order book.[31] Some proposed market structure reforms would hurt small broker-dealers who engage in underwriting and market making. One such proposal is the centralizing of all trading in one system, what is sometimes referred to as a time-priority central limit order book, or CLOB. The CLOB would be fully transparent to all market participants.

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[26] Non-Rule 19c(3) listed Securities are those listed pre-April, 1979 and subject to NYSE Rule 390.

[27] Third Market Makers such as Trimark Securities and Madoff Securities.

[28] *Id.*

[29] Securities Exchange Act Rel. No. 42344 (Jan. 18, 2000), 65 FR 3987.

[30] *See e.g.* Speech by Arthur Levitt, SEC Chairman, *Dynamic Markets, Timeless Principles,* Columbia Law School, (September 23, 1999). See also, Securities Exchange Act Rel. No. 34-42456: File No. 4-429 (February 24, 2000).

[31] Securities Exchange Act Rel. No. 34-42450, File No. SR-NYSE-99-48, Proposed Rescission of NYSE Rule 390 Commission Request for Comment on Issues Relating to Market Fragmentation, (February 23, 2000).

In other words, the public would have access to all CLOB orders and quotations, including the size of transactions and the identity of the investor. Market makers would only be able to trade as a principal if they provided price improvement to the CLOB listings.

The prospect of transforming our markets into a single "black box" does not recognize the important role market makers play in the securities markets, especially the smaller, less liquid securities. In testimony before the Senate, the NASD voiced its disapproval of the CLOB system:

> Because the Nasdaq system provides incentives for market makers to continuously display quotations and provide immediate guaranteed executions in size to investors, it has been able to respond to the revolutionary demands of the online trading world. On the other hand, mandatory CLOBs and system wide time priority requirements do not effectively incorporate or incent the multiple market makers who now provide liquidity and immediate executions on Nasdaq, and who thus cushion the market when it is under stress.

As stated earlier, market makers provide liquidity to the market by guaranteeing executions to their customers at the inside market price or better, often at low cost. The willingness of market makers to provide investors with access to guaranteed executions is critical to the ability of the entire dealer market to respond to the extraordinary demands of today's trading. While proponents argue the CLOB would certainly encourage maximum interaction among orders, it will likely do so at the expense of competition. Faced with one centrally planned structure, market participants may lose any incentive to upgrade or create new technologies. Furthermore, the CLOB's inclusion of information such as transaction size and investor identity may favor professionals and institutional investors with "time and place advantage" over retail investors.[32] RIBA is concerned that the CLOB will allow professionals and institutional investors, who regularly monitor trading activity literally second by second, to place retail investors at a disadvantage by mobilizing vast amounts of capital instantaneously. Individual investors comprise the overwhelming majority of RIBA members'customers. RIBA opposes market initiatives that disadvantage individual RIBA clients.

NASD Electronic Order Display Window.—On November 22, 1999, the NASD filed a rule change about Nasdaq's proposal for a new and "revolutionary" order display window to be launched this summer, assuming SEC approval.[33] The new window based on the NNMS operating system was designed to respond to the increased fragmentation and loss of transparency resulting from having multiple, competing market centers. Nasdaq expects that this change will make trading Nasdaq shares more fair and efficient by giving investors a more complete picture of prices gathered from exchanges, market makers and ECNs.

The new system, sometimes referred to as Super-Montage, will utilize the recently approved Super-SOES system and allow delivery against the best prices displayed in the Nasdaq Display Window. As with other new linkage proposals discussed above, the new system has developed according to considerations of the top tier markets only.

Broker's Duty of Best Execution.—In accepting orders and routing them to a market center for execution, brokers act as agents for their customers and owe them a duty of best execution. The duty, which derives from common law agency principles and fiduciary obligations, is incorporated both in self-regulatory organization rules and, through judicial and SEC decisions, in the antifraud provisions of the federal securities laws. The duty requires a broker to seek the most favorable terms reasonably available under the circumstances for a customer's transaction.[34]

A broker's duty of best execution applies to both customer market orders and limit orders. Although obtaining the best price is the single most significant factor with respect to market orders, limit orders are a different story since they are sensitive to both time and price. The duty of best execution is therefore not fulfilled automatically by guaranteeing execution at the NBBO.[35] For example, brokers should consider opportunities for "price improvement." or execution at a better price than the NBBO, when routing customer orders.[36] Other factors, such as cost, the availability

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[32] *See Regulatory Costs in the Financial Marketplace of the Future Before the Senate Comm. of Banking, Housing, and Urban Affairs* (Feb. 29, 2000) (testimony of Charles R. Schwab, Chairman and CEO of Charles Schwab & Co., Inc.).

[33] Securities Exchange Act Release No. 34-42166 (Nov. 22, 1999), 64 FR 69125.

[34] Securities Exchange Act Rel. No. 37619A (Sept. 6, 1996), 61 FR 48290 ("Order Handling Rules Release"), Section III.C.2.

[35] *See id.* at n.360 and accompanying text.

[36] *See id.* at nn.356-57 and accompanying text.

of accurate information and the historical characteristics of the particular security involved all affect the ability to provide best execution.[37]

RIBA is most concerned that the best execution standards articulated by the SEC are ambiguous. This problem is especially acute for small broker-dealers specializing in thinly traded stocks and dealing primarily with retail orders. RIBA believes the SEC should clarify the Rules and specify the definitions as applied to best execution for the lower tier markets. Clarity will ensure greater compliance, avoid creating traps for the unwary and, ultimately, serve the investor well.

The Super-SRO.—Securities markets are now facing the question of how to perform SRO functions after demutualization of the exchanges. While SEC Chairman Levitt did not take a definitive stance on this topic, he has suggested the intriguing idea of having a single regulator for general issues such as net capital, financial responsibility, sales practices, etc., while allowing the exchanges to continue to regulate their own trading markets.[38]

The SEC has made it clear that strict corporate separation of the selfregulatory role from the marketplace it regulates is a minimum threshold for SEC approval of for-profit exchanges. The form this will take is open to several possibilities. One would have each market be similar to the current NASD structure in which NASD-Regulation is a separate entity within the NASD holding company. There is also the possibility of one "Super" SRO for all the markets. Another hybrid model would allow each market to maintain its own regulatory (i.e., trading rules) and surveillance function, while a single SRO would oversee member regulation, sales practice and intermarket trading.

Whatever the model, the SRO must be adequately funded. RIBA also cautions regulators to consider the potential for large firms to dominate the self-regulatory process in a new market structure. Under the influence of large firms, for-profit SROs could raise the costs of regulation to levels which would force small firms out of the industry. In addition, RIBA is concerned that large firms could also dominate the rule-making process resulting in impractical and unfair rules as applied to the lower-tier markets and the firms that service those markets.

CONCLUSION.

In the past few years, technology and regulatory changes have caused rapid, dramatic and unprecedented changes in the equity trading markets. Online trading, real time access to stock quotation, volume and trade execution data, a proliferation of ECNs and extended trading hours are transforming the equity markets faster than ever before. Changes in demographics are resulting in a larger pool of retail investors with more money to invest. This democratization of the U.S. stock markets has led to an explosive cash flow into the market. Increasing globalization is encouraging more foreign companies and investors to trade in the U.S. markets and forging greater numbers of international alliances and ventures.[39]

While all of these developments are worthy of appropriate regulatory reforms, the highly successful dealer market servicing small issuers must not be sacrificed. Too often, however, regulatory reforms have been shaped almost exclusively by analyses of the top tier of the market consisting of the most actively traded securities in the U.S. equities markets. Although the consequences are unintended, the lower tier continues to suffer from this regulatory benign neglect.

The potential erosion of the small issuer equity market is a growing concern for small business entrepreneurs in every region of the country. Failing to consider the contribution of lower tier markets will stifle precisely the kind of new growth and innovation that is sustaining and expanding our current booming economy. Small issuers have recently enjoyed an enormous increase in the funds received from venture capital firms and so-called angel investors who have made seed capital investments in anticipation of an IPO as their investment exit strategy. These angel investors often evaluate companies less on their long-term growth capabilities than on their short-term IPO prospects. If changes in market structure adversely affect the small cap markets and the market makers' ability to serve them, the venture capital stream will likely dry up. Further, if market structure reforms harm the broker-dealer community the result may have a chilling effect on small business capital formation.

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[37] SEC, *Report oil the Practice of Preferencing* (April 11, 1997) ("Preferencing Report"), at 89 n.207.

[38] *See* Speech by Arthur Levitt, SEC Chairman, *Dynamic Markets, Timeless Principles*, Columbia Law School, (September 23, 1999).

[39] Speech by Frank Zarb, Chairman and CEO of the NASD, *The Coming Global Digital Market* (June 23, 1999).

Respectfully, RIBA would like to make several suggestions for Congressional and regulatory policymakers to consider.

First and foremost, RIBA implores Congress, the SEC and the SROs to consider carefully and completely the impact of all rules, regulations and policy proposals on the lower tier markets. It has been RIBA's experience that when considering regulatory changes effects on all market tiers are not fully considered. As noted above, these less liquid, more volatile markets have distinct needs and service a critical aspect of our entrepreneurial industries.

Second, the spate of recent proposals for new market linkages and execution forums should prompt an examination of the practical impact on the lower tier markets. Regulatory policymakers must ask whether the future of ITS, SelectNet and Super-SOES will provide appropriate applications for small market makers to compete effectively with their large counterparts.

Third, the concept of a single centralized market such as a CLOB also raises concerns for individual investors that may be handicapped by institutional investors who are able to dominate markets by mobilizing vast amounts of capital instantaneously.

Fourth, as discussed earlier RIBA recommends establishing a small issuer capital market task force to evaluate and shape market reform proposals unique to the small issuers. RIBA is willing to take an active role in establishing the task force and is committed to working with the regulators, market practitioners, the issuer community and investors to make specific recommendations for constructive reforms.

Fifth, RIBA urges the SEC to clarify its best execution standards and specify their applications to the lower tier markets. As new technologies continue to transform the markets, it is imperative that regulations provide concise guidelines.

Last, RIBA would like to thank Chairman Oxley and Ranking Member Towns for the opportunity to testify on these critical issues. RIBA commends the full Committee and its Staff for reaching out and soliciting the views of the small broker-dealer community. We hope that your leadership in creating a more inclusive debate becomes the standard rather than the exception.

Mr. OXLEY. Thank you. Thanks to all of the panel.

The Chair will recognize himself for the first round of questions.

The fragmentation issue comes up time and time again. I think it is worthy of some discussion. Many people say that "fragmentation" is just another word for "competition."

Why should we fight fragmentation? Don't we really have fragmentation breaking out all over the place, and if it appears to be competitive in nature, what is really wrong with that?

Let me begin with Mr. Atkin.

Mr. ATKIN. Thank you, Mr. Chairman.

I would say, looking on the fragmentation issue, it is in some ways very complex and in some ways very simple. Looking at it one way within Nasdaq, you could say there is a lot of fragmentation, that there are multiple ECNs, multiple market makers, et cetera. I would argue that Nasdaq has 100 percent market share within its stocks, that all ECNs have to operate presently within Nasdaq, and there is no alternative but for anyone who wishes to trade Nasdaq stocks to go through the Nasdaq infrastructure.

Mr. OXLEY. Let me interrupt then, because at least at first blush it would appear that the Super Montage could be considered a central limit order book. Is that your cut on that?

We will give Mr. Ketchum a chance.

Mr. ATKIN. It is certainly our view that the Nasdaq Super Montage is really an ECN. It is Nasdaq, in essence building a competing ECN, and the ECNs themselves are forced to operate under Nasdaq's infrastructure.

I think it would be like FedEx and UPS being forced to go through the postal delivery system. We are forced to go through the Nasdaq infrastructure, and what we believe is, they are building

their own competitive system, which will have the likely effect of draining liquidity out of the ECNs into a less transparent marketplace.

Mr. OXLEY. Mr. Ketchum, do you have a different view on that?

Mr. KETCHUM. Well, probably a little bit, I guess.

Chairman Oxley, to get to your question first, no, I don't think Super Montage is anything like a composite limit order book. It is an effort to recognize, particularly as we move, and positively so, to a decimalized small increment world that is showing simply the consolidated best bid and offer is of limited value, that in order to understand what is happening in the market, you need to understand something, the depth going around both above the market and below the market.

It is not intended to either compete directly or replace ECNs. ECNs will continue to be the place that provides a separate, anonymous opportunity to allow buyers and sellers to connect, to match orders beforehand and the like. What we think this will do is provide more substantial depth and transparency to the market.

We do recognize that these orders are the orders of ECNs and market makers. They should receive compensation with respect to it, and we expect to share both fees and tape data, because we think that is the appropriate and fair way to do it.

With respect to Doug's thoughts with regard to a single infrastructure, it is true that based on the SEC's order handling the rules, not on any NASD rules, if ECNs want to provide an environment where market makers show better prices anonymously than they do in their quote, that they must be linked into Nasdaq in two ways. Both from the standpoint of having their best quotes disseminated in the system and in providing a linkage so that people who are not participants in that ECN have an ability to access the best price.

I think those two reforms by the SEC allowed us just in the nick of time to avoid a two-tier market environment and avoid a situation where institutions had access to better prices and liquidity than individual investors.

So while I think, in fact, ECNs have plenty of choices in the markets, I think there does need to be sufficient linkage to assure that individual investors are treated the same way as institutional investors.

Mr. OXLEY. Does anybody else want to comment on the fragmentation issue, as well as the Super Montage?

Mr. WHEELER. I would like to say a couple of things.

Our current view of Super Montage is flawed in a couple of ways. The current proposal, as I understand it, is to display three levels of price through the book. There is no trade-through protection to address some of the issues that Holly spoke of. A retail investor, willing to display a limit order at a particular price, has no protection that that limit order will be executed against, as a lot of stock may trade at that particular price without an execution due to that customer. It creates a single point of failure.

We have had that experience in the past with Nasdaq, the infamous squirrel that took the system down 10 years ago, and the arbitrary delays that Super Montage imposes on the rest of the marketplace.

As it is written right now, the way I understand it, the market maker would have up to 5 seconds to decide whether they want to execute against an incoming order or simply get out of the way and let that order go on through the system. We are not in favor of anything like the 5-second rule as it stands right now.

Mr. OXLEY. My time has expired. We will get back to some other issues.

Let me now recognize the gentleman from Michigan, Mr. Stupak.

Mr. STUPAK. Thank you, Mr. Chairman. Thank you for holding this hearing.

Mr. McSweeney, could you elaborate on the New York Stock Exchange concern about CLOB? How would this affect the retail investor?

Mr. MCSWEENEY. The problem we have regarding the CLOB is multifaceted. The major concern that we have is the fact that none of the proponents of a CLOB could describe how the large order flow would be handled in that type of an environment.

The CLOB is basically an environment in which you would nationalize the marketplace. All limit orders would be displayed and executed automatically in terms of strict price-time priority. But there was a recognition by each of the proponents that large-size orders would have to be executed outside of the consolidated limit order book because there would not be sufficient liquidity, and those orders would not be fully disclosed because the market impact would result in the market moving away from those disclosed orders. Therefore, you would have an environment in which there would be less transparency.

Approximately 50 percent of the NYSE's volume and about 45 percent of the consolidated volume is represented by transactions of 10,000 shares or more. You would extract that order flow from the price discovery process; it would result in a widening of the bid and offer spreads. Therefore, it would increase volatility by the widening of the spreads and the fact that there would be no specialties function in it; and it also would dampen intermarket competition based upon the strict price-time requirements of the CLOB.

Actually, there was no agreement among proponents of the CLOB exactly how that should be structured.

Mr. STUPAK. Could the CLOBs then do a two-tier system, like one system for institutional and one system for retail investors?

Mr. MCSWEENEY. If they did that, Mr. Congressman, what would take place is, you would have a significant diminution of the liquidity and price discovery process that takes place now. You would extract a significant portion of the price discovery represented by larger orders from that process, and it would result in more volatility and less efficient markets.

Mr. STUPAK. Does the payment for order flow hurt the retail investor, the order flow?

Mr. MCSWEENEY. I believe it does, because payment for order flow is a practice that does not include rebating that payment to the ultimate customer, and it is closely aligned with internalization; and internalization is a serious concern, despite the fact that we have 83 percent market share. The fact that a percentage of that involves internalized order flow where public orders are not

afforded the benefit of the price discovery process and the potential for price improvement is a concern, particularly the fact that we have recently eliminated Rule 390. And we were gratified to see in the SEC's release that approved removal of 390 that the SEC would be monitoring closely any significant change in order direction by member firms that would involve internalization.

Mr. STUPAK. Is your concern about the CLOBs related to your concerns about payment of order flow, or are they separate issues?

Mr. MCSWEENEY. No, Mr. Congressman, that is a separate issue. The issue is really one in which we believe that a market structure that would nationalize the securities industry would not promote competition, that would seriously impact liquidity of the market; and as I mentioned, the most serious impact would be bifurcating the institutional and the retail order flow and the price discovery process.

Mr. STUPAK. Thank you.

I have nothing further, Mr. Chairman.

Mr. OXLEY. The gentleman's time has expired.

The Chair now recognizes the gentleman from Pennsylvania, Mr. Greenwood.

Mr. GREENWOOD. Thank you, Mr. Chairman. I am going to address the question to my constituent, Mr. Kamen.

Can you be specific about—what regulations that are in place now do you think are limiting the ability of investors in the small cap issue market from fully benefiting from technology, if there are such regulations?

Mr. KAMEN. Well, a lot of it has to do with the systems. In the lower-tier markets, mainly the OTC bulletin board, there is no automatic execution electronically the way it happens in the upper tiers. The Instanets and the ECNs don't practice in those markets. As a matter of fact, I had discussion with Mr. Ketchum earlier that that is on the horizon.

I think the problem we face in the lower-tier markets is that many of of the suggestions and policies that have been kicked around and adopted have all been done with the consideration of the largest tier of the marketplace. What is good for Microsoft might not necessarily be good for a stock trading at $4 or $5 or $10. Nor would one would argue that liquidity is the driving factor of all securities. And in the lower-tier markets, where liquidity tends to be less by the average daily volume of the securities, making rules that only look at the ramifications of the most liquid securities leaves the potential for a lot of unforeseen consequences in the lower tier.

I think that is the overall picture that makes the most damage to the smaller cap market, and that is why we need to take a look every time we want to change something and do an analysis of how that will affect the smaller cap stocks.

Mr. GREEN. Aside from coming and testifying here, what is necessary to get you and the folks you represent at the right table, besides this one, in order not to be left behind and be not considered?

Mr. KAMEN. I would certainly love for the NASD and the regulators to formally adopt, whether it is a small issue task force or in some other type of venue, to allow the voice of the smaller markets to be heard. I mean, realistically, our issues don't tend to be

front page news. I mean, we are not multinational and we are not trading 20, 30, or 50 million shares a day. Our companies tend to trade 200-, 300-, 400,000 shares a day, and in some cases, 800,000 shares a day. I think everyone needs to recognize that our voice must be invited to the table, and we need to have specific debate on these issues, starting with these types of things, and at the NASD; that would be most helpful.

Mr. GREEN. Would any of the other panelists like to comment on that?

Ms. STARK. Thank you. My firm manages microcap and small cap assets, and in fact, I do trade bulletin board stocks and ECNs right now. They are different animals than are the Microsoft and Dells of the world, and they are predominantly Nasdaq-listed stocks.

I would have great difficulty indeed executing without ECNs. The benefit of using ECNs is, especially in fast-moving markets, the interlinkages they have created among themselves, so that I can access other ECNs or bids and offers by broker-dealers who might be active in those names. In fact, there are lots of names that we have that don't even open on any particular day.

But the dilemma is a real one, and we certainly would not want to do anything that would discourage or hamper trading in them further. But it is a reality right now, and I don't think that anything being proposed today, and especially in Super Montage, is going to hurt trading of the small and microcap stocks. In fact, I think it will enhance it.

Mr. KETCHUM. Congressman Greenwood, I would just say that I think Mr. Kamen makes some very sound points. We always try to look, but it is always helpful to get greater input from interested parts of the constituency of the impact on different parts of the market. We do have a Small Firm Advisory Board. I think the concept of a Small Issuer Advisory Committee is a sound one we will look very closely at.

I think Holly Stark makes a excellent point. I think that support of the marketplace will be enhanced if there is greater ability to display orders, and as indicated by Mr. Kamen, if there is an ability to provide more efficient execution and order routing systems than exist in the bottom tier of the market. We are committed to do that, and committed to ensure that this market is as liquid as possible.

Mr. ATKIN. I would like to add a comment, Mr. Congressman, and that would be, currently we are trading about 70 million shares a day of bulletin board stocks, and I believe on Nasdaq they are trading in the—700 or 800 million shares a day. We certainly view the OTC bulletin board sector as an opportunity, as a big opportunity, to help lower costs for investors by providing an electronic means for investors to match stocks.

I also think that does need to be complemented by those who do wish to commit capital. I think a lot of what we are talking about today is, should people get privileges for committing capital to retail investors? And really, what is going on in many of the markets, markets where the big American firms seem to be doing very well, is that their capital commitment providers do not get any privileges.

I think, as most of the buy-side participants have been saying, that orders have price-time priority, and if you wish to commit capital, you must satisfy—whether it is a retail investor's order or an institutional investor's order—first before committing your capital; and people are finding it very profitable to do it in that environment.

So we think it is important for both to occur, but not to advantage and give privileges to those who commit capital over individual investor's orders or institutional orders.

Mr. OXLEY. The gentleman's time has expired.

Mr. STUPAK. Could we have unanimous consent to enter opening statements in the record?

Mr. OXLEY. Yes, it has already been done.

The gentleman from Chicago, Mr. Rush.

Mr. RUSH. Thank you, Mr. Chairman. On May 4, 2000, the SEC released a report of a special study by both the Office of Economic Analysis and the Office of Compliance, Inspection and Examination, regarding the display of customer limit orders. Mr. Chairman, I ask unanimous consent that this report be included in the record.

Mr. OXLEY. Without objection.

[The report follows:]

Special Study:

Report Concerning Display of Customer Limit Orders

Office of Compliance Inspections and Examinations
Office of Economic Analysis

May 4, 2000

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I. Executive Summary

On March 16, 2000, Chairman Levitt requested that Commission staff in the Office of Compliance

Inspections and Examinations ("OCIE" or "Staff"), together with the Office of Economic Analysis ("OEA"), prepare a public report analyzing the display of limit orders in our equities and options markets and the adequacy of the markets' surveillance and disciplinary programs for limit order display.[1] This report responds to Chairman Levitt's request.

Investors use two principal types of orders to buy securities: market orders and limit orders. When an investor uses a market order, which is an order to buy or sell a security at the prevailing market price, a broker executes the order at the best price available. In contrast, when an investor uses a limit order, a broker enters an order to buy or sell a security for the investor at a price specified by the investor or better. Thus, limit orders permit investors to compete for better prices than the market is offering. Limit orders serve a critical market function by increasing the information available to the overall market and by allowing all market participants to better determine prices. Further, limit orders have begun to level the playing field between dealers and the investing public by promoting the ability of investors to trade *without* the intervention of dealers.

In recent years, limit orders have become a powerful tool to enhance investors' role in setting prices. Numerous economic studies confirm the benefits of limit orders. As discussed more fully in the body of this report, key research findings indicate that:

- Limit orders constitute two-thirds of all orders on Nasdaq, and two-thirds of all system orders on the NYSE.
- Limit orders constitute three-quarters of all automated orders on two options markets.
- Most quotes on the NYSE are set by limit orders.
- Spreads appear to be narrowest when set by limit orders.
- Limit orders supply additional liquidity to the market.
- Spreads in Nasdaq stocks have narrowed by 30% following implementation of the Order Handling Rules. More than half of the decrease in spreads was due to the Display Rule.

Recognizing the importance of limit order display, the Commission adopted the Display Rule for equity markets in 1996.[2] The rule requires that, immediately upon receipt, specialists and over-the-counter ("OTC") market makers either display in their quotes qualified customer limit orders that improve the price or add to the size of their quotes, or execute or re-route those orders to other market centers. Specialists and OTC market makers must comply with the rule, and self-regulatory organizations ("SROs") conduct surveillance to ensure that their members are complying with the rule, and discipline members who fail to comply with the rule. While there is currently no comparable rule under federal securities laws that applies to options trading, each of the operating options exchanges has a rule or policy requiring members to display customer limit orders to some extent.

In view of the importance of limit order display in encouraging competition, transparency, and better executions, it is critically important that limit orders be properly displayed, and that surveillance and enforcement for the display of limit orders be effective. To evaluate that effectiveness, the Staff undertook a series of inspections of SRO surveillance and disciplinary programs in the equities markets following the adoption of the Display Rule. Those inspections revealed serious deficiencies. The Staff also conducted follow-up reviews during March and April 2000. In addition, the Staff reviewed the quality of limit order display by several large OTC market makers and in the options markets.[3]

Overall, the Staff found that, while significant improvements have been made in some markets since the Staff's initial inspections, there are still problems that must be addressed. Improvements have resulted from automation of the markets' order routing and surveillance programs. This automation has allowed more of the markets to automate the immediate display of eligible customer limit orders, which provides less opportunity for specialists and market makers to manually delay the display of eligible limit orders. The Staff concluded, however, that many exchange specialists and OTC market makers should take steps to improve the prompt display of customer limit orders, and that many SROs can take steps to ensure better compliance with limit order display requirements. The significant weaknesses found during inspections are summarized below and described in detail in this report.[4]

Limit Order Display Weaknesses

- Not all order display systems are fully automated. In fact, many OTC market makers handle all customer limit orders manually. In addition, most automated exchanges and OTC market makers allow some limit orders to be excluded from automated display and execution and are handled manually by specialists and traders. While manual handling in some situations is appropriate, manual handling also creates the potential for limit order display problems.[5] Significant violation rates were observed with respect to certain manually-handled limit orders. For example:
    - Samples of limit orders received by three larger-sized OTC market makers revealed evidence that significant limit order volume was manually handled, resulting in Display Rule violation rates of 92%, 58%, and 46% of the samples reviewed. Samples of eligible limit orders[6] received by a fourth larger-sized market maker revealed an apparent Display Rule violation rate of 26.5% of the samples reviewed. The violations included failures to display proper order size, failures to display orders within 30 seconds after receipt, and failures to properly transfer the order display obligation to another exchange system or member.
    - One large OTC market maker's traders turned off the firm's automated display system for an entire day, which resulted in the manual handling of over 1,000 customer limit orders. One trader on that day failed to properly display 83% of the eligible customer limit orders that he manually handled. The violations included failures to display proper order size, and failures to display orders within 30 seconds after receipt.
    - An examination of another OTC market maker revealed that a firm employee turned off the automated display feature for the firm's entire OTC trading desk for a period of several months without detection by the firm.[7] A sample of eligible limit orders received during this period revealed an apparent Display Rule violation rate of 46%. The violations included possible failures to display proper order size and failures to display orders within 30 seconds after receipt.
    - An earlier examination of the same market maker revealed that, prior to the time the firm implemented an automated display system, the firm failed to properly display 78% of a sample of customer limit orders. Subsequently, the firm implemented a display system, which, although automated, provided traders with extensive opportunities for manual intervention. Thereafter, an examination revealed an apparent Display Rule violation rate of 22%. The violations consisted of failures to display orders within 30 seconds after receipt.
    - On one exchange, a sample of 400 manually-handled customer limit orders eligible for

display revealed that approximately one in six were not executed or displayed appropriately, in violation of the Display Rule. The violations included failures to display proper order size, failures to display orders within 30 seconds after receipt, and failures to properly transfer the order display obligation to another exchange system or member.

These and other findings described in this report indicate that specialists and OTC market makers need to take steps to improve their compliance with display rules and should increase supervisory efforts to ensure compliance.

- While automated display systems that are properly programmed typically result in a near 100% eligible limit order display rate, some systems are not programmed to fully comply with the Display Rule requirements. Data reviewed by the Staff of samples of eligible limit orders received by two of the larger and more fully automated OTC market makers revealed programming deficiencies and apparent Display Rule violations of 19% and 11% of the samples reviewed. The violations included failures to display proper order size, and failures to display orders within 30 seconds after receipt.

- Most market makers reviewed were unable to provide basic data on the display of customer limit orders critical to an effective supervisory and compliance program. Most SROs were also unable to provide complete, accurate data on the display of customer limit orders by their members. For example, in many instances, firms and SROs could not identify whether limit orders were eligible for display, or whether they subsequently became eligible for display. Many firms and SROs were also unable to identify limit orders that were unexecuted or re-routed to another market. The lack of complete, accurate data, as well as synchronized clocks and audit trails, impedes surveillance and makes determining overall compliance rates impossible.[8]

Surveillance for the Display of Limit Orders

- Some SROs conduct no limit order display surveillance. Complaints serve as their only sources to identify customer orders that are not displayed.

- Some SROs do not conduct any automated surveillance for compliance with the Display Rule or SRO rules or policies requiring the display of limit orders. Other SROs conduct random surveillance that, while partially automated, remains manually intensive and inadequate to detect all limit order display violations. Some SROs surveil only for egregious patterns of violations. This surveillance often covers only a small sample of potential violations and is extremely manually-intensive. For example, one exchange, during a seven day period, sampled only 129 of 28,408 (0.45%) manually-excluded customer limit orders. These manual reviews often take many hours and involve the compilation and analysis of data from various sources.

- Several SROs that allowed their specialists and traders to routinely override their automated display systems lacked any surveillance review to determine whether these overrides were appropriate.

- Some SROs were slow in building surveillance systems or suspended surveillance for the proper display of limit orders due to technology development. One SRO completely suspended surveillance for six months, and another SRO severely limited its surveillance for six months.

- Most SROs that did conduct automated surveillance failed to surveil for the immediate display of eligible customer limit orders. Instead, they allowed specialists and traders to routinely display

eligible customer limit orders at the 30 th second after receipt without flagging such trading for review.

Disciplining Members for Violations of Display Rules

- Sanctioning guidelines for violations of limit order display rules vary greatly, and some SROs impose fines that may not be adequate to deter violations. For example, while one SRO may impose a $1,000 fine for a single violation, another may send a cautionary letter.
- In some cases, the disciplinary process for straightforward Display Rule violations is not conducted in a timely manner. One SRO often imposed sanctions up to 18 months after the occurrence of the violative conduct.

Limit Order Display Rules in the Options Markets

- The options exchanges currently do not have specific rules requiring immediate limit order display. Options markets are taking steps to adopt rules and enhance surveillance. In addition, the options markets currently lack the capacity to publicly display the sizes of their quotes.

Appendix A of this report includes recommendations for OTC market makers, specialists and other traders to consider to improve the overall quality of limit order display, as well as recommendations to SROs to improve surveillance and disciplinary programs with respect to limit order display. Appendix B includes background information on the order routing and execution systems in the equities and options markets.

Because of the importance of limit order display to our markets, and indications that many limit orders are not being handled appropriately, the examination staff will focus efforts on ensuring that specialists and OTC market makers comply with limit order display obligations, and when appropriate, will refer serious violations to the Division of Enforcement. In addition, the Commission's Office of Economic Analysis will undertake a broad study of limit order display and execution quality in the equities markets.

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II. Background: Limit Order Display

Investors generally enter two types of orders: limit orders or market orders. A limit order is an order to buy or sell a security at or better than a specified price. When an investor places a limit order, an investor is competing for a better price than the market is offering or limiting the price that the investor will accept. In this way, the investor is a price setter. In contrast, a market order is an order to buy or sell a security at the current market price. When an investor places a market order, a broker executes the trade at the best current price in the market. In this way, the investor is a price taker.[9]

A. Market 2000 Report

In 1994, in its Market 2000 report,[10] the staff of the Commission's Division of Market Regulation raised concerns about order handling practices in the U.S. securities markets. The staff noted a concern by

market participants and economists that OTC market makers were concealing from the public limit orders that would have improved the market price for a security.[11] In addition, the report recognized that the failure to display limit orders that improve [both price and size] current quotes raised at least three regulatory concerns.[12] First, the failure to display limit orders could artificially widen spreads. Second, the failure to display limit orders raises fair competition concerns, and third, the failure to display the best quotes results in inferior executions for small customer orders. Accordingly, the report recommended that all market makers display limit orders that better the best intermarket quotes.[13] The report concluded that the display of these limit orders would provide a more accurate picture of trading interest, result in tighter spreads, and contribute to improved price discovery.[14]

B. Adoption of the Display Rule in the Equities Markets

During the Commission's 1996 investigation of the Nasdaq market, the Commission found a number of practices by Nasdaq market makers that, among other things, served to cause a failure to display customer limit orders that would have improved market makers' quotes. To improve the transparency of the markets, including the quality of the handling of customer limit orders, the Commission adopted order handling rules, including the Display Rule, in 1996.[15]

The Display Rule is designed to improve the handling of customer limit orders. It requires that exchange specialists and OTC market makers display in their quotes eligible customer limit orders that improve the price or add to the size of their quotes.[16] To comply with the Display Rule, specialists and market makers must either: 1) display the price and full size of a customer limit order in their quote; 2) execute the limit order; or 3) send the limit order to another entity (a broker-dealer, an exchange, or an electronic communications network), which will display it. The Display Rule requires that the specialist or market maker display the order immediately upon receipt. The Commission has stated that, to comply with the requirement that display take place "immediately," specialists and market makers must display (or execute or re-route) eligible customer limit orders "as soon as is practicable after receipt which, under normal market conditions, would require display no later than 30 seconds after receipt."[17] Therefore, specialists and market makers who routinely rely on automated quoting systems to display customer limit orders at the 30 th second after receipt would not be deemed to be in compliance with the Display Rule's immediate display requirement.[18] The Commission has further clarified that "this 30 seconds is an outer limit under normal market conditions and is not [intended] as a 30-second safe harbor."[19] The Display Rule specifies that a "customer" limit order does not include an order for the account of a broker or dealer, but does include an order transmitted by a broker or dealer on behalf of a customer.[20]

In adopting the Display Rule, the Commission identified two reasons why OTC market makers would be reluctant to immediately display eligible customer limit orders. First, a market maker has an incentive to not publicly display a particular customer limit order because the market maker might want to execute the order on a proprietary basis without allowing any other market participants to interact with the order. With regard to this incentive, the Commission stated that:

> [A] market maker that holds a customer limit order has, in effect, a private option' to execute the order as principal. The longer this option' remains open, the more time the market maker has to determine whether it can profit from executing the order as principal. This private market maker option,' however, is potentially detrimental to the execution opportunities for the limit order. The Display Rule will limit this option' and expose the order to market-wide trading interest.[21]

Second, the market maker has an incentive to not display a customer limit order that would narrow the

market maker's spread, which is the difference between a dealer's bid and offer, thereby decreasing the profitability of the market maker's proprietary trading activity.[22] The Commission recognized that "the display requirement may decrease a market maker's per trade profit due to narrowed spreads."[23]

These points illustrate that limit orders, if displayed, allow the investors who submit them to compete with dealers for trades and in setting better prices than the market would otherwise provide. Limit orders compete for trades because limit orders that are displayed have a greater chance of attracting other orders in the market. Limit orders compete with dealers in setting prices because limit orders, if displayed, can improve the market price otherwise set by the dealer's quote. The result is a more level playing field between the dealer and the investing public. But in order to level the playing field, the dealers must actually display the limit orders they receive.

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III. Importance of Limit Order Display to Market Transparency

Limit order display has been found to be a key element in promoting competition, providing liquidity, and increasing transparency. Findings from recent studies support the importance of limit order display:

- Limit orders constitute two-thirds of all orders on Nasdaq, and two-thirds of all system orders on the NYSE.[24]
- Limit orders constitute three-quarters of all automated orders on two options markets.[25]
- Most quotes on the NYSE are set by limit orders.[26]
- Spreads appear to be narrowest when set by limit orders.[27]
- Limit orders supply additional liquidity to the market.[28]
- Spreads in Nasdaq stocks have narrowed by 30% following implementation of the Order Handling Rules. More than half of the decrease in spreads was due to the Display Rule.[29]

Overall, economic studies confirm that limit orders are a large portion of the orders in the securities markets and that the display of these orders has been beneficial in developing more transparent, tighter markets.

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IV. Limit Order Display in the Equities and Options Markets

A. Equities Markets

1. Order Routing, Execution and Display Systems

a. Manual Order Handling

All exchanges and most large OTC market makers have automated order routing systems, through which orders are received and handled electronically (see Appendix B for a description of order routing systems). The automated routing systems of all exchanges and most OTC market makers are designed to exclude or kick out certain types of orders upon initial receipt for manual handling by specialists or OTC market makers' traders.[30] For example, orders that are typically excluded from automated display or execution include larger-sized orders, orders that could create locked or crossed markets[31] if displayed upon receipt, and orders that could result in a violation of short sale rules upon execution of the orders.[32] These types of limit orders generally are routed to the exchange specialist or OTC trader for manual handling.

In addition, some exchanges allow specialists to remove any incoming order from the exchange's automated routing system for manual handling, including limit orders that improve their quotation. Some regional specialists routinely exclude customer limit orders from their own exchanges' automated execution and display systems in order to "lay off" the orders to other exchanges for display and/or execution.[33] During the period in which specialists are trying to access other markets to execute or display a customer limit order, they often prevent the order and subsequent incoming orders from being placed in their limit order book or being displayed in their own exchange's quotes to avoid "double executions" simultaneously on their own exchange and the exchange to which they sent the lay-off order.

Furthermore, some OTC market makers' systems do not provide for the automatic display or execution of customer limit orders. Instead, the responsibility to properly display the eligible customer limit orders in the quote, to execute the orders, or to route those orders falls upon the individual trader, who is required to perform those functions manually.

Although the routing of orders for manual handling is necessary in some circumstances,[34] the manual handling of orders also provides opportunities for abuses of the Display Rule. This is because, at some of the exchanges and market makers, during the time that specialists and traders are manually handling eligible customer limit orders, the orders may not be placed on the limit order book or displayed in the quotation and, therefore, are not available for interaction with other orders. Therefore, a specialist or trader, by removing a limit order from the automated display system, may prevent a recently arrived eligible customer limit order from narrowing the spread or preserve a "private option" to trade with the limit order.[35]

Because the manual handling of customer limit orders by specialists and traders increases the potential for violations of the Display Rule, the Staff believes that exchanges and market makers should take steps to more fully automate the order routing, execution and display processes and, as discussed more fully below, in instances in which manual intervention by specialists or traders is required, to implement surveillance programs that accurately, reliably, and comprehensively surveil for the proper display of customer limit orders.

b. Automated Display

The Staff found that automated display systems at some exchanges and a few of the OTC market makers reviewed provide for the immediate display of certain eligible customer limit orders upon receipt.[36] Many of these automated display systems were developed after the adoption of the Display Rule, and they enhance compliance with the rule. As exchanges and market makers increase the use of automated

display and execution systems, compliance with the Display Rule should be enhanced.

Some exchanges and most OTC market makers' automatic display systems provide their specialists and traders with a predetermined amount of time to "interact" with eligible customer limit orders after receipt but prior to their execution, display, or routing of the orders to other market centers.[37] During this time, the orders are not displayed. Some exchanges and market makers use automated display systems that contain internal clocks that begin a countdown for display purposes that starts upon the specialist's or trader's receipt of the customer limit order. The countdown period ranges from 0 to 30 seconds, depending on the exchange or OTC market maker. If, at the end of the countdown period, the specialist or market maker has not yet interacted with the customer limit order (*i.e.*, executed, displayed, or routed the orders to another market center), the system then automatically displays the customer limit order in the specialist's or trader's quotation. This type of automated display feature ensures that limit orders are displayed within 30 seconds, and improves compliance with the Display Rule.[38]

The Staff found that all exchanges allow their specialists to institute some type of override of their automatic display systems. Overrides are generally allowed during "fast markets," and on some exchanges are automatic during trade reporting. Some override features shut off the automated display feature altogether, which means that all eligible customer limit orders received while the automatic display system is shut off must be manually entered into the specialist's quote. One exchange requires that specialists obtain and document floor official approval within three minutes of instituting a type of override of the automatic display feature. The same exchange permits specialists to institute a second type of override that halts the order routing and display system, which also prevents the automatic display and surveillance clock from initiating its countdown. Other exchanges allow specialists to manually withdraw individual orders from the automated display system. Similarly, some OTC market makers permit their traders to institute comparable system overrides. The Staff found that OTC market makers' policies regarding supervisory approval for the institution of any automated display system override varied from firm to firm. The Staff believes that the use of overrides to automated display systems by specialists and market makers increases the likelihood of Display Rule violations.

A number of OTC market makers, rather than display the customer limit order in their own quotations, automatically route certain of their orders to another market center for display and/or execution. The routing may occur immediately, as is sometimes the case with non-marketable limit orders, or automatically at the end of the system's countdown period.

2. Limit Order Display Data

In connection with this study, the Staff requested that each SRO and a limited number of OTC market makers submit numbers and percentages of eligible customer limit orders received during December 1999 that were executed, routed to another market center or displayed in the quotation within 30 seconds, 60 seconds, 90 seconds and 120 seconds. The Staff requested this information to assess current rates and timeliness of limit order display.

Most of the SROs and market makers were unable to provide relevant data in response to the Staff's request for a variety of reasons. For instance, four of the exchanges' computer systems were unable to calculate the number of limit orders received that were eligible for display upon receipt. Some of these SROs provided the Staff with data based on a sample of total limit orders instead of a sample of eligible limit orders.[39] Therefore, the numbers and percentages they submitted were not relevant in determining rates of compliance with the Display Rule for eligible limit orders. Some SROs also were unable to determine the time that any particular limit order became eligible for immediate display after receipt, and thus, these SROs were unable to produce accurate numbers regarding the number and rate of Display

Rule violations. In addition, some of the exchanges were not able to provide any numbers for orders that had been routed to other exchanges.

Of the two SROs that were able to provide complete data in the form requested, one indicated that, for December 1999, 88.3% of its eligible customer limit orders were executed or displayed within 30 seconds of order receipt. The second represented that for a one month period, it executed, displayed, or routed to another market center, 99.57% of its eligible customer limit orders within 30 seconds of receipt.

To adequately surveil for compliance with the Display Rule, an exchange must be able to track whether an incoming customer limit order is eligible for display. It also must have synchronized clocks, audit trails and relevant market information to determine whether the customer limit order was displayed properly based upon market information and the order's price and size. Therefore, those exchanges that were not able to provide the requested information on limit orders are less likely to be able to conduct adequate surveillance for Display Rule violations.

In any event, the limited data provided by the equities SROs and OTC market makers, as well as other data reviewed by the Staff, indicates problems in limit order display. For example:

- Samples of limit orders received by three larger-sized OTC market makers revealed evidence that significant limit order volume was manually handled, resulting in Display Rule violation rates of 92%, 58%, and 46% of the samples reviewed. Samples of reviewed eligible limit orders received by a fourth larger-sized OTC market maker revealed an apparent Display Rule violation rate of 26.5% of the samples reviewed. The violations, resulting from the use of automated display systems that failed to display customer limit orders within 30 seconds after receipt and the use of manual override features, included failures to display proper order size, failures to display within 30 seconds after receipt, and failures to properly transfer the order display obligation to another exchange system or member.

- One large OTC market maker's traders turned off the firm's automated display system for an entire day, which resulted in the manual handling of over 1,000 customer limit orders. One trader on that day failed to properly display 83% of the eligible customer limit orders that he manually handled. The violations included failures to display proper order size, failures to display orders within 30 seconds after receipt.

- An examination of another OTC market maker revealed that a firm employee turned off the automated display feature for the firm's entire OTC trading desk for a period of several months without detection by the firm.[40] A sample of eligible limit orders received during this period revealed an apparent Display Rule violation rate of 46%. The violations included possible failures to display proper order size and failures to display orders within 30 seconds after receipt.

- An earlier examination of the same market maker revealed that, prior to the time the firm implemented an automated display system, the firm failed to properly display 78% of a sample of customer limit orders. Subsequently, the firm implemented a display system, which, although automated, provided traders with extensive opportunities for manual intervention. Thereafter, an examination revealed an apparent Display Rule violation rate of 22% The violations consisted of failures to display orders within 30 seconds after receipt.

- Sample data reviewed by the Staff from two of the larger, more fully automated OTC market makers revealed that system programming deficiencies resulted in apparent Display Rule violation

rates of 19% and 11%. The violations included failures to display proper order size, and failures to display orders within 30 seconds after receipt.

- Until the Staff's inspection in early 1999, one SRO allowed its specialists to fail to display eligible customer limit orders for up to 65 seconds after receipt of such orders. The use of the 65 second time parameter resulted in the SRO failing to discover 13% of its specialist's Display Rule violations during a one month period in 1999.[41] The violations included failures to display proper order size, failures to display orders within 30 seconds after receipt, and failures to properly transfer the order display obligation to another exchange system or member.

- One market maker's policies provided that for orders that improved the firm's quote, but did not equal or better the NBBO, the firm was allowed to improve its proprietary quote to match the price of the customer limit order and represent the newly priced order as its own.[42] However, the Staff found that the market maker's quotation sizes often failed to reflect the entire sizes of the customer orders. The Staff reviewed 454 eligible customer limit orders received by the market maker and found that, as a result of the policies, 45 (10%) of those limit orders were improperly displayed. The violations consisted of failures to display proper order size.

- During one Display Rule inspection, the Staff reviewed a sample of customer limit orders received by an equities exchange. In a sample of approximately 400 customer limit orders that were manually removed from the exchange's order display system by the exchange's specialists, 15.8% of those customer limit orders were handled in violation of the Display Rule. The violations included failures to display proper order size, failures to display orders within 30 seconds after receipt, and failures to properly transfer the order display obligation to another exchange system or member.

- Sample data provided by one SRO indicated that for the first 5 trading days of December 1999, the SRO's specialists failed to execute or display 3,640 (5%) of the eligible customer limit orders handled on the floor within 2 minutes after receipt.[43]

- Another SRO reported that in excess of 99.9% of eligible limit orders were executed or displayed within 30 seconds of order receipt. The data, however, do not include eligible limit orders received during the times that specialists effected two types of commonly-used overrides of the automatic display function. The Staff found that in instances in which one type of manual override was instituted, 8.55% of customer limit orders received after 10 minutes following the imposition of the override were not handled in compliance with the Display Rule.[44] The violations included failures to display orders within 30 seconds after receipt.

Overall, the Staff found indications that progress has been made since the Display Rule was adopted, with the wider use of automated display and surveillance technology. Nonetheless, the Staff also found that even the most automated exchange specialists and OTC market makers have some level of non-compliance with the Display Rule. All specialists and market makers should take steps to increase their compliance with the Display Rule, and firms should increase supervisory efforts to ensure compliance.

3. SRO Surveillance Programs

a. Surveillance Procedures

The Staff found a wide disparity among the SROs in their Display Rule surveillance programs and

procedures. Some SROs surveil for compliance with the Display Rule using automated surveillance systems, while other SROs conduct manually intensive, and therefore less efficient and comprehensive, surveillance programs. The limited amount of data captured by some order routing and surveillance systems also inhibits Display Rule surveillance. The different types of surveillance are described below.

i. Sampling/Manual Surveillance

Some SROs have not fully automated their Display Rule surveillance, and rely on a manual sampling of undisplayed orders. The "sampling method" of surveillance typically consists of a manual review of a random sample of customer limit orders that an exchange's automated review has identified as orders that were either: 1) manually withdrawn from the automated display system; and/or 2) not displayed within 30 seconds from time of receipt by the specialist or market maker.

Some of the exchanges' Display Rule exception reports produce so many kickouts that they can result in a hundred pages or more of exceptions per day.[45] Many of these reports use parameters that may be overinclusive. For instance, the reports may include customer limit orders with prices that are not eligible for display because they are away from the market, and/or limit orders that are excluded from the Display Rule.

Exchanges whose specialists route a significant number of orders to other market centers typically employ an additional manual review to ensure that these layed-off orders were properly routed to the other market centers. Analysts review samples of orders that were withdrawn from the exchanges' systems to verify that those orders were actually routed to other market centers in a timely manner, at the proper limit order prices, and in the proper sizes.

ii. Automated Surveillance

Other SROs have more fully automated Display Rule surveillance. Several SROs create exception reports that capture and track each customer limit order received by a specialist or market maker and produce, on a monthly basis, surveillance reports that reveal both numbers and percentages of all eligible customer limit orders displayed and/or executed by individual specialists in accordance with the requirements of the Display Rule. Specialists and member firms that fail to achieve display rates in certain predetermined percentages typically receive some form of disciplinary action from the SROs.

b. Improvements Needed in Surveillance Programs

i. Inadequacies in the Sampling Method

The sampling method of limit order display surveillance is extremely time-consuming and manually intensive, and because it often includes only a small portion of eligible limit orders, it results in an incomplete review. Examples of weaknesses in this type of surveillance are as follows.

- One SRO, during a seven day period in early 1999, sampled only 129 of the 28,408 manually excluded orders (0.45%) that were captured in its daily exception reports.[46]
- One SRO represented that it performs limit order display surveillance for approximately 5% of its specialists per day. For each specialist chosen, only a sample of limit orders captured by the limit order display exception report is analyzed. Thus, only a small fraction of total customer limit orders are reviewed for compliance with the Display Rule.

- Until the Staff's on-site inspection, one SRO surveilled only a small percentage of executed customer limit orders, and did not surveil for unexecuted, undisplayed limit orders.[47]

- Three SROs are unable to determine whether their specialists lay off particular orders. Therefore, for the sample of orders reviewed, analysts must request off-floor routing data directly from the specialist or from the off-floor routing data providers and manually attempt to match and verify layed-off orders with those orders that were excluded from the exchange's automated display system.[48]

The Staff also found that the SROs that use the sampling method of surveillance sometimes fail to refer even the most egregious single violations of the Display Rule to their investigatory and/or enforcement staff. Instead, the SROs may instruct their analysts to pursue violations of the Display Rule only after the analysts determine that a specialist or market maker had established a "pattern" of Display Rule violations. Because these SROs review only a small sample of total limit orders, it may be difficult to identify a pattern of violations.[49]

ii. Over-Reliance on Automated Display

The Display Rule provides that eligible customer limit orders must be displayed immediately, but no later than 30 seconds under normal market conditions. Therefore, market makers or specialists that routinely allow an automated order routing or display system to display customer limit orders at the 30 th second after receipt would not be deemed in compliance with the Display Rule because they may be able to display the eligible customer limit order more quickly.[50] The Staff found that only two SROs surveil for instances in which individual specialists over-rely on automated quotation systems to display eligible customer limit orders. Each month, these systems capture the number and percentage of times that specialists rely on their automated display systems to display eligible customer limit orders at 30 seconds. Specialists may then be sanctioned for failing to display immediately. Many SROs lack surveillance review for overreliance on automated display systems.

iii. Inadequate Surveillance Policies and Procedures

In inspections in the past several years, the Staff found that a number of SROs used incomplete or deficient surveillance policies and procedures. Examples of inadequate surveillance policies and procedures are outlined below.

- Until the Staff's on-site inspection, one SRO's procedures provided for surveillance of customer limit orders at 65 seconds.

- One exchange's procedures provide that no Display Rule surveillance is required to be performed for orders received by the exchange prior to 9:45 AM. The Display Rule, however, contains no such exemption.

- Some SRO surveillance staff are inexperienced or are not adequately trained in Display Rule surveillance and are not provided with clear and concise policies and procedures with which to conduct proper surveillance reviews.

iv. Inadequate Review for Re-Quoting

Orders on the limit order book may become displayable during the course of a trading day as the market

moves. The Display Rule requires that these orders then be displayed immediately. Two SROs and numerous market makers do not conduct surveillance for the proper display of customer limit orders that reside on the limit order book once they become eligible or re-eligible for display.[51] The staff found a number of instances in which the burden of requoting falls on the manual efforts of specialists and traders, which increases the likelihood of Display Rule violations. The following are some examples.

- Two SROs have no automated requote feature. Instead, specialists must manually input the new quotes. These specialists, when changing the quotations, must take into account any customer limit order on the limit order book.[52]
- A number of market makers use automated display systems that often fail to automatically display limit order book orders once they become eligible/re-eligible for display. Thus, the individual traders become responsible for manually inputting all customer limit orders on the market maker's limit order book as they become eligible for display.
- Some market makers fail to surveil traders for over-reliance on automated display systems in instances in which the systems initiate a new countdown (up to 30 seconds) when the customer limit orders on their limit order books become re-eligible for display.

v. Failure to Track Automated Systems Overrides

Many SROs do not monitor or track instances in which specialists manually override or turn off automatic display systems. While some exchanges and market makers require approval by supervisory personnel, not all types of manual overrides are captured and tracked by SRO surveillance. One SRO, for example, does not monitor Display Rule compliance for the first 10 minutes of a certain type of override. In addition, one SRO's surveillance countdown clocks start when an eligible customer limit order is received by the limit order book and not when the order is received by the specialist at the post. Therefore, any delay that occurs after order receipt by a specialist but prior to the customer limit order being placed on the limit order book is not measured by the surveillance exception reports.

In addition, some market makers and specialists fail to monitor or track instances in which traders override or turn off automatic display systems. For example, an individual at one market maker turned off the automated display feature for the firm's entire OTC trading desk for a period of several months, apparently without the surveillance staff detecting the deactivation. A sample of reviewed eligible limit orders received during this period revealed an apparent Display Rule violation rate of 46%. In addition, the Staff found that prior to its on-site inspection of another OTC market maker, traders had turned off the firm's automated display system, also apparently without detection by the firm. A sample of reviewed eligible limit orders received during this period revealed an apparent Display Rule violation rate of 83%.

vi. Inadequate Surveillance for Locked and Crossed Markets and Short Sales

The Display Rule "does not require an exchange specialist or OTC market maker to immediately display a customer's limit order that would lock or cross the market,"[53] or to display a customer's short sale limit order "where doing so would likely result in a violation of short sale rules."[54] However, in instances in which a locked or crossed market "unlocks" or "uncrosses," or a short sale order is eligible for display because it would not violate a short sale rule, a specialist or market maker would then be required to display the limit order in accordance with the Display Rule. Until the Staff's inspections in early 1999, some SROs deemed all of these customer limit orders to be exempt from the Display Rule and, therefore, failed to review for instances in which the orders became eligible for display.

vii. Suspension of Exchange Surveillancefor Display Rule Violations

The Staff found that two exchanges each suspended or sharply reduced their surveillance for Display Rule violations for six month periods. Both exchanges stated that they suspended or limited their Display Rule surveillance programs during these periods because they were in the process of developing and implementing more automated Display Rule surveillance systems.

4. SRO Disciplinary Programs

Most violations of the Display Rule are included in a SRO's equivalent of a minor rule violation plan. More serious or multiple violations may result in a referral to the SRO's enforcement staff for more formal disciplinary action. The Staff found, however, that sanctioning guidelines for Display Rule violations vary greatly among the SROs. For instance, first and second violations of the Display Rule at one SRO may result in a cautionary letter, whereas another SRO may impose a $1,000 fine for a single violation. Another SRO surveils for Display Rule violations on a percentage basis by month and (automatically) imposes a $1,000 fine or more for a failure to display a preset percentage of eligible customer limit orders.

The Staff found that some SROs have not been aggressive in imposing sanctions for Display Rule violations. Until the Staff's inspection of two SROs, they had never imposed monetary sanctions on their members for failures to properly display eligible customer limit orders. In fact, one SRO official admitted that there were many violations of the Display Rule in excess of three minutes, for which the SRO imposed no disciplinary actions.[55] In addition, the Staff found that some SROs fail to conduct their disciplinary processes in a timely manner. One SRO has imposed sanctions on its members up to 18 months after the violative conduct. All of the SROs, however, have taken steps to enhance discipline for Display Rule violations.

The Staff generally found the disciplinary processes for sanctioning violations of the Display Rule by SROs that conduct less-automated surveillance generally to be more discretionary and, therefore, more likely to be inconsistently applied. As described above, some SROs review for patterns of Display Rule violations without adequately setting forth the requirements to establish a pattern of violative conduct. These SROs also tend to consolidate Display Rule violations for purposes of issuing cautionary letters or fines and limit "lookback" periods for considering similar past violations when imposing sanctions.

Conversely, the Staff found that those SROs that use more fully-automated surveillance procedures and practices tend to establish more objective and predictable disciplinary practices. These SROs are more likely to be able to produce monthly order display percentages by specialist and specialist firm.

B. Options Markets

1. Need for Rules Requiring Immediate Display of Limit Orders

As noted, the Display Rule under the Exchange Act applies only to equities. There is currently no comparable rule under the federal securities laws that applies to trading in options. Each of the options markets has rules or policies governing the handling of limit orders. Two exchanges' rules provide that options Designated Primary Market Makers ("DPMs") or Order Book Officials ("OBOs") continuously display, in a visible manner, the full size of the highest bid and lowest offer. Some exchanges require their members to use due diligence to ensure that the best available bid and offer is displayed, or consider the timely display of customer limit orders in assessing specialists performance. Importantly, none of the options exchanges' rules currently require the immediate display of customer limit orders.

Each options exchange has indicated that it is formulating rules requiring the immediate display or execution of limit orders by members.

2. Need for Enhancements to Automated Order Routing, Execution and Display Systems

The Staff's recent inspections of the options exchanges revealed several instances in which the design of the automated execution and automated order routing systems may serve to disadvantage some customer limit orders. The Staff found that three options exchanges' automated execution systems are programmed to route most incoming orders that are eligible for execution against an order on the limit order book, including marketable limit orders, to manual handling instead of routing them for automatic execution against the order in the limit order book.[56] This is because the auto-ex systems are set to execute incoming customer limit orders only against market maker or specialist quotes, but not against the limit order book, even in instances when the limit order book has priority.[57] The Staff also found that three options exchanges' automated order routing systems prevent many orders that improve the quote from being included in the quote automatically for immediate display without manual intervention.[58] As with equities limit orders, the manual handling of customer limit orders may be appropriate in some circumstances, but also increases the potential for limit orders to be concealed.

The Staff also found that only two of the options exchanges' automated order routing systems have features that allow for member firm booths on the floor to enter all types of system-eligible orders that were sent to the booth by telephone or wire into the exchange's automated order routing and execution system. In response to the Staff's recent inspections, two exchanges have stated to the Commission that they plan to implement technology, and rules requiring the use of that technology, that will allow the system to capture options orders directed to floor members for floor booth order entry. Systems that permit floor brokers to enter orders that they receive by phone or by wire into the exchange's automated order routing and execution system will afford the order the greater protections of the systems. These include automatic executions, automatic placement on the book, automatic display, and a more reliable audit trail for use by surveillance personnel.

3. Limit Order Display Data

In connection with this study, the Staff requested that each options exchange submit numbers and percentages of eligible customer limit orders received during December 1999 that were executed, routed to another market center or displayed in the SRO's quotation within 30 seconds, 60 seconds, 90 seconds and 120 seconds. The Staff requested this information to assess current rates and timeliness of limit order display.

None of the options exchanges were able to provide complete, relevant data in response to the Staff's request. The exchanges conduct very limited surveillance for limit order display and do not compile data on statistics relevant to the display of limit orders. In fact, three of the options exchanges were unable to produce any limit order data. These three exchanges stated that either they were unable to produce such a report, or that current systems constraints prevented them from providing the data prior to the date of this report.

The one exchange that did provide data produced information that was limited to only those customer limit orders that were routed through their automated routing system and ultimately executed on the exchange. No data was available on limit orders that were not executed, even if they were eligible for display. The exchange stated that for the executed limit orders routed through their automated system, the average length of time from order receipt until display or execution, whichever came first, was 43 seconds. In addition, the exchange represented that 96% of these limit orders were displayed or executed

within two minutes of receipt.

Just as with equities limit orders, to adequately surveil for the proper display of customer limit orders, an exchange must be able to track whether an incoming limit order is eligible for display or not. To do this, it should have synchronized clocks, audit trails and relevant market information to determine whether the customer limit order was displayed properly based upon market information and the order's price and size. Therefore, the options exchanges should take steps to enhance the availability of this data in order to conduct adequate surveillance for the proper handling of limit order display and execution.

4. Need for Enhancement to the Options Last Sale and Quotations Reporting System

To enhance the display of limit orders, improvement is needed to the system that displays the best quotations among the options exchanges and disseminates them publicly. That system, the Options Price Reporting System ("OPRA System"), collects last sale reports and quotation information from the four operating options exchanges and provides for the uniform dissemination of the information over a network to vendors, subscribers, and other approved persons. Each exchange is required to transmit the quotation information so as to reflect the current market at the exchange in the security. The quotation information includes the premium bid (or offered), the option's series, the market in which the quotation was entered, and other relevant information. However, the OPRA system does not include the size of the quotation in the information it collects and disseminates. As a result, market participants, including other options exchanges and members of the public, are not able to see the size that is bid or offered on a specific exchange. As discussed previously, the dissemination of this trading interest is a requirement of a truly transparent market. Therefore, while some options exchanges' rules require full display of the customer order size on the book, because of the limitations of the OPRA system, the full size of the order is not publicly disseminated, and therefore is only available for view on the floors of these exchanges. OPRA plan participants have expressed their intent to develop a system that will disseminate quotations with order size information.

5. Surveillance Programs

The Staff's recent inspections of the options exchanges covered, among other things, compliance with the applicable limit order display requirements of each exchange. The inspections revealed that the options exchanges should improve their surveillance for limit order display. In fact, three of the four options exchanges conducted very limited surveillance for display of limit orders, relying solely on customer complaints to identify failures to display eligible limit orders.

The fourth options exchange's surveillance procedures for limit order display are limited to labor-intensive reviews of order tickets received and processed by options specialists. The order ticket reviews are conducted twice yearly, and consist of reviews of four randomly chosen days of trading in three options classes. As stated above in connection with the discussion of equities surveillance, a review of order tickets is cumbersome and inefficient.

In response to the Staff's 1999 inspections, all of the options exchanges have stated that they intend to enhance their surveillance of limit order display. One exchange has begun to conduct daily manual surveillance using a random sample of the limit orders of one specialist in one particular issue. In addition, all four of the options exchanges have indicated that they plan to develop and implement automated limit order display surveillance programs.

6. Disciplinary Programs

The Staff's recent inspections revealed that all of the options exchanges should improve discipline for the display of limit orders.[59] The Staff found that several investigations conducted by options exchanges, which stemmed from customer complaints rather than surveillance programs, appeared to have been improperly closed without action. The following are examples.

- One exchange declined to impose any sanctions for failing to properly display a limit order in instances in which the specialist provided a price adjustment or execution to the customer after the customer complained.
- Another exchange closed one investigation into a customer complaint based on the judgment of options surveillance department personnel that "five minutes was a reasonable amount of time to disseminate a bid or offer."[60]

The Staff believes that as the options exchanges adopt rules and enhance their surveillance for proper limit order display, they should take steps to aggressively discipline members' violations.

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V. Conclusion

Limit orders serve a critical function by increasing information available to the market and by allowing all market participants to better determine prices. The Commission's OEA will undertake a broad study of limit order display and execution quality in the equities markets. Economic data strongly indicates that limit orders are increasingly driving market prices and narrowing spreads. Accordingly, proper limit order display and handling is critical. The findings described in this report indicate that, as the markets' order routing and surveillance programs have become more automated, compliance with the limit order display and handling obligations is enhanced. The findings of violations however, indicate that specialists and market makers should take steps to enhance compliance with display rules, and that SROs can increase surveillance and discipline of their members. In light of the importance of limit orders, limit order display and handling will remain a priority for Commission examiners, and where appropriate, serious findings will be referred to the Division of Enforcement.

Appendix A – Improving the Handling of Limit Orders

Appendix B – Equities and Options Trading: Background

Footnotes

1. *Visible Prices, Accessible Markets, Order Interaction*, Remarks of Arthur Levitt, Northwestern University School of Law, Kellogg Graduate School of Management (March 16, 2000).

2 The Display Rule is codified in Rule 11Ac1-4 under the Securities Exchange Act of 1934 ("Exchange Act").

3 This report includes summaries of information from inspections of equities and options exchanges and several OTC market makers conducted since 1997, and recent information provided by SROs and market makers on limit order display. OCIE appreciates the cooperation of the SROs and market makers in the preparation of this report. Because information was obtained as part of the Commission Staff's and SRO's non-public oversight, individual SROs and market makers are not identified by name. The examination findings described in this report are those of the Staff, and are not the findings of the Commission.

4 As a result of these inspections, some SROs and market makers have improved their rates of limit order display and have implemented improvements to their surveillance and disciplinary procedures.

5 In contrast, those systems that are designed to handle eligible customer limit orders automatically and are programmed properly, typically have a near 100% limit order display rate.

6 An "eligible" customer limit order is a customer limit order that is received or held by an exchange specialist or market maker that either: (1) is superior in price to the specialist's or market maker's existing quotation; or (2) adds to the size of the specialist's or market maker's quotation, is at the NBBO, and represents more than a de minimis change in relation to the specialist's or market maker's quotation.

7 These are apparent violations and the matter is still being reviewed by the SRO.

8 The Staff believes that the full implementation of the NASDR's Order Audit Trail System ("OATS") will enhance compliance and surveillance with the Display Rule by OTC market makers.

9 *See* Remarks of Chairman Levitt, Northwestern University School of Law, *supra* note 1.

10 Securities and Exchange Commission, Division of Market Regulation, Market 2000: An Examination of Current Equity Market Developments (January 1994) ("Market 2000 Study").

11 *See* Market 2000 Study at IV-5.

12 *See* Market 2000 Study at IV-6.

13 *See id.*

14 *See id.*

15 Securities Exchange Act Release No. 37619A (Sept. 6, 1996), 61 Fed. Reg. 48,290 (Sept. 12, 1996) ("Adopting Release").

16 Exchange Act Rule 11Ac1-4, 17 C.F.R. 240.11Ac1-4 (2000). An exchange specialist or OTC market maker is not required to immediately display an eligible customer limit order if any of the following seven exceptions to the Display Rule applies: 1) the order is executed immediately upon receipt; 2) the customer expressly requests that the order not be displayed; 3) the order is an odd-lot order; 4) the order is a block-sized order

(10,000 or more shares or $200,000 or more in total market value); 5) the order is delivered immediately to an exchange or association-sponsored system that displays limit orders in compliance with the Display Rule; 6) the order is delivered immediately to another exchange member or market maker that handles the order in accordance with the Display Rule; or 7) the order is an "all-or-none" order. In addition, specialists and market makers are not required to display customer limit orders that match the price but increase the size of the quotation if the specialist or market maker is not quoting at the national best bid and offer ("NBBO").

17 *See* Adopting Release at 48,304.

18 *See* Letter from Richard R. Lindsey, Director, Division of Market Regulation, Securities and Exchange Commission, to James F. Duffy, Executive Vice President and General Counsel, American Stock Exchange (Apr. 1, 1997).

19 *See* Securities Exchange Act Release No. 40066 (June 4, 1998), 63 Fed. Reg. 31,817, 31,818 n.14 (June 10, 1998).

20 Exchange Act Rule 11Ac1-4(a)(6), 17 C.F.R. 240.11Ac1-4(a)(6) (2000).

21 Adopting Release at 48,299.

22 Exchange specialists and OTC market makers generally are prohibited from trading at prices equal or superior to customer limit orders they hold without executing the customer limit orders.

23 Adopting Release at 48,300 n.123.

24 William J. Atkinson and Peter G. Martin, *Halving the Minimum Tick Size on the NYSE,* Office of Economic Analysis, U.S. Securities and Exchange Commission (1999).

25 The Commission's OEA's preliminary review of orders entered for a four-day period in September 1998.

26 Kee H. Chung, Bonnie F. Van Ness, and Robert A. Van Ness, *Limit Orders and the Bid-Ask Spread,* 53 J. Fin. Econ. 255 (1999). *See also,* Michael A. Goldstein and Kenneth A. Kavajecz, *Eighths, Sixteenths and Market Depth: Changes in Tick Size and Liquidity Provision on the NYSE,* NYSE Working Paper 98-01 (1998).

27 *See* Chung, Van Ness, and Van Ness, *supra* note 26.

28 Goldstein and Kavajecz show that on the NYSE for three months in 1997, 75% of depth at the quote is provided by limit orders. *See* Goldstein and Kavajecz, *supra* note 26. This finding is confirmed by Kavajecz using TORQ data from 1990-91. Kenneth A. Kavajecz, *A Specialist's Quoted Depth and the Limit Order Book,* 54 J. Fin. 747 (1999). Kavajecz also finds that limit orders provide all the depth (at the quote) about 30% of the time. *See id.*

29 Michael J. Barclay; William G. Christie; Jeffrey H. Harris; Eugene Kandel; Paul H. Schultz, *The Effects of Market Reform on the Trading Costs and Depths of NASDAQ Stocks,* 54 J. Fin. 1 (1998). *See also* Jeffrey W. Smith, *The Cross-Sectional Effects of Order Handling Rules and 16ths on NASDAQ,* NASD Working Paper 98-02 (1998).

30 The fact that an order is excluded, either systemically or manually, from the automatic execution or display system is not in and of itself indicative of violative conduct. In

fact, specialists and market makers typically interact with a majority of customer limit orders prior to automatic display. However, the Staff has also found that markets in which specialists and market makers manually handle larger percentages of customer orders typically exhibit larger numbers/percentages of Display Rule violations.

31 A "locked or crossed market" is where the bid quotation is greater than or equal to the ask quotation, or the ask quotation is less than or equal to the bid. Normally, the bid quotation is less than the ask quotation. For example, a normal (not locked or crossed) market could be a 20 ½ bid and a 20 ¾ ask. For that market, a bid quotation of 20 ¾ or greater would lock or cross the market.

32 Exchange Act Rule 10a-1 and SRO rules prohibit short sales in certain market situations. For example, NASD Rule 3350 prohibits, subject to certain exceptions, a short sale at or below the best bid quotation when the current best bid quotation is below the preceding best bid quotation in that security.

33 A "lay off" occurs when a market maker or specialist holding a customer limit order transmits a proprietary order to another market center for the same security as the customer's order. The Display Rule contains an exception that allows market makers and specialists to satisfy the display rule obligation with regard to a particular eligible customer limit order if the market maker enters a "lay off" order for the same price and at least the same size as the eligible customer limit order. *See* Letter from Richard R. Lindsey, Director, Division of Market Regulation, Securities and Exchange Commission, to Richard Grasso, Chairman & CEO, New York Stock Exchange, Inc. (Nov. 22, 1996).

34 Circumstances in which the manual handling of orders may be necessary may include instances in which better priced markets exist on other exchanges, instances in which incoming orders may lock or cross a market if displayed, and instances in which a specialist or market maker is attempting to obtain price improvement for the orders.

35 Incentives to not display limit orders were described in the Commission's release adopting the Display Rule. *See* Adopting Release at 48,299-300.

36 These exchanges and market makers often provide automatic display for smaller-sized customer orders (100-2,500 shares). Larger-sized orders may be routed to specialists or traders for manual handling.

37 The SROs and market makers stated that during this "interaction" period, specialists and traders may determine to display the orders, execute the orders against other incoming customer orders, execute proprietary trades against the orders, or route the orders other market centers.

38 As discussed previously, specialists and OTC market makers who routinely rely on automated display systems that wait 30 seconds after receipt to display eligible limit orders are not in compliance with the Display Rule. *See also* Letter from Richard R. Lindsay to James F. Duffy, *supra* note 18.

39 Some exchanges represented that they were capable of calculating the number of eligible customer limit orders received that were eligible for display upon receipt, but stated that system and personnel restraints prevented them from producing the information in time for the completion of this report.

40 The Staff notes that these are alleged violations and the matter is still being reviewed

by the SRO.

41 Since the Staff's on-site inspection, the SRO has amended its surveillance procedures to conform its limit order handling practices with the Display Rule requirements.

42 Specifically, according to a letter from the market maker to the Staff, the firm's position is that "[a]s a result of [the firm's] proprietary quote change, the customer limit order no longer betters the price of [the firm's] quotation or the inside market and, as a result, [the firm] is no longer required to display the full size of the customer limit order."

43 SRO surveillance personnel stated that the SRO lays off approximately one half of the share volume it receives to another market center for display and/or execution. The data provided by the SRO did not include its layed off orders.

44 The SRO represented that it imposed some form of disciplinary action in each of these instances. The SRO also stated that it does not conduct Display Rule surveillance during the first 2 minutes of one type of override and for the first 10 minutes of another type of override that requires supervisory approval.

45 The Staff notes that exception report kickouts are only potential Display Rule violations. Analysis must be conducted in order to determine whether the exceptions are violations.

46 Subsequent to the Staff's inspection, the exchange represented that it increased the number of orders regularly sampled and more narrowly tailored its exception report.

47 Subsequent to the Staff's inspection, the exchange represented that it now includes unexecuted as well as executed customer limit orders in its reviews.

48 The Intermarket Surveillance Group ("ISG") is currently sponsoring an effort named the Regional Exchange Data Summary ("REDS") project, which will enhance the information available to the exchanges and the NASDR to permit better surveillance of lay-off orders, and to integrate this information with existing surveillance information.

49 The Staff also found that SROs that use more fully automated surveillance for Display Rule compliance appear to capture a more accurate picture of their members' compliance with the Display Rule. In addition, specialists at these SROs that fail to achieve the required predetermined percentage of Display Rule compliance typically incur automatic disciplinary action.

50 *See* Letter from Richard R. Lindsey to James F. Duffy, *supra* note 18; *See also*, NASDR Notice to Members 99-99 (Dec. 10, 1999).

51 One SRO represented that, in April 2000, it implemented a more automated surveillance report for limit order display that surveils for the proper redisplay of customer limit order on the limit order book.

52 One of these SROs stated that it reviews for proper requoting during semi-annual order reviews.

53 *See* Letter from Richard R. Lindsey to Richard Grasso, *supra* note 33.

54 The Division of Market Regulation has stated that specialists and market makers should not display a customer short sale limit order if displaying such an order would "cause an execution on a minus or zero-minus tick, in the case of a trade to which

[Exchange Act] Rule 10a-1 applies [exchange-listed stocks], or an execution at a price less than 1/16 above the inside bid on Nasdaq when the bid is a down bid, in the case of a trade to which NASD Rule 3350 applies." *See* Letter from Richard R. Lindsey, Director, Division of Market Regulation, Securities and Exchange Commission, to Richard G. Ketchum, Chief Operating Officer, National Association of Securities Dealers, Inc. (Jan. 3, 1997).

55 The Staff analyzed the Display Rule reviews conducted by the SRO for a two-month period and found 65 instances in which the SRO identified eligible customer limit orders that were not properly displayed for over three minutes and for which no sanctions were imposed.

56 Since the Staff's inspections, two exchanges have partially implemented automated book priority systems. The systems allow orders entered into the exchanges' automatic execution systems to trade directly with orders on the Exchanges' limit order books in those cases where the best bid or offer on the Exchange's limit order book is equal to the NBBO.

57 All of the exchanges have priority rules that provide essentially that the best priced customer order (highest bid or lowest offer) has price priority. If there is more than one order with price priority, the customer order that arrived at the trading post first has time priority.

58 One exchange has implemented a program whereby orders received by the exchange that improve the exchange's quotation are automatically placed on the limit order book.

59 One of the options exchanges, which has a display rule, represented that from January 1998 through April 2000, it investigated 322 customer complaints regarding order handling. The exchange represented that it reviewed limit order display compliance as part of each of the 322 investigations and found no instances in which the order(s) were not displayed in accordance with the exchange's rules and, therefore did not discipline any dealers for failing to display the best available customer limit orders.

60 That exchange has assured the Staff that this standard is no longer applied at the exchange.

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Mr. RUSH. Mr. Chairman, the report reveals the problems and violations in the display of limit orders in equities and options markets and the inadequacies in the market's surveillance and disciplinary programs for limit order display. The violations include failures to display proper order size, failure to display orders within 30 seconds after receipt, and failure to properly transfer the order display obligation to another exchange system or members.

As a matter of fact, Chairman Levitt said, "Limit orders have been a powerful force for competition in our markets, narrowing spreads, increasing transparency, and supplying liquidity." He went on to say, "Their effect on the price-setting process simply cannot be compromised."

These are strong words and they are troubling findings.

We have heard testimony today about the importance of limit orders. I would ask Mr. McSweeney and Mr. Ketchum to respond to the report's findings and to indicate what they intend to do by way of reform. Then I will ask the rest of the panel for their thoughts about what should be done.

Mr. McSweeney and Mr. Ketchum.

Mr. MCSWEENEY. Congressman, I would like to agree with you that the results of the SEC's report were troubling, and give you and this committee an assurance that the issues that were raised in that report were not issues that related to the surveillance and enforcement at the New York Stock Exchange.

As you would note, there were no exchanges or market centers identified specifically in the report. The Exchange has a very robust and extensive surveillance program dealing with the issue of limit order exposure, and our compliance rate is 99.997 percent. In instances in which we believe that compliance is not being effectuated by the specialist or brokers, we will take enforcement action, as we have done in the past.

The New York Stock Exchange, in fact, had an order display rule in place before the SEC's adoption of the order handling rules, which were adopted specifically to address specific abuses in the over-the-counter market. Albeit our guideline was a 2-minute guideline as opposed to the immediate and up to 30 second parameters that are in section 11(a) currently. But it is something we take seriously and we enforce aggressively.

Mr. KETCHUM. Congressman, again, I would also like to assure you that the NASD and the Nasdaq stock market take the order display requirement extremely seriously. We believe they are indeed a critical part of our marketplace.

That is the reason why over the last 2 years NASD regulation has brought 49 disciplinary actions with respect to violations of the order display rules, and why we will be in the process in the next month of moving from our examination program to being able to use our now-available order information on timing to implement more electronic surveillance systems that will allow us on a real-time basis to be able to respond to any failures for the expected delay of information.

This is a critical issue for us. We have brought, I believe, more disciplinary actions than all other markets combined, and we are absolutely committed to provide every surveillance technique we can to ensure that orders are properly exposed.

Mr. RUSH. So both the market witnesses here agree that the report is an accurate report. Do you agree with the findings of the report?

Mr. KETCHUM. I think the SEC does a great credit in bringing forward and focusing attention on this issue, and I think the issues are extremely important.

It is probably useful to note with respect to some the percentages noted with respect to large market makers, those characterized as large market makers, that those percentages involve three market makers that account for less than one-third of 1 percent of the transactions in the Nasdaq market, so it is an unusual definition of "large."

But the basic point that there is no acceptable level of noncompliance with respect to the order handling rules is absolutely correct, and the Commission did a service to focus on that issue; and we are absolutely committed to throw every regulatory and surveillance focus on it that we possibly can.

Mr. OXLEY. The gentleman's time has expired.

The gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I have been sitting here wondering how I was going to gracefully admit to the fact that this is pretty much over my head, even though I consider myself a learned individual. So I am going to try to boil it down simply, and then I have a few questions.

Is it safe to say that the exchanges are like traditional auctioneers in that the ECNs currently have to go through a gatekeeper, it is kind of a closed system, and the real debate is, should the ECNs eventually be able to be their own auctioneer? If we are going to boil this down simplistically, infantryman style, a "keep it simple, stupid" proposal?

Mr. ATKIN. I think you have hit on the fundamental issue, and that is, as I believe I said earlier, I think many ECNs, in essence, are frustrated exchanges. ECNs do not exist in any other market structure or in any other market around the world, except the U.S. market. I believe the main reason for that is, other marketplaces allow true competition to exist between auctioneers or between exchange entities.

I think what is going on in this marketplace right now, to go with the analogy, is maybe Nasdaq and the New York Stock Exchange have been Christie's and the Sotheby's, but it is as if eBay could go into business, but only if it abided by the rules set by Christie's or Sotheby's.

What we are saying is, to promote competition and to promote innovation in these markets, you need to set these companies free and allow them to operate on a level playing field. The fact that the Nasdaq has its SRO and the New York Stock Exchange has its SRO, which gives it significant rulemaking advantages, we think that that prohibits competition from truly blossoming in this marketplace.

Mr. SHIMKUS. Let me follow up, and I appreciate that, and I did write eBay in some of my scribbled notes as I was thinking it through, is it the Exchange's argument that the investor is best protected by the current, maybe partially monopolistic approach?

Mr. MCSWEENEY. Congressman, I would respond to that by saying regulation ATS presently provides an alternative for ECNs to either register as broker-dealers, which the current nine ECNs are presently broker-dealers registered with the NASD, or they can register as exchanges with the SEC and meet the regulatory requirements that are appropriate for a self-regulatory organization. In fact, three of the ECNs, Nextrade, Island and Archipelago, have filed with the SEC for that status. It is moot with respect to Archipelago because of their proposed alliance with the Pacific Stock Exchange, but that option is open and available to ECNs if they wish to choose that route.

Mr. SHIMKUS. Mr. Ketchum?

Mr. KETCHUM. I think Bob has hit an important point. Let me say a couple of things in addition.

First, it is probably necessary to understand that ECNs don't operate entirely within an exchange or Nasdaq infrastructure. They have a separate technology infrastructure in which anyone who wishes to be a participant with respect to what that ECN electronically connects to. They are enormously efficient from that standpoint, compete extremely well, and provide a great benefit to the marketplace. They, as Bob indicates, have a choice now as to whether to be a broker or an exchange environment, and gain some of the benefits and yet costs and delays that are involved in having to operate as a fully regulated exchange; and we support that choice.

Given that environment, I don't think that they are hampered in any way with respect to their choices, particularly from a Nasdaq situation in which we are committed to linking with an ECN that wants to operate either as an exchange or an ECN in an open, inclusive environment.

Mr. SHIMKUS. Let me then move, Mr. Ketchum, and follow up. Some of these may have been asked earlier.

Should the Nasdaq allow others to trade in decimals, even though you have not moved to decimal trading yet?

Mr. KETCHUM. Well, that is a good question, Congressman. In fact today, Nasdaq, unlike other markets in the United States, because of the manner in which it is structured, does allow anyone to trade in decimals who operates on the Nasdaq market. Indeed, we think that is an important right, and we think they should continue to be able to do that.

We are able to facilitate anyone who wishes to report in decimals through the clearing system, and we are absolutely committed to continuing to do that. We think people who are participating in the market should respond to whatever their customer needs are.

Mr. SHIMKUS. When will you be prepared? When do you envision being able to fully move? I think the committee, as a whole—I can't speak for all the members, but I think we are obviously—we really want to see this happen, as you know.

Mr. KETCHUM. Congressman, I think that there is probably nobody in this this room that is more aware that this committee wants to see this happen than me. Let me emphasize and say this very, very clearly, that Nasdaq and the NASD strongly believe in the implementation of decimalization as well, and we very much want to see it happen.

We submitted a comment letter to the SEC this week in which we have indicated our ability to be able to move and support, based on whatever the SEC determines to do, either a pilot or full implementation of trading in listed securities in September of this year. We will be able to support, in light of the explosion of volume on Nasdaq, the implementation of decimalization in the Nasdaq marketplace, full implementation, beyond the ability to support anyone who chooses to trade in decimals now, by the end of the first quarter of 2001.

I want to commit to you, sir, decimalization is our first priority. We will let nothing stand in front of or let no resources not be dedicated that are necessary to meet those commitments.

Mr. SHIMKUS. Mr. Chairman, I would like Mr. Atkin to answer, and then we can cut my time off.

Mr. ATKIN. I think going back to the choice issue of reg ATS, it is a choice, but I would say it is a false choice. There is absoultely no clear path for those ECNs who wish to compete on a level playing field with either Nasdaq or the New York Stock Exchange; or if Goldman Sachs chooses to compete with Nasdaq and the New York Stock Exchange, to do so. It is an extremely unclear process. The last exchange to do it was the International Securities Exchange, which was a small options exchange. It took 3 years for that to occur.

In the meantime, Nasdaq is building with its Super Montage proposal something that has very competitive aspects, I would say a direct competitor to the ECNs that wish to get out from under its infrastructure.

In my view, this is all about timing. I believe Nasdaq should be allowed to do whatever it wants to its market, but only after those who want to compete with it are able to do so on a level playing field. Nasdaq cannot have the monopoly on regulation in its market, it can't have the monopoly on market data and use of its infrastructure.

This is really a sequencing problem more than anything else.

Mr. SHIMKUS. Well, I appreciate that. I would just end up by saying we have a lot of education from all parties to work with with members, and I look forward to learning more. I don't watch much TV, but the commercial I like is when the boss calls Stewart into his office. This Gen-Xer comes in, rock and roll and trading stock. He is the hero. And the guy gives him the Xerox copy of the party, and the guy says "I think I might be there, Stewart."

So the world is changing, and I think we all need to get on board.

With that, I yield back my time.

Mr. OXLEY. Thank you. I was thinking about Ringo Starr, but that is a whole different story.

The gentleman from New York, Mr. Engel.

Mr. ENGEL. Thank you, Mr. Chairman.

Ms. Stark, your testimony states, "Nasdaq's proposed Super Montage is a laudable initial step in the right direction to provide price and time priority for limit orders and to permit display of a more complete picture of trading interests, not only of the inside quote, but of prices several increments away from the best bid and offer."

You go on to concede that, "It is not a panacea as it permits internalization of customer orders by broker-dealers." That is a practice you obviously condemn elsewhere in your testimony.

Mr. Atkin, on the other hand, calls Super Montage "super monopoly." You say it will allow Nasdaq "to control who market participants send their orders to and give the NASD an unfair advantage over its competitors, ultimately harming investors." That is what you say.

You go on to say, "Because it is not really voluntary, it could give investors worse prices than they get today and provide investors with less information than they get today." If I misquote you, please correct me.

If I take the testimony of both of you, it is hard to believe that you are talking about the same system. So my question to the two of you, and then the rest of the panel, is, whose conclusion is correct and why?

Ms. Stark, if you would begin.

Ms. STARK. Thank you, Congressman. I sit on Nasdaq's Quality of Markets Committee and have spent many long committee hours going through the creation of the proposal first of NAQsi.net, I believe. And usually these things have Q's in them; for some reason, Super Montage does not.

The Nasdaq marketplace is evolving, and the Nasdaq, or the NASD, is made up of many different constituents with many different interests. Super Montage is the first proposal that I have seen that Nasdaq has been able to successfully put out to its membership that actually has a chance of passing, and I think it is a good step in the right direction in terms of opening up the marketplace for everyone to see what is going on there. I don't think it is the best step that could be made because, similar to what Doug has said, there is an issue about whether or not you are forcing everyone into one switch.

I think on a short-term basis this might be our best shot to move the market forward, perhaps to a better place and a better structure. But because of the varying interests of the people who make up the NASD, who are NASD members, I don't think it is realistic to expect a sweeping change to make the major, major steps that perhaps could be made.

Mr. ATKIN. First of all, Holly and I have known each other a long time, and I think we share the same goal in getting the markets as efficient as possible for investors. I think Holly hit on maybe the area of perceived disagreement or disagreement, and that is, over what time period are you looking at this proposal? In the short term, given all the political issues within Nasdaq and, you know, the market makers' strong interest and their desires to internalize order flow, I believe that this is the best that they can get out of the current governing structure at Nasdaq.

What I would suggest, though, is that if you look at this, what is likely to occur if this is implemented, if Nasdaq is building its own ECN, Nasdaq, under its current proposal, is only willing to go out to the three best bids and offers. The ECNs that exist, Instanet included, show investors full depth of book.

If Super Montage is successful at draining liquidity out of the ECNs, I think you are going to see market structure go backwards and transparency go backwards.

Mr. KAMEN. I would just like to add, this is an example of the type of benign neglect that I was talking about in the small-tier markets. In very liquid markets where it is likely there will be many participants posting bids and offers, the Super Montage could certainly have its purpose. But in the lower-tier markets, where it is mostly dominated by market makers that display 100 share bid-and-offer size and wait for the phone call, if you will, to react to the real bid or offer that is being shown them, the Super Montage just might display 300 shares bid at one level and 100 at another and 400 at another, giving the false illusion that at the low end there is no interest in these stocks, because the market markers would only put up these de minimis bids.

If I can, I would just like to clarify something I said earlier. In the lower-tier markets, I can't access as a small broker-dealer, if I am not an Instanet access firm, the OTC bulletin board and the order systems that they were talking about. Predominately, the regional investment banker association firms don't enjoy some of the access that the larger firms do to the systems of the private companies.

Mr. ENGEL. Mr. Ketchum.

Mr. KETCHUM. Thank you, Congressman. I would just like to briefly hit on this issue, because I think the issues are important, and I think the points made by both Ms. Stark and Mr. Atkin deserve a little response.

Undoubtedly, the market structure in the United States will continue to evolve for a long period of time. We, perhaps more than any country, have to solve two different problems that relate. We have to handle the largest institutional investing market in the world, and we have to handle an explosive on-line trading environment of individual investors that result in literally hundreds of orders in a single stock focusing in a very short period. So I have no doubt that, whatever occurs, the Super Montage display window will not be the last step in the line.

I do believe that we need to do a good deal more talking with our ECN friends and certainly with Instanet, which has been a critical innovator and substantial liquidity support of the Nasdaq market for some time.

I don't believe Doug's points are correct, and we will spend some time trying to work through them, because in fact the intent is to continue to allow the full display of ECN depth through the marketplace, to encourage additional display of market maker limit orders that are not seen today, and not to require ECNs to necessarily leave orders one way or another, whether they choose to go with us for automatic execution or through communication with our existing transaction link with the system now. We intend to provide the alternative, and we would like them to be participants in our market, if they choose as brokers, either way.

So we need to do our work in better communicating with the ECNs, but I do believe this is a step, as Holly indicates, very much in the right direction.

Mr. OXLEY. The gentleman's time has expired.

Let me recognize myself for another round for 5 minutes.

Mr. McSweeney, at our last hearing, we had some folks from Island testify about their entire order book that is publicly available in real time. Doesn't this level of transparency help investors, and why does the New York Stock Exchange refuse direct electronic access by investors to the specialist order book?

Mr. MCSWEENEY. Mr. Chairman, we agree that that level of transparency does help investors, and we intend to make the entire limit order book of each of our specialists fully available before the end of the year.

Mr. OXLEY. Are we making news here today, Mr. McSweeney?

Mr. MCSWEENEY. No, I don't believe so. We have indicated in the past that that has been in our technology plans.

Mr. OXLEY. And that will be by the end of the year?

Mr. MCSWEENEY. Yes, sir.

Mr. OXLEY. Any reactions?

Mr. ATKIN. We welcome it. We think it would be great for investors, and showing more information to investors is critical for them to lower their trading costs.

Mr. OXLEY. Does everybody else agree with that?

Good.

Mr. McSweeney how do you respond to the concerns raised by Mr. Wheeler that the physical floor base model of the Exchange depends on layers of internalizing rules?

Mr. MCSWEENEY. Mr. Chairman, I don't agree with that characterization. There is an ability for customers of our member firm broker-dealers to access the floor of the NYSE through our SuperDOT network. In fact, 93 percent of the orders and 50 percent of the volume that comes to the Exchange floor is coming to the floor through an e-commerce electronic platform.

There clearly is a different market structure than an ECN market structure, which provides solely an automatic execution for the order flow. It is an agency auction market. That really does not amount to internalization, because internalization involves a situation in which orders are not provided an opportunity for price improvement. In fact, all of the order flow that comes to the NYSE's floor, including that coming through our systems, is afforded an opportunity at price improvement, which results in 35 percent of the volume receiving price improvement; and if you move beyond 1 point spreads, it amounts to 52 percent of the volume receiving price improvement.

So it is really not an internalized environment. It is an auction environment that provides an opportunity for late interest, represented by brokers, to provide that price improvement.

Mr. JENKINS. Mr. Chairman, I just want to clarify something, though, as an institutional trader.

If I go to the floor and I send through this SuperDOT system a limit order, if a stock is offered at $20 and I send a limit order to the floor, I am in agreement that I will buy that stock at $20.

In many cases, you do not buy the stock because, in the current system, they put it out for auction and the floor-based traders who have standing are able to go in and then take that offer, while I am trying to bid for a price, at a price that I didn't even agree to.

Does that not occur on the floor? Because I am willing to pay that price, yet I can't take the stock at that price. I have to give others that are not even willing to pay that price on the floor the ability to come up and compete with me.

Why do they get to compete? If I step in and I say, here is the auction, we are offering it at this price; and I step in and say, I will buy that stock, why then do I have to bid a lower price first and allow everybody to step ahead of me before my order is executed?

Mr. MCSWEENEY. The point Mr. Jenkins is raising is an important one. The agency auction provides the opportunity for price improvement, but quite often we have seen situations in which large orders that are brought to the marketplace result in latent interest stepping up and participating on the same side of the market.

That is the reason why, later this year, we are going to be introducing a new institutional express product that includes express order. What that will allow for is the entry of orders, initially for 25,000 shares or more, and then after 3 months, for 15,000 or more, an opportunity to lock in to the contra-interest if that quote has aged initially 30 seconds and, subsequently, 15 seconds in a manner in which the opportunity for crowd interest to interact with that contra-side of the market will not be available, but the order be exposed for the possibility only of price improvement.

So I think the point he is raising is a good one, and I think the product that we will be rolling out in the next several months will address that specific issue.

Mr. OXLEY. Now, is that a viable solution, Mr. Wheeler and Mr. Jenkins?

Mr. JENKINS. It is not, because 30 seconds in an electronic world is an eternity. I guarantee you that you will not have orders available on the institutional express for institutions to take, because they will disappear as you approach that 30-second limit.

Mr. WHEELER. A couple of points I would like to make in response to this:

No. 1, I think institutional express, the Exchange should be commended in that it is a positive step in the right direction, albeit in our view a very small baby step, if you will.

Throughout the testimony, and I think Mr. Jenkins probably verbalized it best, limit orders are the backbone of trading throughout the world. If you look at Mr. Atkin's system and all the ECNs, they thrive and are gaining market share because they protect limit orders. The New York Stock Exchange currently does not protect limit orders, i.e., the investing public, who is willing to display to the world that they are willing to buy a particular stock at a particular price. I would go so far as to say that members of these exchanges prey off of these limit orders.

Limit orders have an economic value. They are worth something. There is a value to a limit order. No matter how far away from the current market it is or how small a quantity that order is for, it has an economic value. If you look at options to buy and sell a particular stock in the newspaper, options that are away from the market all have a value; there is an economic value attached to them.

Our exchanges do not recognize the economic value of those limit orders. They need to be protected and the investors behind the orders that are willing to display their trading interest need to be protected if our exchanges are going to compete in the global marketplace going forward.

In Mr. Jenkins' example, if he is down on the floor willing to pay $20 for a stock and he is displaying that limit to the public and he is the high bid in the "auction system" of the New York Stock Exchange, and I come in to sell that stock to Mr. Jenkins, it is very feasible for a member standing in the crowd, instead of allowing me to sell stock to Mr. Jenkins at $20, that they just step in and say, I will pay a "teenie" for American Century Stock. This gets written off as "price improvement." The New York Stock Exchange, in a sense, wraps themselves in the American flag over price improvement.

We think the whole price improvement idea is flawed. Price improvement is nothing more than a short-term breakup of a clean trade in order to get one side of that transaction to ultimately pay a higher economic price than the minimum tic that they just stepped ahead of that order for.

In this particular example, when I try to sell stock to Mr. Jenkins at $20, but I am broken up—but I am broken up by a member in the crowd who pays 1/16 for that, Mr. Jenkins still has a buy ticket on his desk.

Our portfolio managers put in orders to buy and sell particular stocks. They don't give us orders that say buy IBM, Dell or Compaq. They give us an order that says, buy IBM. The members of the crowd know full well that if Mr. Jenkins can't buy his stock at $20, he is going to have to pay 1/8 or 3/16 or 1/4 for that.

So what happens when someone takes that stock at 1/16? Yes, I am price improved by 1/16 of a point. But what happens to Mr. Jenkins?

I will tell you what happens to him. The member turns around and says, oh, Mr. Jenkins, I will sell you your stock at 1/4; and it is like the infamous oil commercial, either pay me now or pay me later.

Mr. OXLEY. So in that case, it would appear to always benefit the seller versus the buyer. Is that too simple, or is that basically it?

Mr. WHEELER. That is basically it. The structure of the express product benefits the responder to a trade, and that is where we view that as fundamentally flawed. It does nothing to protect the investor who is willing to display a trading interest by telling the world they will pay the highest published price for a given stock. No one else is willing to pay a higher price. Even though there may be members in the crowd that are willing to pay 1/16 or 1/8, they don't have an economic interest in displaying that 1/16 or 1/8 to the world to say the stock is not worth $20, this stock is worth 20 1/16 or 20 1/8.

Why? Because when I come in to sell it to them, they can just sit back and say, I will take that stock at 1/16. Mr. Jenkins' order becomes a free option for everyone else in the crowd. This is why seats at the New York Stock Exchange sell for $1.5 million or $2 million, because of this economic rent they are able to garner from shareholders.

In our viewpoint, all the dollars made by the specialists in the crowds are dollars that were at one time in the pockets of the public investors, retail or institutional, and those dollars are being siphoned off under the guise of price improvement every day, day in and day out, on the floor of the Stock Exchange.

Mr. OXLEY. Mr. McSweeney, you were looking askance there at that last comment. Could you defend yourself there?

Mr. MCSWEENEY. Mr. Chairman, I didn't agree with the characterization, because even in Mr. Wheeler's example, the customer for whom he was entering that order was receiving the economic benefit of the price improvement, and in the example the customer that was being represented by Mr. Jenkins was not willing to price improve above the price that was being bid. It was somebody else in the crowd that stepped up and provided that additional——

Mr. OXLEY. That is why it was a limited order, was it not?

Mr. MCSWEENEY. That is exactly right.

Mr. OXLEY. But in fact he has his whole soul out there for everybody to see. He has pretty much bared it all, and your guy comes in there and moves ahead of him, but he hasn't risked anything.

Mr. MCSWEENEY. Well, part of the price discovery process is bringing out the latent interest to provide price improvement.

Mr. OXLEY. That is great for the guy that is selling, but what about this poor guy that is sitting there thinking he is going to pick this thing off at $40?

Mr. MCSWEENEY. Well, the NYSE direct cost product that we will be rolling out before the end of the year will provide an opportunity for investors who want automatic execution to seek that route initially for limit orders of 1,099 shares or less, and there will be absolutely no crowd interaction except what was represented the display bid and offer. So the opportunity for investors to send orders through the system sponsored by their broker-dealers to interact directly with the entire bid and offer without any crowd interaction will be available through the NYSE direct.

Mr. OXLEY. That will be transparent?

Mr. MCSWEENEY. That will be fully transparent.

Mr. OXLEY. My time has long expired.

The gentleman from New York.

Mr. ENGEL. Thank you, Mr. Chairman. I won't be long. I know everyone has been sitting here for a while. I just think it is a bit unfair, some of the comments that have been made.

I am glad that Mr. McSweeney put the market structure report into the record, because I think it is important that we have balanced testimony here. The report makes recommendations on expanded choices for investors at the New York Stock Exchange, and it builds, as was said before, on the existing strengths of the New York Stock Exchange floor system; and some of the expanded choices include automatic electronic execution and opening the specialist's book to on-line investors throughout the Internet. And the report, of course, supports elimination of the intermarket trading system in favor of a lot of different private sector initiatives.

Quite frankly, I have found the New York Stock Exchange willing to make the necessary changes in all the different subjects that we have covered in this subcommittee and the committee through the years. So I think some of the accusations are a bit unfair. I

want to give Mr. McSweeney a chance to perhaps respond further to anything he might want to say.

Mr. MCSWEENEY. Well, I appreciate the compliment, Congressman, and I can assure you that our Special Committee worked very long and hard over 6 months to receive a broad range of input and put the recommendations in the light of what would be in the best interests of the ultimate investors, as opposed to the interests of the intermediaries. I think that is reflected in the recommendations.

Mr. ENGEL. Thank you.

Mr. Chairman, I have no further questions.

Mr. OXLEY. Thank you.

Thanks to all of our panel for your patience in waiting for those floor votes and for a most interesting and lively debate on some very, very important issues that face this subcommittee, as well as the SEC.

With that, the subcommittee stands adjourned.

[Whereupon, at 12:52 p.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows:]

Presentation to the Subcommittee on Finance and Hazardous Materials Regarding Market Structure

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May 11, 2000

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Steve Galbraith – Principal – Sanford C. Bernstein & Co. – Investment Banks & Brokers

Mr. Galbraith is responsible for covering the investment banking and brokerage industry. He re-joined the firm in 1999 having spent a year away teaching securities analysis at the Columbia Business School and working for a money management firm. Prior to his time away, Steve had been a Principal at Bernstein. He was named to the Institutional Investor all-star team in that capacity while receiving recognition as one of 10 analysts on the Street producing the best-written product.

Before joining Bernstein in 1993, Mr. Galbraith had spent seven years at Chase Manhattan working in various locations including the U.K., Hong Kong, Latin America and New York. His responsibilities with the Bank included: Internal Consulting, Financial Institutions and Consumer Products Corporate Finance.

Mr. Galbraith graduated *Summa Cum Laude* from Tufts University where he was elected *to Phi Beta Kappa*. He holds degrees from Tufts in both economics and English. He continues to be an Adjunct Professor at Columbia, teaching securities analysis.

Steve and his wife Lucy live in Darien, CT with their daughter Katie and son Harry.

Mr. Chairman…Members of the Committee. Thank you for inviting me here to discuss the current state of our markets and the potential impact sweeping change may have on investors. By way of background, my name is Steve Galbraith and I am the Senior Investment Banking & Brokerage analyst at Sanford C. Bernstein & Co. My job is to forecast the outlook for both the securities industry and individual companies within the industry. Our firm is somewhat unique among brokerage firms in that we do not engage in investment banking; that is, we do not work for any of the companies we cover as analysts in any investment banking capacity. Our only clients are our institutional investors. As such, most investors tend to view us as being in a unique position to provide an unbiased view of the industries and companies we cover.

Before I begin I would like to state for the record that the opinions I am about to express today are my own and do not necessarily reflect any corporate view of Sanford Bernstein.

Conclusions

* Equity trading is a $30 billion+ revenue business and vested interests will fiercely defend their turf

* Claims of market fragmentation are disingenuous (and factually incorrect)

* Retail order flow is extremely profitable today - investor education needs to improve

* Some centralized electronic linkage could aid price discovery

* There are about six floor based exchanges left in the world - there is a reason for this

* The benefits of decimal pricing should not be over-stated

* We have the deepest, most liquid markets in the world - but other nations are rapidly catching up

Trading Costs By Country

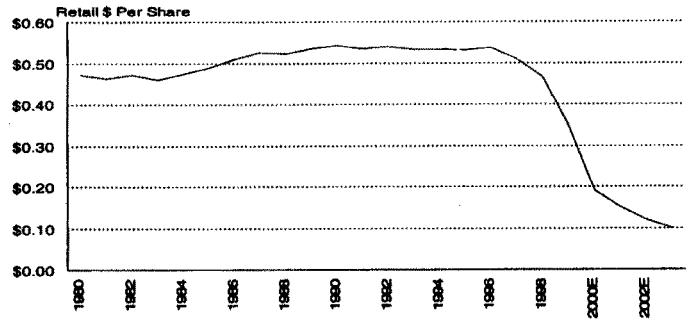
Country	Average commissions (basis points)	Market impact (basis points)	total (basis points)
Japan - buys	17.1	1.1	18.2
U.S. - NYSE	13.9	9.5	23.6
France	21.7	3.6	26.6
Germany	22.5	3.5	27.6
U.S. - OTC	3.2	26.6	29.9
Netherlands	21.5	6.7	30.0
Italy	22.4	6.2	30.4
Sweden	23.6	6.2	30.9
U.K. - sells	16.0	18.1	34.2
Japan - sells	16.9	5.8	36.3
Spain	25.1	15.9	43.0
Canada	19.6	24.4	43.9
Switzerland	23.7	17.2	46.0
Brazil	30.4	12.5	46.6
Australia	30.8	2.1	47.0
Chile	23.7	23.3	47.0
Hong Kong	30.7	5.2	50.1
Mexico	32.2	26.9	61.0
U.K. - buys	18.1	5.3	71.0
Singapore	56.5	23.9	84.9

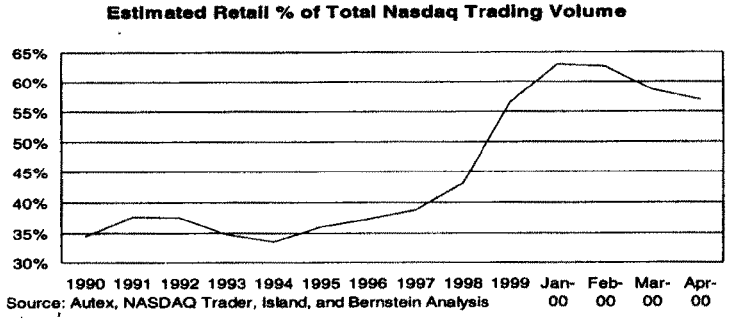
The Current Velocity of our Markets

Annual Turnover Rate

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000YTD
NYSE	48%	48%	54%	54%	59%	63%	69%	76%	80%	95%
NASDAQ	111%	127%	155%	142%	166%	181%	199%	216%	265%	377%
Estimated U.S. Turnover	61%	64%	75%	73%	84%	94%	101%	114%	134%	196%
London	60%	69%	83%	90%	41%	45%	47%	55%	59%	106%
Paris	34%	35%	42%	45%	45%	52%	66%	70%	73%	63%
Tokyo	27%	19%	24%	24%	27%	28%	30%	31%	39%	44%
Germany	54%	61%	69%	61%	55%	52%	59%	63%	67%	96%
Hong Kong		80%	170%	85%	62%	87%	168%	80%	176%	370%

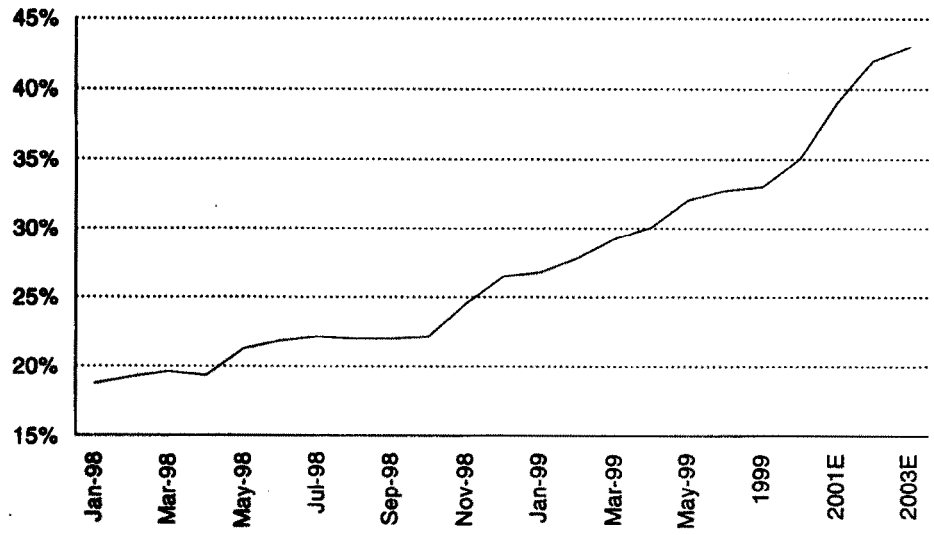
The Rising Importance of the Individual Investor





Source: Autex, NASDAQ Trader, Island, and Bernstein Analysis

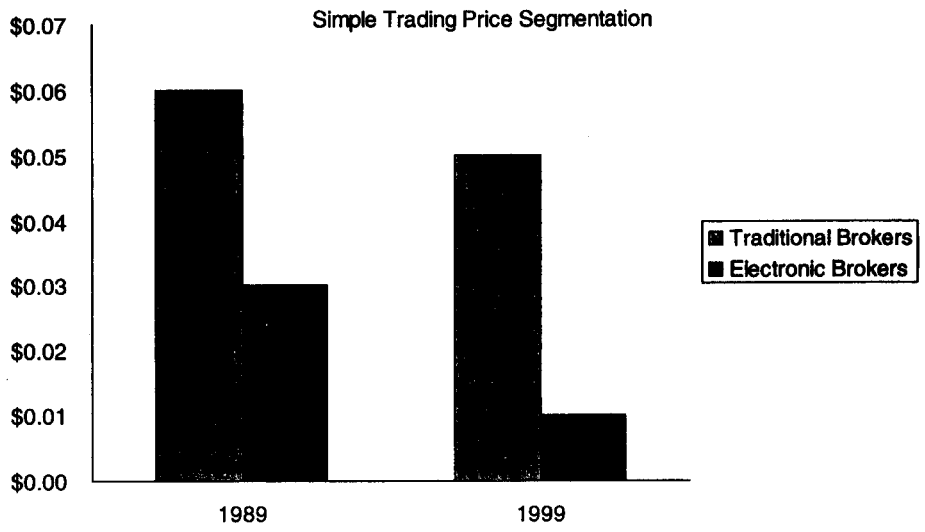
ECN NASDAQ Share Over Time



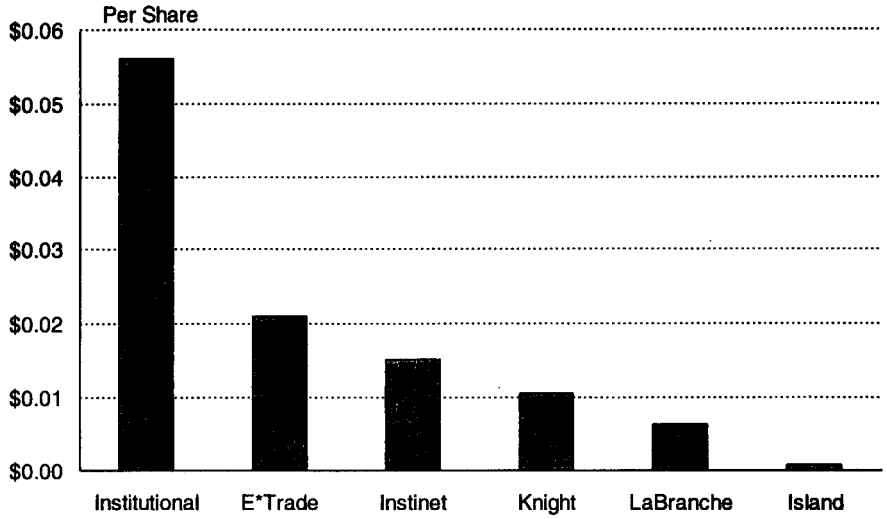
The Big Brokers are Hedging Their Bets

	Daily Volume (MM)	GS	EGRP	SCH	MER	MWD	BSC	LEH	DLJ	PWJ	JPM	SSB
Instinet	155											
Island	55											
Archipelago	25	x	x		x						x	
REDIbook	20			x				x	x	x		
ITG Posit/Btrade	10											
Strike/Brut	10						x	x	x		x	x
Market XT	5	x			x	x						x

Pricing Has Already Bifurcated



...Another Look at "Pricing"...



What Investors Say About ECNs...

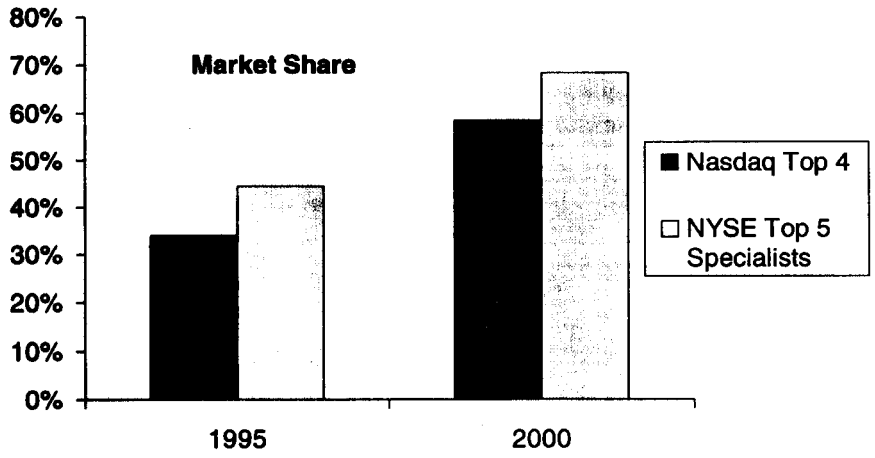
Current Buy-Side ECN Allocation...

	Mutual Fund	Institutional
Indexers	10-30%	30-50%
Active Managers	10% or Less	10%

...And Why

Cost	46%
Anonymity	31%
Speed	14%
Liquidity	9%

The Fragmentation Canard



Requirements for the Market of the Future

* Fairness with open, electronic access to all participants
* Cheaper, faster and more reliable than current system
* Consistent regulatory framework
* Increased investor education

Death of a Salesman?

Increased transparency of costs and an explosion in the delivery of useful investment information are combining to pressure retail profitability: while the need for advice may be rising, the ability to charge for it may fall; Schwab no longer maintains a significant value advantage in a number of its key businesses

The average Internet investor is turning his portfolio over more than two times per annum, resulting in extraordinary asset yields of 200+ basis points for E-brokers; the cost of *no* advice will become a focal point in a less benign market

Rapidly declining trading costs, combined with structural inefficiencies at the exchanges, have resulted in unsustainable quasi-monopolistic returns for participants in the trading chain; a window is open for the creation of a major alternative to the NASDAQ and NYSE: existing exchange players could see current returns halved

Technology and related companies provide an unprecedented concentration of the industry's corporate finance fees; the high volatility of this sector may result in increased variability of investment banking revenues in the short term; IPOs have been underpriced by 50% in the past year, creating an opening for a new underwriting model to emerge; advisory services offer Microsoft-like return characteristics to the winners

Diversified and institutional businesses are preferred to pure retail plays: we are relaunching coverage of the securities industry with Morgan Stanley and Lehman rated outperform; Merrill Lynch, PaineWebber, DLJ, Bear Stearns and Goldman Sachs rated market-perform; and Schwab, E*Group and Knight-Trimark rated underperform

Portfolio Manager's Summary

"Any brokerage firm not in the money management business is a eunuch."
Zalman C. Bernstein - 1979

Twenty years later, the corollary to Bernstein's Law is: *Any brokerage firm without a leading technology platform in distribution, research, trading and investment banking is road-kill.*

Increasingly, the securities industry mirrors the technology industry. Both industries share a long history of declining prices, strong unit growth, lucrative compensation and an abysmal track record for survival of the individual firm. Of the ten leading underwriters a decade ago, fewer than half retain an identity that is even vaguely close to the original. Historically, restructuring in the industry has come about from circumstances as far-ranging as rogue traders, back-office paper crises or antitrust intervention. Today, the next wave of profound change in the industry will be technology-led.

Retail and Asset Management: With Merrill's June 1 embrace of an integrated online strategy, May Day arrived in June for the retail securities industry. Pricing actions of the order Merrill initiated have almost always been more disruptive to earnings than the consensus forecasts. In the near term, we expect firms with significant retail exposure to experience considerable volatility as the price/value dynamic between full-line houses and Schwab coalesce. Revenues per dollar of assets under control will likely fall from 100 basis points to about 80 over the next few years.

Trading: Technology-led changes in the institutional trading business may be even more profound than those found in the retail segment. Specifically, we expect electronic communication networks (ECNs) to continue their rapid growth, with one network perhaps evolving into a full-blown equity exchange. The established trading chain players across a wide spectrum of products face potential disintermediation and the prospect of a 50% decline in current ROEs.

Investment Banking: Technology-related clients have been, by far, the chief driver of profitability and growth in the industry recently. With an unprecedented level (35%) of corporate finance business arising from technology or related businesses, the health of this sector will be critical to both individual firms' and the industry's financial performance.

While all of the above may sound grim, the reality is that the industry has been dealing with margin pressure forever. All the while, core earnings drivers have grown at rates more than twice that of global GDP for decades. Over the past decade, the industry has produced negative quarterly surprises only five times — with the average quarterly earnings surprise 20% above consensus expectations. Still, with returns 30% above normal levels, a broad commitment to the group would probably be ill-advised today. Given the potential for a step-down in retail profitability, we prefer diversified or institutional players: Schwab, E*Group and Knight-Trimark are rated underperform, and Morgan Stanley and Lehman outperform. Bear Stearns, DLJ, Merrill Lynch, Goldman Sachs and PaineWebber are rated market-perform.

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October 25, 1999

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Exhibit 1 Financial Overview: Securities Companies Earnings, Dividends and Valuations

	Morgan Stanley Dean Witter (MWD)[1]	Merrill Lynch (MER)	Charles Schwab (SCH)	E*Group (EGRP)	Goldman Sachs (GS)[1,2]	Lehman Brothers (LEH)[3]	Bear Stearns (BSC)[3]	Paine Webber (PWJ)	Donald-son, Lufkin & Jenrette (DLJ)	Knight Trimark (NITE)[5]	S&P 500 (SPX)
Current Price (10/22/99)	$103	$72	$32	$23	$66	$68	$40	$38	$46	$25	$1,302
Price Range (Past 12 Months)	$53-$116	$50-$102	$14-$77	$4-$72	$53-$77	$53-$77	$30-$53	$30-$49	$28-$100	$3-$81	$1,054-$1,420
Rating	O	M	U	U	M	O	M	M	M	U	-
1998 Performance	20%	(8)%	101%	103%	na	(141)%	(25)%	12%	3%	65%	27%
YTD Performance	45	5	13	98	24	54	11	(2)	13	108	6
1998 Relative Performance	(7)	(35)	74	77	na	(40)	(52)	(15)	(24)	59	-
YTD Relative Performance	39	2	7	92	27	48	5	(8)	7	102	-
Earnings and Dividends											
Earnings per Share											
1996	$3.13	$4.08	$0.29	$0.01	$2.27	$3.24	$3.24	$2.22	$2.30	$0.24	$40.49
1997	4.25	4.79	0.33	0.10	2.76	4.71	4.02	2.56	3.16	0.33	44.71
1998	4.95	3.72	0.42	0.01	2.62	5.19	4.39	2.72	2.65	0.57	44.10
1999E	6.99	5.55	0.64	(0.23)	4.65	7.30	4.48	3.55	3.25	1.18	49.00
2000E	6.84	5.20	0.73	(0.23)	4.11	6.65	4.30	3.28	3.50	1.25	52.50
2003E	9.16	8.15	1.12	1.02	4.71	6.89	5.47	4.47	5.25	1.90	61.50
Dividends per Share											
Current Rate	$0.96	$1.08	$0.06	$0.00	$0.48	$0.36	$0.60	$0.44	$0.25	$0.00	$17.20
Current Yield	0.9%	1.5%	0.2%	0.0%	0.7%	0.5%	1.5%	1.2%	0.5%	0.0%	1.3%
P/E											
1998	20.8x	19.4x	75.0x	na	25.0x	13.1x	9.0x	14.0x	17.4x	43.6x	29.5x
1999E	14.7	13.0	49.6	na	14.1	9.3	8.8	10.7	14.2	21.1	26.6
2000E	11.2	8.9	28.3	22.8x	13.9	6.8	7.2	8.5	8.8	13.1	21.2
Relative to S&P 500 (1998)	70%	66%	254%	na	85%	44%	30%	47%	59%	148%	-
Book Value per Share (9/99)	$26.53[4]	$31.47	$2.34	$3.82	$18.11[4]	$42.91[4]	$27.70	$19.36	$26.08	$3.44	$280.00
Price/Book	3.9x	2.3x	13.6x	6.1x	3.6x	1.6x	1.4x	2.0x	1.8x	7.2x	4.6x
Return on Equity 1998	22%	13%	24%	0%	16%	15%	21%	18%	15%	39%	18%
Return on Equity 1999E	27	19	31	(6)	27	18	18	20	14	40	18
Return on Equity 2003N	22	16	22	24	16	15	13	15	14	21	16

1 FYE November 30.
2 Goldman Sachs YTD performance and relative performance are based on performance since the IPO date and price.
3 FYE June 30.
4 As of August 31, 1999.
5 Knight Trimark 1998 performance and relative performance are based on performance from IPO date and price.

Source: Corporate reports and Bernstein estimates.

Significant Research Conclusions

Technology: Driving Creative Destruction in the Securities Industry

Attrition in the brokerage industry has been remarkable. Unfortunately, despite an ongoing culling of players over time, there has actually been insignificant market-share consolidation in key areas of the business. Today, only the M&A advisory business has shown a real secular trend towards rising concentration. Reflecting relatively low barriers-to-entry, new industry participants seem to perpetually emerge on the scene, carving out profitable niches from more established players. In fact, a safe bet to make today — that might at first glance seem radical — is that one of the Big Three — Morgan Stanley, Merrill, or Goldman Sachs — will be supplanted within a decade by someone barely on the radar screen today. In the retail arena, with respect to market capitalization, it has already happened, as Schwab has challenged Merrill's leadership.

We believe the real driver of Schwab's emerging hegemony, technology, will serve as the nexus for a major structural change in the securities industry. Technology has significantly lowered the cost of execution in both retail and institutional operations, allowing firms that hardly existed five years ago to command significant industry positions today (e.g., E*Group, Knight-Trimark, Island, etc.). The unbundling of transaction costs has added to transparency throughout the investment chain, likely leading to accelerating revenue pressures and ultimately upping the ante for performance. At the Exchanges, advancing technologies, combined with current levels of high profitability, are likely to create the opportunity for a competing electronic exchange to emerge in the next five years. Finally, while providing a near-term boom in corporate finance fees, technology may also ultimately provide the means of throttling the industry's golden goose of underwriting profits. In short, as always, pressures abound and the future will only vaguely resemble the past in the securities industry. To the winners go tremendous cash flows; to the losers, a spot next to L.F. Rothschild, E.F. Hutton, and Drexel Burnham Lambert in the former Masters of the Universe graveyard.

Retail Brokerage: May Day Comes in June

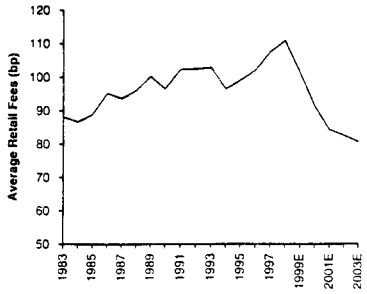
"Of course, I am hoping I'm getting out at the top. When your competition becomes Merrill Lynch it becomes very difficult to provide them with everything they're demanding at $9.95 per trade."

Kenneth Kraska - CEO of discount broker RJ Forbes on selling out to Ameritrade

Although the seeds of change in the retail brokerage industry arguably date to May Day 1975, the harvest came in June with Merrill's embrace of an integrated online strategy. Historical precedent suggests that the consensus is probably underestimating the impact on the retail industry's near-term earnings power. For example, following the unwinding of fixed commissions in May 1975, industry pricing immediately fell by some 50% (and declined gradually thereafter). In the months following May Day, industry agency profitability declined by some 40%. Within a few months, more than 150 brokerage houses disappeared, either through merger or by closing shop. Seats on the New York Stock Exchange — which in 1969 sold for in excess of $500,000 — plummeted to $35,000, the lowest price since 1895. Clearly, 1975 brought worse economic conditions than 1999 offers. Nonetheless, the pricing actions taken in May Day are comparable to those envi-

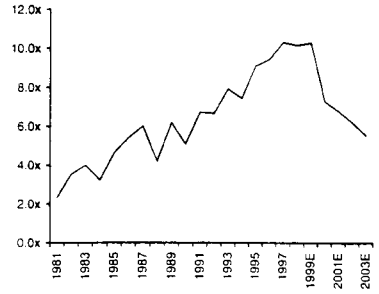
sioned by some full-service retail firms. The low commission genie is out of the bottle, and we expect retail yields to decline (see Exhibit 2) as the retail/wholesale "gouge gap" falls precipitously (see Exhibit 3). The response to increased retail cost transparency should ultimately lower asset yields from 100 basis points to around 80.

Exhibit 2 Retail Revenue Yields — Fee Fall?



Source: SIA, ICI, corporate reports and Bernstein estimates.

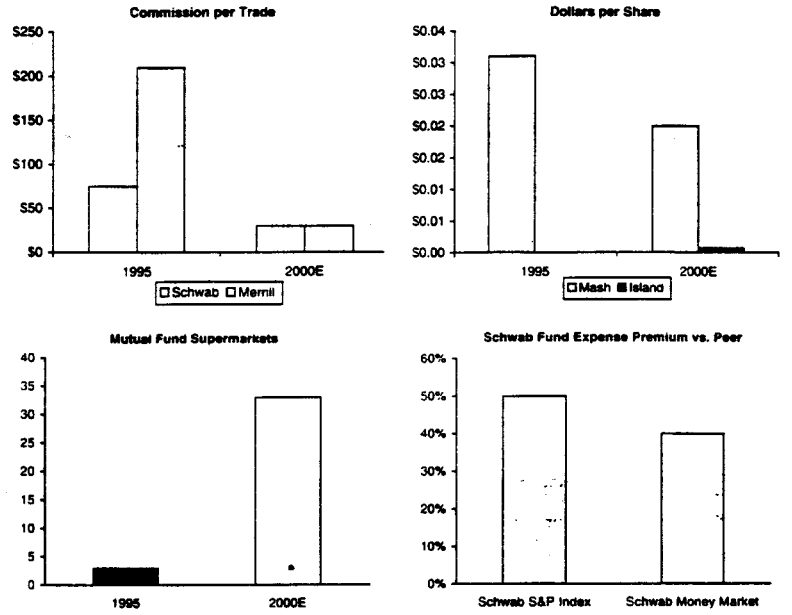
Exhibit 3 Charge per Share Retail to Institutional



Source: SIA, McLagan, NYSE and Bernstein estimates.

While a large number of existing affluent clients will embrace fee-based plans, accounts are unlikely to offer the return potential they once did. The question is not, Will asset yields fall? But, By how much? and What will the impact be on profitability? In our view, even allowing for increased broker productivity, we expect the net present value of retail brokerage clients to shrink as: 1) existing high-profit clients literally die off; and 2) new clients demand service and advice at a lower price. As Schwab climbs up the food chain and Merrill *et al.* go down, we would look for the value of each full-service client to be somewhere between each firm's current customer profit profile. More importantly, the value-for-money gap between Schwab and Merrill is now really nonexistent. While the market has already anointed Schwab the ultimate victor in the retail arena (and it may well be), the narrowing (or in some cases the reversing) of the full-service "gouge" gap (see Exhibit 4) should lower the company's growth rate in the near term. Regardless, we expect the next few quarters to be chaotic for all retail participants as full-line firms begin emphasizing their new pricing schemes and all players gun the marketing engine. While there are unlikely to be any near-term winners, on a risk-adjusted basis we are more favorably disposed towards the "legacy" crowd than the upstarts. Trading-only e-broker models, in particular, should ultimately prove quite unattractive, offering economics similar to those of other cyclical, commodity businesses. As with the fallout from May Day, the inevitable result will be further consolidation as the industry scrambles to align cost structures with the new retail brokerage economics.

Exhibit 4 Schwab's Value Advantage Diminishing — Time for Another Reinvention

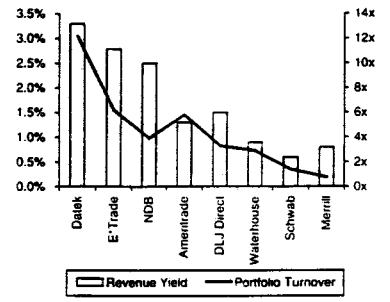


Source: Ceralli, Island, corporate reports and Bernstein estimates.

Internet Brokerage: The Cost of No Advice

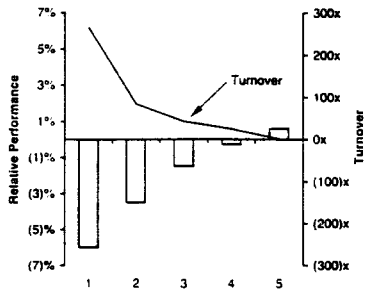
Given extreme velocity, pure commission model Internet brokers (rapid trading can raise yields per dollar of assets under control to some three times more traditional asset stewards — 200+ basis points versus 90) may actually offer no real demonstrable performance advantage versus their full-service counterparts. That is, rapid-fire trading models generally prove self-defeating for most investors as lower trading costs are merely plowed back into more trades. We estimate that the average Internet client is turning over his portfolio an astounding five times plus per annum (see Exhibit 5), resulting in very high expense levels relative to realistic expected returns. Given this, we would expect to see a profound deceleration in trades in a period of lower market returns. Just as excessive turnover and costs matter a great deal in mutual fund investing, they also matter at the individual level. More bluntly, starting 200 basis points in the hole may be a reasonable price for empowerment in a 20%+ return environment, but it is unlikely to prove interesting in a period of single-digit returns (or worse). Although the focus of arguments pro and con in the full-service retail arena seem to be on "what price advice," the debate could easily shift to the cost of no advice (which can approach 600 basis points at the individual level — see Exhibit 6).

Exhibit 5 The Benefit of Advice? Saving Us from Ourselves



Source: Corporate reports and Bernstein estimates.

Exhibit 6 The Cost of No Advice

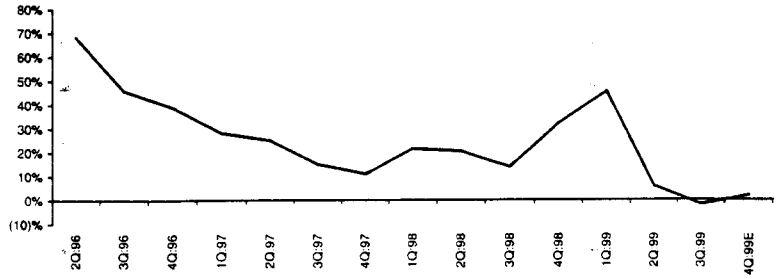


Source: Barber Odean Study, University of California – Davis Study of 72,000 discount broker accounts – 1991-97.

End-Game Economics Matter

The novelty factor of the Internet brokerage business is wearing off — and fast. As sequential comparisons have decelerated from hyper growth to teens levels to flat (see Exhibit 7), it is increasingly clear that a rising tide will not lift all boats forever, and most stocks are now at least 50% off of their highs. Clearly, the ultimate winner in all this has been the educated consumer — as the overall cost of a broker relationship (either via commissions or fees) will fall. As Schwab and E*Trade have demonstrated, however, an individual broker — with appropriate scale — can benefit from the cost advantages of an Internet-based business. In the meantime, though, the economics of the business are apt to be significantly more difficult for a number of the less-developed new kids on the block as Merrill, Prudential, PaineWebber, Dean Witter and Smith Barney begin rolling out their value offerings. While the traditional full-service brokers clearly provided a window for new competitors to encroach on their turf, in our view really only E*Trade, among the independent players, has moved aggressively enough to ensure survival. To date, the e-brokers have traded like Internet stocks (the stocks have, at times, actually been negatively correlated with the brokerage group). As new account growth and daily trades inevitably slow, however, investors will need to place a much higher survival discount on those brokers without critical mass, a diversifying business model or a Sugar Daddy affiliation. With a greater (read: more realistic) risk premium being assigned, we believe investors will increasingly focus on what the mature economics might be for the surviving players. In this sense, we suspect the Internet part of the analysis will become less important, while the financial services element of the equation becomes more relevant.

Exhibit 7 Sequential Internet Trade Comps



Source: Corporate reports and Bernstein estimates.

MONSTER[1] Mash: Business-to-Business E-Commerce

If the current trading and exchange system in the United States did not exist today, a case can be made that nobody would bother to create it. While regulators and industry players often tout the efficiency of our markets, the reality is that the enfranchised conduits of liquidity (i.e., market makers and specialists) are currently earning what can almost be described as supra-competitive returns. While agents of the exchanges (i.e., brokers) are earning nowhere near the returns of insiders, the massive cost reductions from technological innovation, combined with significantly positive elasticity of demand, have offered still strong returns (20%+ ROEs recently) in the face of ever-declining commissions. With the allure of enhanced returns from becoming a spigot in developing liquidity pools, it is not surprising that many industry players are anteing up in the ECN lottery. Given the still low cost of tickets for, potentially, a venture-capital stake in an institutional Priceline.com, Goldman's strategy of a finger in every ECN pie is probably the correct one.

Somewhat lost in the hype of online retail trading has been the rapid growth in business-to-business e-commerce in the securities industry. To provide one example, take the Island ECN. Open for business a little over two years, Island now controls over 10% of NASDAQ volume, trading around 100 million shares per day. The company has accomplished this with a couple of Dell Computers and about ten front-office employees in a scruffy office in lower Manhattan. With this infrastructure, Island charges, on average, $0.00075 per share to trade, provides instant limit-order matches, and has experienced no major downtime in its system. Oh, and one more thing — it makes money. In essence, technology has allowed new entrants like Island to shrink — by a factor of ten — revenues in an existing trading chain, and to do so profitably. Unless the NASDAQ and NYSE act reasonably quickly to improve efficiencies, either Archipelago or, perhaps, Island (each of which has filed to become an exchange) could emerge as an alternative to drain profits and liquidity from the existing system. Absent a response from the NASDAQ and NYSE (which we ultimately do expect), ECNs could easily command 50% of the NASDAQ market (up from less than 20% at the beginning of 1998) and 25%+ of listed business. In our coverage, Schwab's Mash and Knight-Trimark could see current ROEs (estimated at 30% and 60%, respectively) halve in reasonably short order.

1 In his book, with the catchy title "What is an Exchange?," Ruben Lee dubs ECNs as MONSTERs (a Market-Oriented New System for Terrifying Exchanges and Regulators).

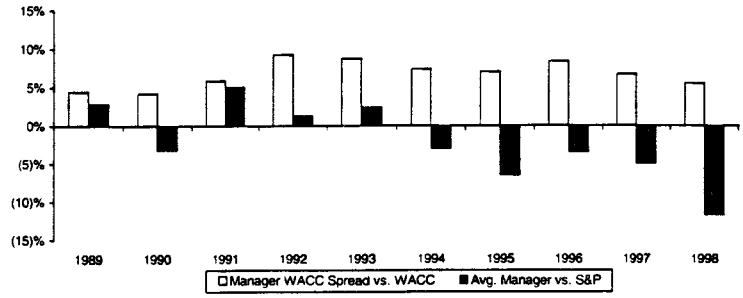
Asset Management: Fewer Eunuchs — But Weak Brands May Require a Dose of Viagra

Having seen the growth, high returns and annuity-like characteristics of the asset-management business over the most extended bull market in history, the securities industry has become fully enamored with the mutual fund business. Although performance has generally been quite pedestrian, and a significant portion of growth has been acquisition- and market-appreciation-driven, from holding a base of around $150 billion about a decade ago, the securities industry controls more than $530 billion in mutual fund assets today. As a result of this step-up in funds under control, the industry's growth in asset-management fees over the past decade (30%+) has been — in percentage terms — the single most robust contributor to revenue growth for U.S. broker dealers.

Unfortunately, while the brokerage firms may now, for the most part, rightly claim their asset-management expertise, they may have become fully invested in the mutual fund sector at a point when profit pressures seem poised to increase. The return characteristics of the mutual fund business have probably been above sustainable levels when markets were rising 20% per annum and mutual fund flows were strong. With fund performance suffering and trading costs continuing to be unbundled, it is difficult to argue that an asset-management operation can command 30%+ returns on capital on a normal basis. Further, the supermarket concepts now available at Schwab, Fidelity, *et al.* have created a situation where whole funds are now almost treated like individual equities, with the corresponding rapid turnover and concomitant costs in managing in-flows and out-flows. Reflecting the death of long-term investing in America, mutual fund holding periods have fallen from an average of over 12 years 20 years ago to about 2 years today. The first sign of the end of the boom era in asset management may prove to be the recent slowdown in equity mutual fund flows for active managers. Half of all recent domestic equity in-flows have been into index funds. The $14.95 Internet trade analog for money management is, of course, the 18-basis-point fee of the Vanguard S&P 500 index fund.

Looking ahead, with investors now able to access a panoply of information and low-cost trading, we expect individual equity ownership and indexing to gain ground with respect to "share of wallet." Ultimately, the current circumstance — where the owners of mutual fund operations exceed their cost of capital by some 700 basis points, while their clients — the individual investors — earn several hundred basis points below their "cost of capital" (the market) — strikes us as untenable (see Exhibit 8). We are explicitly not, however, forecasting a rapid implosion in mutual fund returns, for the simple reason that consumer behavior suggests that there is a reasonable brand equity component to these businesses. That is, just as Coke can derive a 35%+ ROE for selling its magic formula, Fidelity or Putnam can retain or gain assets based on a combination of performance, value for money, service, consumer trust and loyalty. With this analogy in mind, we expect mutual fund managers to continue to earn returns well in excess of capital costs (say 20% through the cycle versus historic 30% levels), but probably much more in line with the value proposition offered.

Exhibit 8 Mutual Fund Managers Add More Value for Their Shareholders Than Investors



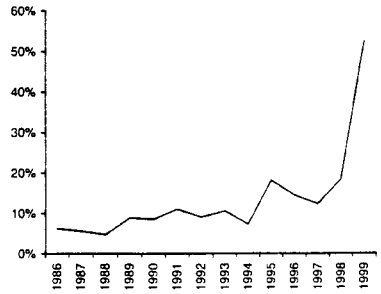
Source: Vanguard, FactSet, Rogers Casey and Bernstein estimates.

Open Equity Underwritings: Sign o' the Times, or the Next Big Thing?

In the past year, IPOs have been underpriced by a staggering 50% (see Exhibit 9). Although perhaps merely a sign of the times, when the capital markets offer such extreme levels of inefficiency, it is generally a signal of risk — or opportunity. In this case, the risk may be to traditional equity underwriting models; the opportunity is for an upstart to reinvent the wheel with an "open" underwriting system (effectively a Dutch auction, where the lowest market-clearing winning bid sets the price). While demonstrating only modest success to date, just such a system is being developed by Bill Hambrecht & Co. For the most part, the Hambrecht system is designed to bring affinity investors into the process and narrow the recent massive underpricing of deals. Having said that, to date, spreads in the open model have also been 100+ basis points lower than comparable offerings. Considering equity spreads have held up much better in the past decade than most other underwritings (see Exhibit 10), there is a real opportunity for a renegade to benefit from a substantial profit umbrella in this arena. Goldman, Merrill and Morgan Stanley probably each derive something less than 10% of earnings from equity underwriting.

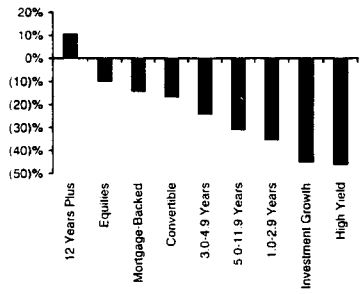
On very small underwriting efforts, an Internet-based or Dutch-auction scheme could easily provide the answer to the industry's "7% solution" (90%+ of equity underwritings under $80 million were priced at, exactly, a 7% fee). As such, we expect open underwriting — minimally — to create some bifurcation to the market not dissimilar to that which occurred in the boutique era of the 1980s when Alex Brown, H&Q and Montgomery dominated the landscape. On larger deals, given the strategic and infrequent nature of equity issuance, we suspect one of the existing top-tier underwriters would need to deploy the open model for the approach to gain currency with major issuers. In light of the economic benefit of the model for issuers (and the billions of dollars in potential revenue available for underwriters), however, it would seem to make strategic sense for some innovative player to take a flier on aggressively marketing an open IPO approach. Should such an approach catch on, equity underwriting spreads would likely experience a 100+ basis point step-down, with the first mover likely gaining a dramatically outsized share advantage.

Exhibit 9 Mean IPO Underpricing: Sign o' the Times, or the Next Big Opportunity?



Source: Thomson Finance Services.

Exhibit 10 Underwriting Spread Degradation



Source: SDC and Bernstein estimates.

Reliance on TMT Could Be TNT

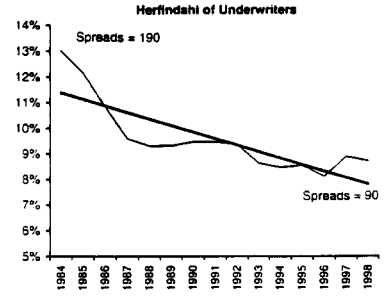
Although history has shown the securities industry is amazingly adaptive in finding the next hot sector to which it provides underwriting services, the current reliance on technology, media and telecom (TMT) for corporate finance income is at a record high. In fact, from a diversification perspective, with the exception of the ongoing boom from financial consolidation, the securities industry has probably never been more reliant on a single sector for growth. Of course, if one were to choose a horse to ride in underwriting, TMT would not be bad, given its current and likely future importance to the global economy. Nonetheless, the volatility of the TMT sector is considerably greater than most. As such, we believe the current TMT underwriting success should be measured in the context of a well-above-trend calendar. Goldman (10-15% of earnings) and Morgan Stanley (10%) are currently in the most advantaged position in this sector.

Investment Banking Advisory: Microsoft Economics

With the exception of perhaps Microsoft, or some of the big drug companies, investment banking advisory is one of the best businesses in the world, offering high margins (40% or so), high returns, high growth (teens over decades) and, for the most part, reasonably high barriers to entry. In short, these are branded, franchise businesses where outsized market-share gains actually have accrued to the industry leaders. In fact, counter to conventional industry wisdom — really only M&A advisory has become more concentrated over time (see Exhibits 11 and 12). In this sense, imbedded in Morgan Stanley, Goldman Sachs and Merrill Lynch are hugely valuable operations that, on a stand-alone basis, should arguably be valued more akin to Coke than CAT. Over time, Morgan Stanley, Merrill and Goldman have shown consistency in maintaining top-of-the-tables market share, without having to sacrifice margins. Further, while trading-related operations have always shown both cyclical and product-driven (e.g., Drexel's junk pre-eminence) booms and busts, advisory operations have, for the most part, avoided the wild swings that characterize other parts of the securities business. While some investors might fear that this business, too,

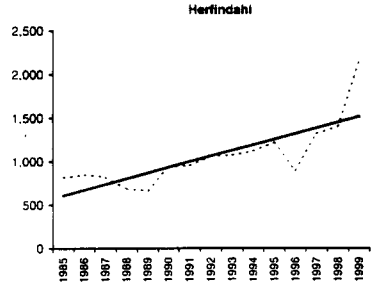
will be polluted as capital-wielding banks "rent" their balance sheets as part of an integrated marketing effort to woo higher-return advisory mandates, our research suggests that the Big Three's advisory positions are quite secure. On the demand side, because customers are loath to trust their largest strategic decisions with anyone but the top players in the field, and on the supply side because, well, egos being what they are, Goldman Sachs and Morgan Stanley still hold the most caché in the field.

Exhibit 11 Decrease in Concentration in Underwriting



Source: SDC and Bernstein estimates.

Exhibit 12 Increasing Concentration Supports High M&A Returns



Source: Thomson Financial Services and Bernstein estimates.

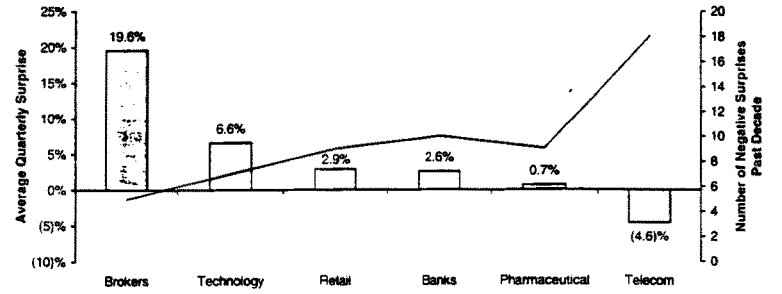
Valuation: Mo' Mo' or No Mo' Mo'?

While pundits may still look back on the 1980s as the era of leverage, we would argue that, for the securities industry, it has really been the 1990s. Leverage has been, of course, a wonderful thing to benefit from in a rising market — and the securities firms certainly have. Financial leverage, while lower than the peaks of the summer of 1998, is still near all-time highs, and margin debt is running 50% above trend.

With this backdrop, it should not really be all that surprising that the brokerage stocks have had an apotheosis among momentum investors over the past few years (the average holding period for the group has fallen to under six months). As the extended bull market in financial assets fostered a remarkably benign profit environment, the brokerage group has, collectively, exceeded earnings expectations in 35 out of the last 40 quarters. In fact, no other major sector of the market — including technology — has produced such an extended string of robust positive surprises (see Exhibit 13). The obvious questions then are: Has structural change in the industry occurred to the extent that the market is now simply chronically underestimating the earnings power of the group on a normal basis? Or are current prices reflecting historically high "normal" valuations on historically high returns on equity? For the most part, although there probably has been some improvement in the business mix of several players over time (notably Lehman), research would suggest that the current average ROE of about 23% is not "normal" for the industry. In fact, deconstructing the components of the industry's ROE over time reveals that about 25% of the improvement in returns has been driven by greater financial leverage — hardly the stuff to drive valuations higher. Ultimately, however, we suspect that the stocks will continue their recent pattern of trading in the near term

on earnings momentum around a range of normal valuation (see Exhibit 14). Interestingly, for the first time since the market disruptions of last year, several companies in the group are now discounting below-normal valuations. In this sense, based on long-term earnings power, the traditional brokers in the group are broadly fairly valued to modestly undervalued in some circumstances.

Exhibit 13 Broker's Positive Surprises — When Does Cyclical Become Secular?

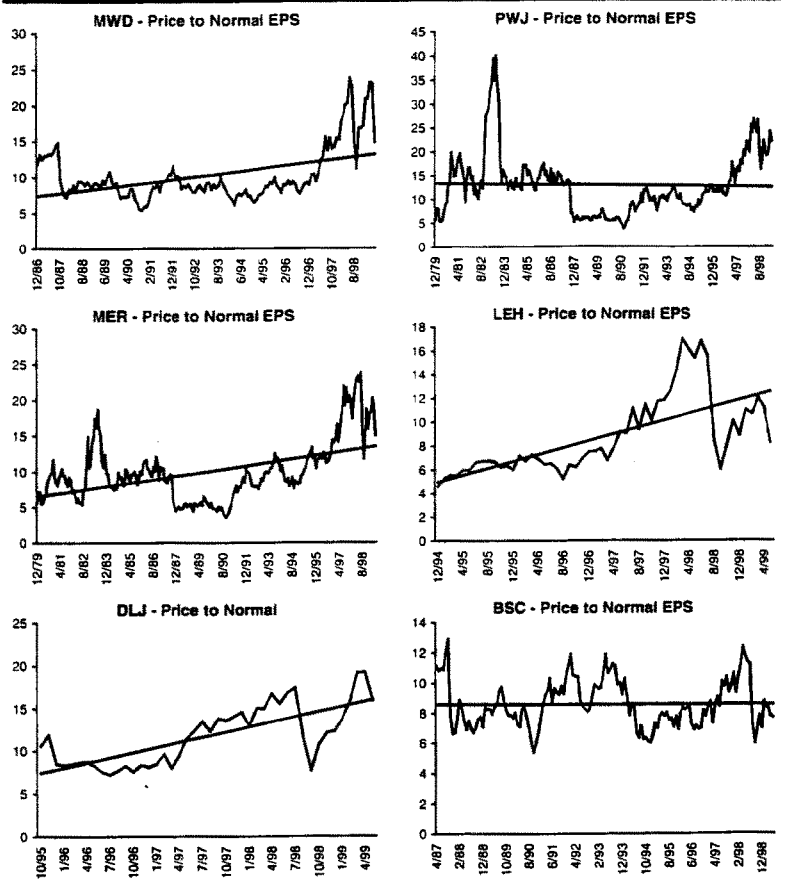


Source: FactSet and Bernstein estimates.

E-Valuations

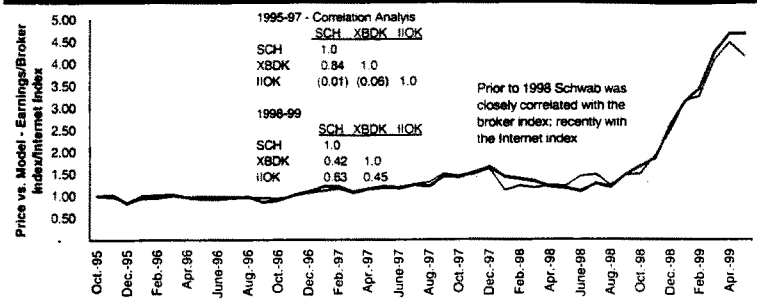
The Internet-related firms — Schwab and E*Group in particular — while roughly 50% off their highs, still do not, in our view, fully reflect any kind of robust competitive response from legacy players. Long term, financial services may well be the killer application on the Web (there is no need for any physical delivery on the Web, and Schwab and E*Trade can both thrive given efficient distribution and technology models). In the near term, however, we believe a very crowded market for share of voice will likely cause robust account and asset growth to decelerate. Schwab, in particular, is an extremely interesting case study. Having historically traded as kind of a hybrid consumer-growth-technology-financial services stock, the stock completely abandoned that legacy a year ago and entered squarely into the new era valuation model (see Exhibit 15). E*Group discounts even newer-era economics. More than half the current valuation reflects a management premium — potential investors might get over-and-above the existing businesses. While a premium is warranted, given how management executed on plans to date, the company is experiencing deteriorating account quality. In that E*Group's and (recently) Schwab's performance have generally been binary events (E*Group may have "market-performed" for a few hours of its existence), we rate both stocks underperform. We would stress, however, that both companies have solid, long-term business models. We are merely extremely cautious entering the upcoming period, where the high end will be test-driving its new offerings while the low end is likely to consolidate, and all players are screaming to raise share of voice.

Exhibit 14 Brokers Price to Normal Earnings Over



Source: FactSet and Bernstein estimates.

Exhibit 15 Schwab: One Stock – Two Eras



Source: FactSet.

Exhibit 16 Estimated Earnings Exposure to Potential Areas of Pressure

	Retail Brokerage	Retail Asset Management	Trading	TMT	Equity Underwriting	Total
Schwab	30%	30%	20%	-	-	100%
Knight-Trimark	-	-	100	-	-	100
E*Group	70	15	10	-	-	95
Merrill Lynch	30	20	25	5%	10%	90
PaineWebber	50	30	20	-	-	90
Morgan Stanley	15	15	25	10	10	75
Goldman Sachs	-	5	50	10	10	75
DLJ	5	-	45	5	5	60
Bear Stearns	-	-	50	5	5	60
Lehman	-	-	50	5	5	60
1994-00E CAGR	15%	16%	12%	25%+	11%	
1999E-04E CAGR	(3)	4	5	13	7	

Source: Corporate reports and Bernstein analysis.

Risks

After a decade-long bull market, probability analysis anchored in any kind of reversion-to-the-mean context would argue that risks are to the downside for companies in the securities industry — particularly those with a retail bent or current valuation extremes. Exchange volumes are well-above norms, the S&P 500 is almost two standard deviations above normal valuation versus long rates, mergers and acquisitions transactions are above trendline, and most companies are earning returns 30% above normal levels. Exhibit 16 outlines the various companies' exposures to the key vulnerabilities. As always, picking the catalyst for undoing the wonderful market conditions of the past decade is probably an exercise in futility. Nonetheless, were companies to revert back to historically average return levels, downside in the stocks would be in the order of 20%; should they edge close to trough levels, the downside approaches 50% or more.

Benign rates and a robust advisory and underwriting environment would lead the decade-long parade of positive surprises into the millennium. At roughly one-half the market's current multiple, with positive revisions to boot, the stocks could easily approach early 1998's relative highs again, offering well more than 20%+ upside. More dramatically, given how

massively, and for how long, the consensus has underestimated the earnings power of the group, a case could be made that today's high returns are closer to normal than the market currently discounts.

On the Internet front, Schwab, Knight-Trimark and E*Trade have shown tremendous volatility in the past year, moving up and down on short-term moves in exchange volumes, moves in the DOT, and so forth. While it is our general thesis that valuations and business models will begin to correspond more closely a financial services economic model (with Schwab still in the lead), the risk remains that this shift will take longer than we expect. In such a circumstance, the stocks could once again touch their valuation highs of earlier in the year, implying more than 50% upside.

Investment Conclusion

Clearly, the survivors in the securities industry will reward shareholders nicely. Over the past decade, the group has generated returns some two and a half times those of the S&P. Whether measured on a domestic or global scale, over the last 30 years key components of the industry's earnings power have demonstrated growth rates close to two times GDP. Equity and bond trading volume, mergers and acquisitions and securities underwriting have each generated revenue growth of some two times nominal GDP. Looking at the current landscape, with the notable exception of the retail arena, there are few signs that core earnings drivers are likely to decelerate, much less implode. In fact, deregulation and globalization all argue for a robust securities environment ahead.

The difficulty today, however, is that the current pace of change in the industry may be making it more challenging than ever to forecast the winning securities firms of the next era. Despite this, current valuations actually suggest that the winners of the next decade — Schwab, E*Trade, and to a lesser extent, Knight-Trimark — should already be evident. Notwithstanding the considerable strength to these franchises, there are more than enough emerging uncertainties that such a bet seems risky today.

With respect to the more traditional brokers, particularly those with relatively little to worry about on the near-term retail front, valuations are already discounting a relatively significant downturn. In the case of Lehman and Morgan Stanley — probably too much of a downturn; each is rated outperform. Bear Stearns, DLJ, Goldman Sachs, Merrill Lynch and PaineWebber are rated market-perform as both their nearer-term and longer-term prospects are broadly captured in current valuations. Schwab, E*Group and Knight-Trimark are rated underperform.

Retail and Asset Management Operations — May Day in June

Retail Brokerage

Bob B., a broker for 15 years, reached into his desk drawer and pulled out the stub from his last commission check. The amount was $57. The 40-year-old father of three sighed, "I don't think I've made any money since that check. The trouble with this business is that the only way the broker makes money is by doing transactions. Doing nothing — keeping your customers out of the market — pays you nothing, even if that's the best thing you, as a professional, can do for them. If you want your family to eat, you've gotta generate volumes somehow."

Street broker in Forbes *interview - 1974*

But discounting means even lower rates, especially for the broker's best customer. It is an ominous scenario, and a lot of people are running scared. But it need not take place. There is a far brighter alternative. Competitive rates offer the opportunity to shift brokerage income — and basic business strategy — away from commissions and toward service fees, with great benefit to both broker and customer.

1974 Editorial – Commercial & Financial Chronicle

The Most Telegraphed (Yet Reluctantly Made) Move in History: What Price Advice?

A quarter of a century ago, industry insiders readily acknowledged the suboptimal nature of a commission-based relationship between a stockbroker and his client. Despite this, and even in the face of the unwinding of fixed institutional commissions in May of 1975, the retail brokerage industry maintained a payment structure that never reflected the economic cost of the actual service being provided. That is, advice, information, and tee times were all bundled into the charges the typical client paid for his overall relationship with a broker. While the logic of such a Byzantine payment structure may seem fuzzy in retrospect, the reality is that bundling was a wonderful thing for a vendor. Without specific itemization it was always difficult for a client to argue that, in a $200 commission, the trade was worth $10, the "strong buy" research on Sunbeam was worth $(110) and the 8:00 a.m. tee off at Pebble Beach was worth $300. Without this transparency in pricing, brokerage firms were clearly able to derive incremental profitability out of customers by not, for instance, passing on the dramatically lower trading costs that evolved with improved technology. Over time, this has resulted in a tremendous increase in the retail/wholesale spread in the equity business (see Exhibit 17). At the end of the day, however, no army (not even Merrill's 15,000 strong army of financial advisors) can resist the power of an idea whose time has come. We suspect the seminal event of the 1990s for the retail brokerage industry, if not all of financial services, occurred in December of 1998, when Charles Schwab's market capitalization first exceeded Merrill Lynch's.

Mind the Gap: Merrill's Price Value Relationship Versus Schwab Is Favorable

To a large extent, we have found a correlation between the attractiveness of each company's client base and their willingness to talk freely about them. That is, Schwab, E*Group, and to a lesser extent PaineWebber can provide fairly rich demographic detail on their clients, while Merrill has been circumspect regarding the profile of its client base. Although given information gaps it is difficult to make completely accurate comparisons among major players (see Exhibit 18), we suspect the differences are fairly straightforward. Schwab's clients are reasonably wealthy and are likely to become meaningfully more so, while Merrill's clients have significantly more wealth but may be less likely to generate much more. That is, Schwab's

customers will be creating wealth while Merrill's customers may be seeking to preserve wealth. Clearly, the capital markets have sensed this — Schwab is priced like a sure-fire, rapidly-growing cash stream, while Merrill's stock discounts declining returns (see Exhibit 19). We believe, however, this conclusion, while perhaps directionally correct, is quite exaggerated. While Merrill clearly has to improve its marketing message to appeal to a broader spectrum of clients, the reality is the "gouge gap" between a Merrill account and a Schwab account has been reduced dramatically. When allowing for the incremental services the Merrill account provides, for perhaps the first time in history Merrill may actually offer a value advantage over Schwab. While in the long term this is likely to improve Merrill's relative ability to gain asset flows, we suspect the more visible impact in the near term will be a slowdown in Schwab's (and to a lesser extent E*Trade's) account growth (see Exhibit 20). Said another way, in the near term, Merrill's new fee structure and $29.95 offering will be more a negative for Schwab than a positive for Merrill. In fact, our basic belief is that the entire retail investment environment is apt to be volatile over the next few quarters as trading costs have become so much more transparent, and new product offerings will be touted aggressively (to the tune of, perhaps, $1 billion in marketing spending).

Exhibit 17 Some Perspective on Full-Service Retail Mark-Ups

Retail Mark-Ups	
Stocks	850%
Restaurant Wine	100
Cable Programming	40
Software	40
Music	25
Hardware	25
Food	20
Agricultural Equipment	20
Telco	20
Drug Stores	20
Gas	15
Cars	15
PCs	10
Drug Distributors	4

Source: Corporate reports and Bernstein analysis.

Exhibit 18 The Retail Playing Field: Broker/Client Comparisons

	Age Cohort	Number of Clients (mil.)	Income Profile	Revenue per Client	Assets per Client (000)	Annual Client Trades	Total Retail Trades (mil.)	Estimated Commission per Trade
Merrill	60+	5.0	$150,000+ in Investable Assets	$2,000	$250	4+	17	$155
Schwab	35-55	6.0	90,000+	600	90	8+	48	40
E*Trade	28-45	1.4	75,000	500	25	20+	28	20

Source: Corporate reports and Bernstein estimates.

Clearly, Schwab has demonstrated a remarkable ability to reinvent itself to maintain (actually even accelerate) its growth rate. On the other hand, the stock has rarely discounted the types of expectations (17% long-term growth) that it does today. Simply stated, there is little margin for error in the stock — just at a time when business risk from multiple competitors is probably higher than ever. Further, while Schwab and E*Group did a terrific job in attacking the weak points in their competitor's arsenal — the absurdly priced stock trade and making it a flash point for consumers —

Pandora's value box is now open. If consumers are now led to scrutinize all of the costs in their financial services relationship, Schwab and E*Group do not uniformly shine. For instance, both Schwab and E*Group's equity index products are priced at roughly twice the price of an equivalent product from Vanguard. In any case, Schwab has now firmly moved from a position of predator to a position of prey, and not all its businesses are currently in a bullet-proof position from a price/value standpoint (see Exhibit 21).

Exhibit 19 The Market Discounts a Schwab Walkover

	12-Month Forward P/E	Implied ROE Today	Historic ROE[1]	Difference
Bear Stearns	7.8	6.5%	19.9%	(13.4)%
DLJ	10.1	7.0	17.3	(10.3)
Morgan Stanley	12.6	14.3	18.5	(4.2)
PaineWebber	10.0	9.8	11.9	(2.1)
Lehman Brothers	8.3	6.7	8.4	(1.7)
Merrill Lynch	12.1	11.6	13.3	(1.7)
Goldman Sachs	14.6	23.0	17.0	6.0
Schwab	42.7	48.1	23.2	24.9

1 Estimate for Goldman Sachs.

Source: FactSet and Bernstein estimates.

Exhibit 20 Year-Over-Year Change in Trades

Source: Corporate reports and Bernstein estimates.

Exhibit 21 Schwab as Hunted — Value Stakes Raised

	Commissions	Mutual Fund Service Fees	Principal Transactions	Net Interest Income
Percent of Revenue	50%	17%	17%	16%
10-Year CAGR	21.4	38.7	27.4	20.1
5-Year CAGR	27.5	32.5	29.0	28.0
Projected CAGR	18.0	14.0	(6.0)	14.0
What's Changed?	1) Full-service gouge gap has been eliminated. 2) RIA value proposition now uncompelling. 3) Schwab's trades 100% more expensive than discounters.	1) From 1 or 2 competitors five years ago, 30+ competitors are now on the scene. 2) Schwab priced as much as 20% above comps. 3) Schwab's proprietary products tend to be pricey (e.g., index product = 150% of Vanguard's price).	1) ECNs are offering trading services at 1/20th of the cost ($0.00075 per share vs. $0.024).	1) Transparency in commissions may spill over to other areas; 200-300 bp spread at some risk.
Implications	Having led the value revolution, Schwab is now faced with needing to improve the value proposition of all of its businesses. It will do so, but near-term risks are high given tough compares, noise of Merrill rollout and expectations inherent in the stock.			

Source: Corporate reports and Bernstein estimates.

A Risk in Merrill's Strategy: Internal Negative Mix-Shift Results in Near-Term Dislocation

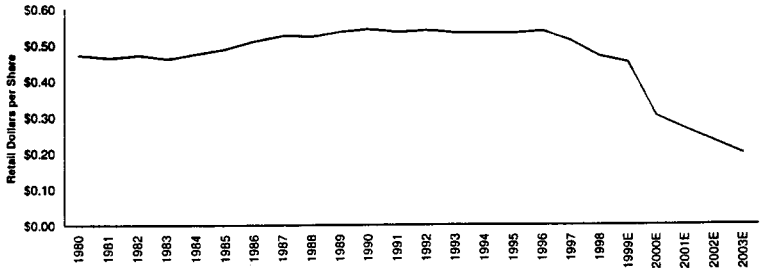
The issue for the industry today is not necessarily that clients will suddenly move *en masse* to self-management of their portfolios (although we do expect some increase on that front — see Exhibit 22). But rather, with transparency in trading costs, what will customers pay for advice? As Exhibit 23 outlines, there has really been no significant decline in full-service retail pricing over the past few years. This contrasts starkly, of course, with the steady downward pricing in the institutional equities business. With the unbundling of trading expense, we forecast accelerating pricing pressures, as consumers are confronted — much more aggressively than ever — with the "true" costs of their financial advisor relationship. Industry apologists generally point to the longstanding presence of discounters as evidence that nothing will really change following Merrill's pricing move. What is different today, however, is that most full-line firms will now offer a discounted product, and they will also be conducting national advertising campaigns to highlight the economics of their various offerings. Again, May Day provides an interesting analogy. Immediately after the elimination of fixed rates, virtually every firm claimed either: 1) that it would hold the line on pricing; or 2) that it would be able to explicitly charge — *à la carte* — for previously bundled services like research to make up for commission cuts. The reality was, within two months, pricing came down severely (over 50% in some cases), as institutional investors directed business to lower-cost agents. We look for a similar dynamic to unfold in retail equities, with the real challenge obviously being shifting the billions of dollars in lost commission revenues to a fee basis.

Exhibit 22 Today's Affluent Investor: More Self-Directed

	10 Years Ago	Today
Prefer One Institution	60%	59%
Prefer One Advisor	65	65
Prefer One But Few Can Do It	45	38
Need Little Financial Advice	35	48
Want Day-to-Day Involvement	50	64

Source: PSI.

Exhibit 23 May Day in June for Retail Commissions



Source: SIA, corporate reports and Bernstein estimates.

In our view, the retail equivalent to May Day will be fairly straightforward: The typical Merrill client with $500,000 in a traditional account can leave $150,000 in the new fee-based account to maintain his advisory relationship (costing $1,500 per year), while moving the balance over to the discount offering. In doing so, we estimate that the average client can reduce his bill to Merrill by 45% (see Exhibit 24). Practically speaking, this option was already available (via, say, a separate account with E*Trade). Further, Merrill's strategy is explicitly aimed at repatriating client assets from Schwab or E*Trade. We suspect, however, inertia being what it is, more assets may move to a lower-cost mix in-house than will come back in the fold from outside. In other words, a real risk in Merrill's new strategy is that the company underestimates just how many investors will shift existing money to the $29.95 trading account. Again, the stakes are high — the negative "mix-shift" implications from a move down of 15 basis points in revenue yields on free assets under control would — *ceteris paribus* — penalize earnings to the order of $1.00 per share. While Merrill can "massage" usage of the $29.95 product through marketing or broker emphasis (and obviously has multiple other corporate profit levers to pull to offset a potential drag), consumer behavior will ultimately determine the company's product mix and retail profitability.

We didn't make any forecasts of what would happen after May 1, but the breadth and depths of the discounting are more than I expected.

Ray Garrett – Chairman of the SEC – One month after May Day

Exhibit 24 A Simple View of the Risk to Merrill

	Old	New
Portfolio	$500,000	$150,000 Unlimited Advantage $350,000 Discount Account
Merrill Yield	0.80%	1% on 150,000 10 Trades @ $29.95
Merrill Revenue	$4,000	$1,800
New Yield to Old		45%

Memo: Number of trades to make whole — 91 — which would almost qualify a client for a silver membership at E*Trade.

Source: Corporate reports and Bernstein estimates.

Earnings Forecasts and Commission Cuts: Take the Under

The history of analysts' earnings forecasts following major pricing actions across most industries has been lousy (see Exhibit 25). Inevitably, reflecting the optimism of the companies embarking on a change in pricing strategy, the consensus underestimates how devastating price reductions can be. Further, it is important to distinguish the pricing actions that we expect to unfold in the retail arena (we expect something of a step-change down) from those that take place regularly in every other part of the securities industry (which experience constant but gradual erosion). Using a consumer analogy, we believe the domestic retail brokerage environment may be facing more of a Marlboro Friday-type outcome than a PC-type declining ASP issue, as full-service firms move to stem the rapid asset growth of their online competitors (actually, really only Schwab, Fidelity and E*Trade). While a stair step-down in pricing is ultimately proper for the health of the business, it will likely inflict some near-term pain for all players.

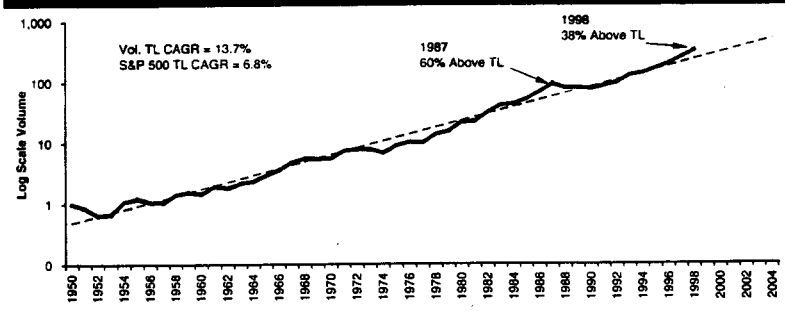
Exhibit 25 **Actual EPS vs. Post-Pricing Action Forecast in Other Price-Reduction Environment**

Phillip Morris	(7)%
RJR	(46)
Kellogg	(13)%
General Mills	(11)
AT&T	(23)%
QNTM	(84)%
Seagate	(100)

Source: FactSet.

Clearly, a bias towards taking a "so what" stance on lower commissions could be understandable: after all, pricing has been under pressure in most parts of the institutional business forever. Further, Schwab generated spectacular elasticity in results following its Internet trade price reductions over a year ago. The problem with such a sanguine view of Merrill's response to Schwab *et al.* is fivefold: 1) The rest of the industry is not Schwab (from a cost of delivery or technology standpoint); 2) the magnitude of the full-commission price cuts is well in excess of those seen in just about any other segment of the securities industry; 3) commission cuts have followed on implications for asset-management operations; 4) equity volumes are running 38% above 50-year norms to begin with (see Exhibit 26); and 5) Schwab clearly accrued the benefits of a first mover in its reduction of Internet trades to $29.95. Ultimately, we expect the fallout from the reduction in commissions in the retail brokerage industry to be no different than price step-downs in other industries — with consensus (read: management's) expectations for near-term profitability in the retail business likely too high.

Exhibit 26 **NYSE: 38% Above Trend**



Source: NYSE.

Commission Transparency May Lead to Pressures Elsewhere

With commissions now demystified and unbundled from the pricing mix, the obvious question today is, What, if anything, is next? While we expect some incremental jockeying on the commission front (particularly with respect to mutual fund loads), with the transparent cost of a transaction now

very openly settling at less than $30 per trade industrywide, incremental commission cuts are apt to have much less impact on consumer elasticity going forward. In fact, as the commission landscape changes dramatically with the various full-commission house pricing moves, we would expect other costs in the retail profit chain to become subject to greater scrutiny ahead. In particular, with retail trades now generally reduced to anywhere from 20 to 70 basis points of the overall cost of an equity transaction (from 150+ basis points just a few years ago), two areas are likely to demand increased investor scrutiny: 1) Trade execution and, far, far more importantly, 2) the quality of advice and performance.

With respect to the first point, it is remarkable how little attention investors have historically paid to the true economic cost of trade executions versus commissions. In the institutional arena, research shows that market impact dwarfs commission charges as a cost of performance (see Exhibit 27). In the retail arena, the frequent use of market orders has generally meant consumers are leaving enormous amounts of money on the table to satisfy urges of immediate gratification. Trades at $9 are hardly a bargain if your order gets filled at $0.50 off the daily volume-weighted average price. If nothing else, we suspect the upcoming "Intel Inside" type advertising campaign on which Knight-Trimark is embarking (touting execution) may increase investor focus on the importance of good execution.

Exhibit 27 **Execution Cost Can Dwarf Commissions**

	Average Cost (bp)	Cost on $40 Share
Cost of Trading		
Overall		
Commission	0.15	$0.06
Impact	*0.83*	*0.33*
Total Execution Costs	0.98	$0.39
Average Cost		Cost on $45 Share
Larger Cap		
Commission	0.12	$0.05
Impact	*0.73*	*0.33*
Total Execution Costs	0.85	$0.38
Small Cap		Cost on $18 Share
Commission	0.22	$0.04
Impact	*2.05*	*0.37*
Total Execution	2.27	$0.41

Source: Plexus Group, Vanguard and Morningstar.

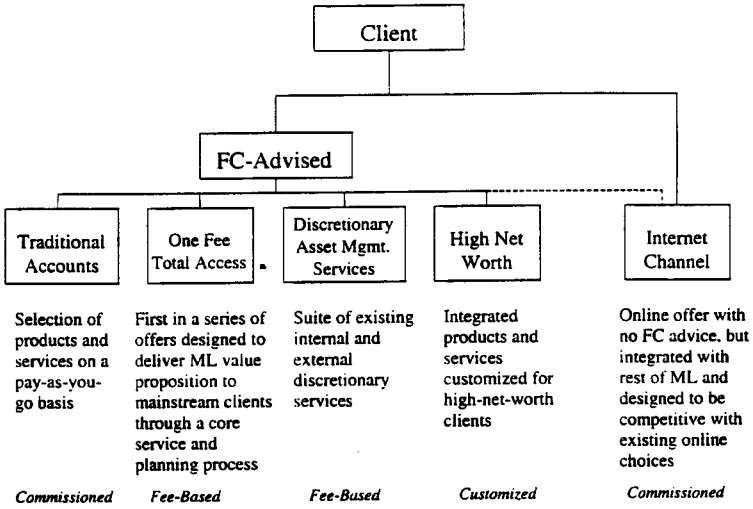
The advice/performance part of the cost equation, is, of course, much more difficult to assess. Clearly, with all parts of the broker relationship becoming more transparent, there is a reasonable case to be made that prices will now begin to reflect — on an ongoing basis — the actual value of that advice against some benchmark blend of stocks, bonds and so forth. While it may prove somewhat difficult to implement given unique investor goals, it is quite possible that a performance-related fee structure will ultimately become standard practice in the industry. To their credit, in the institutional arena Lehman (10 Uncommon Values), and in retail PaineWebber, have probably created the most public track record in putting their advice money where their mouths are.

Complexity: Clients May Need a Separate Financial Advisor Just to Explain All the Options

In addition to all the obvious risks involved with rolling out a new pricing scheme, an incremental risk to the new paradigms popping up in the industry is complexity (see Exhibit 28). Under the new Merrill offering, for instance, a client could theoretically now have five or six different kinds of

brokerage relationships with the company at once. Frankly, PaineWebber's approach of offering a simple one-fee program for its clients may prove preferable. Although we would certainly not want to be accused of underestimating the intelligence of the U.S. brokerage client, we would be equally leery of overestimating their patience with unnecessarily complex choices. In our view, the first few months of implementing the new pricing schemes will be crucial. Should the message somehow get garbled from financial consultant to client, any of the full-service firms run the very real prospect of alienating their customers altogether. While Americans may crave choice, history has shown (see the telephone wars, Wal-Mart, etc.) they prefer straightforward value. It is not entirely obvious that the multitude of current investment packages presented by the full-service shops offer this. In fact, it is very easy to imagine an E*Trade or a Schwab using the very complexity of the full-service brokers new offerings against them in ad campaigns.

Exhibit 28 Too Much Choice?



Source: Corporate reports.

Mamas Don't Let Your Sons (or Daughters) Grow Up to be Brokers

Broker compensation has to fall. By their own estimation, several retail industry executives have suggested to us that 25% of registered representatives are Willy Lomans. Despite this, major industry players have shown an almost Hamlet-like inability to decide how to deal with brokers and the channel/cost conflict that emerged from low-cost Internet trading. Tellingly, no senior executive we interviewed for this report answered with an

unhesitant "yes" when asked whether he or she would advise a child to become a broker (although the quicker wits did suggest Internet analyst as a possibility). In fact, the industry's rapid rise in registered rep compensation is staggering when set against compensation among other high-paying professions (see Exhibit 29). Social commentary aside, it seems ironic that, for the first time in history, registered reps have become more highly compensated than doctors just as the Internet explosion arrived. As technology and distribution have changed the economics of other professions, compensation has shifted accordingly. Brokers, in contrast, obviously benefiting from the tremendous bull market but also from payouts that have remained relatively static over time, have seen a large ramp-up in absolute compensation — even as the economics of their core business seem poised to change for the worse. Interestingly, even as the industry has embraced a shift away from a much reviled commission system, it has yet to fully modify its compensation schemes for the new era. While the bull market, combined with a tight registered rep market, may make it currently unpalatable for the wirehouses to begin dramatically altering compensation, we suspect capital (technology) should be replacing labor in the industry's cost structure at a much more aggressive rate. While brokers have had the option of going out on their own for some time (hence the rapid growth in registered independent advisors — RIAs), this avenue may narrow as Merrill *et al.* dramatically improve the value proposition of their product versus independent contractors (see Exhibit 30). While we acknowledge that if the AMA can call for the unionization of doctors, anything is possible, we suspect it is unlikely Joe Hill is going to emerge from the ranks of registered representatives. As the whole concept of full-service brokerage coalesces somewhere between the current Schwab and Merrill models, brokers should expect (other than exceptional asset gatherers, who are clearly worth more today than ever) compensation models to look increasingly Schwab-like (i.e., salary and sales-related bonus) and less Smith Barney-like (commission).

Exhibit 29 Brokers' Compensation Needs to Fall

	1990	1991	1992	1993	1994	1995	1996	1997	1998	Cumulative
Compared with Other Professions										
Average Compensation ($ 000)										
Brokers	$81	$98	$109	$122	$110	$118	$140	$151	$161	
	0%	21%	11%	12%	(10)%	8%	19%	8%	7%	83%
Doctors	$130	$139	$150	$156	$150	$160	$166	$163	$161	
	4%	7%	8%	4%	(4)%	7%	4%	(2)%	(1)%	31%
Dentists	$96	$94	$98	$108	$118	$123	$125	$123	$120	
	0%	(2)%	4%	10%	9%	4%	2%	(2)%	(2)%	26%
Optometrists	$74	$80	$81	$86	$91	$95	$90	$92	$90	
	1%	8%	1%	6%	6%	4%	(5)%	2%	(2)%	33%
Lawyers	$146	$147	$154	$159	$168	$172	$177	$182	$188	
	4%	1%	5%	3%	6%	2%	3%	3%	3%	29%
Brokers Growth in Income	0%	21%	11%	12%	(10)%	8%	19%	8%	7%	83%
CPI	5	4	3	3	3	3	3	2	2	33
Difference	(5)	17	8	9	(13)	5	16	5	5	48
Memo: Doctor vs. Broker Compensation Difference ($ mil.)	$49	$41	$41	$34	$40	$42	$26	$12	$0	
Broker/Doctor Index	62.3%	70.7%	72.5%	78.3%	73.3%	73.9%	84.6%	92.8%	100.0%	

Source: SIA and AMA.

Exhibit 30 RIAs Have to Improve Price/Value Relationship

	1992	1993	1994	1995	1996	1997	1998	1999E
Assets ($ billion)	$110	$125	$165	$230	$375	$525	$660	$790
All-In RIA Fees	2.21%	2.14%	2.10%	2.02%	2.00%	2.03%	1.95%	1.94%
Estimate of Merrill New Offering[1]								0.90

1 Includes allocation of fund management fees under new fee product: assumes one-third cash fixed income, one-third equity funds and one-third stocks.

Source: Schwab, Royal Alliance, *Registered Representative Magazine* and Cerulli Associates.

Registered Independent Advisors: Schwab's Stealth Brokerage Force

One of the least discussed, yet most interesting, outgrowths of the bull market has been the explosive growth in registered independent advisors (or financial planners). Ebullient markets, large pricing umbrellas from the full-service brokers and the advent of the "instant back-office" (for a roughly 30 basis points per dollar of assets charge) all combined to create a nearly ideal environment for entrepreneurial brokers to set off on their own. With respect to the consumer demand side of the equation, the appeals were also reasonably straightforward: fee-based rather than commission pricing, lower costs than many equivalent broker wrap programs and true independence of advice. Meeting smack dab in between this burgeoning supply-and-demand equation, of course, was Charles Schwab. To provide some perspective on the enormity of this enterprise, from a standing start of basically zero ten years ago, Schwab has, for all intents and purposes, created its own stealth brokerage force of RIAs that is now almost equal in size to PaineWebber's (see Exhibit 31). While investors have obsessed with Schwab's success in transforming itself into an E*broker, we would argue that the more significant transformation that has taken place from a profit perspective has been the company's progress — toward a new model of full-service brokerage. Again to provide some scale, around 30% of Schwab's assets under control are now related to this RIA network.

Exhibit 31 Schwab's Stealth Brokerage Force

	MER	MWD	PWI	SSB	SCH RIAs
1991	11,100	6,900	4,700	10,500	2,300
1992	11,700	7,000	5,100	10,900	3,200
1993	12,100	7,500	5,400	11,100	4,300
1994	13,500	8,000	5,400	11,200	4,800
1995	13,900	8,600	6,000	10,700	5,600
1996	14,600	9,300	6,100	10,400	4,800
1997	15,200	10,100	6,200	10,300	5,300
1998	15,800	11,200	6,900	10,800	5,600
Growth	6.1%	7.3%	5.7%	0.4%	13.8%

Source: Corporate reports and Bernstein estimates.

The rules and competitive dynamic of this market are, however, changing rapidly today — and not totally to Schwab's advantage. With the change in pricing and structure of full-service firms products, the pricing umbrella has collapsed (in fact, may have inverted) and the independence of advice issue has also been minimized with a move away from commissions. In short, full-service brokers still maintain greater resources (initial public offerings, research, etc.), only now they can be fully price-competitive and no longer have the albatross of self-interest dangling around their necks (okay, they may still have proprietary funds that are in their interest to push). Finally, while dominating the support function between RIAs and clients, Schwab does face at least some competition from

Fidelity, Pershing and TDWaterhouse, among others. While it is not entirely clear that Schwab's profitability in the RIA business will get squeezed, we believe it is highly unlikely that the firm's recent announcement that it was cutting RIA commissions (to a flat $29.95 from $39) will generate anywhere near the elasticity impact retail commission cuts did. In any case, it is in our view likely that the growth rate of the RIA asset juggernaut at Schwab will decelerate as full-service broker fee offerings have become more price competitive. Without question, the massive increase in Schwab's market capitalization has firmly drawn competitors' attention. For the first time in its history, it is Schwab that has the bull's eye on its chest.

The Empowered Investor — Trading & Testosterone: A Surefire Route to Underperformance

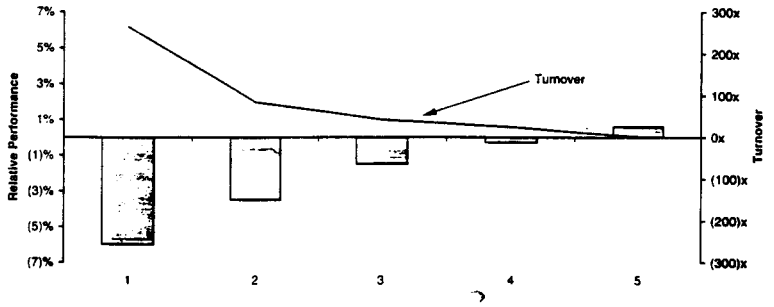
The more vocal proponents of the online investing phenomenon advance the argument that their movement is really no different from the explosion in do-it-yourself home repair spawned by Home Depot. In this model of the future, the empowered investor will seize the day, disintermediate both broker and mutual fund, and trade his way to fame and fortune. In short (with apologies to E*Trade), of course, online trading will continue to explode — if the brokers were any good why would they still be working for a living?

Well, if performance is ultimately going to be the chief driver of fund flows, the average broker or money manager really has nothing to worry about either. While perhaps damning with faint praise, the average discount brokerage client is every bit as poor in generating above-market returns as the professionals (see Exhibit 32)[1]; the professional day traders even worse.[2] As with so many things in the securities industry, we suspect the remarkably benign investment environment of the past few years has done much to neutralize the impact of individual investor underperformance. Said another way, if active individual investors can generate double-digit nominal returns while having some fun doing it, there is unlikely to be overwhelming pressure to change behavior patterns — particularly while discount brokerage commissions have been falling so rapidly. Should we enter a period of more normal market returns, however, we suspect the churning mentality that has overcome individuals and portfolio managers alike will begin to moderate, and with it some of the appeal of online trading and Internet brokerage-only business models. The obvious message that a full-service broker can seize from this (what we believe will prove to be reasonably important academic research on individual investor performance) is that the question frequently asked by individuals has as much to do about the cost of no advice as it has the price of advice.

1 Professors Brad Barber and Terrance Odean (www.gsm.ucdavis.edu/~bmbarber/Individual_Investor_Performance_4-99.pdf) have produced an interesting analysis of some 78,000 household customers of a major discount brokerage firm's (which we suspect is Schwab) detailed trading data compiled from 1991-97: The two show that active traders meaningfully underperform more passive counterparts as well as the S&P 500 by some 600 basis points. Anecdotally, in an earlier study from the same data they also show that male traders are much more apt to exhibit overconfidence in investing, manifesting itself in too active trading. On the micro level these findings are, of course, quite similar to Bogle's work at the fund level — costs matter. Given this backdrop, it is probably not all that surprising that Datek's average customer, is a mid-20s male.

2 North American Securities Administrators Association recently produced a staggering indictment of day trading in the U.S. The study indicated that fully 70% of the focus group's day traders actually lost money, and none produced favorable risk-adjusted returns.

Exhibit 32 The Cost of No Advice



Source: Barber Odean Study, University of California - Davis Study of 72,000 discount broker accounts - 1991-97

The Marriage of Finance + Technology = A Volatility Frankenstein

Persistency or survival rate in the brokerage industry is probably only lower than one other major sector of the economy — technology. In creating e-brokers through the marriage of technology and finance, it seems highly likely that the hybrid animal will be something of a Frankenstein monster of volatility. In light of this, we are not optimistic about the prospects for most e-brokers as growth stocks (see Exhibit 33). Given the long history of failure in the brokerage industry, we suspect the linkage with technology will only speed the descent of many players.

Exhibit 33 A Technology Broker Marriage Could Be Combustible

	5 Years	10 Years	20 Years
Probability of Remaining a Growth Stock (1965-98)			
All Growth Stocks	42%	19%	5%
Technology	33	11	3
Memo:			
Schwab Implied Long-Term Growth Rate		17%	
E*Trade Implied Long-Term Growth Rate		20+	

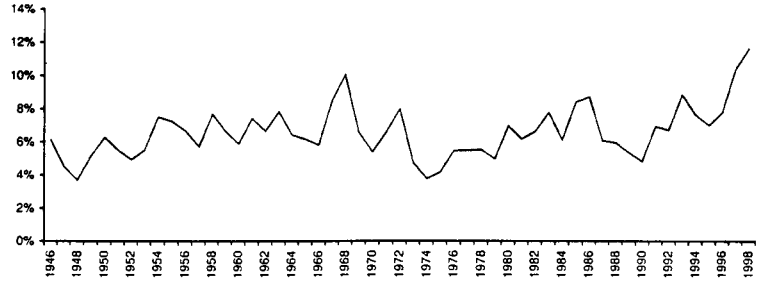
Source: FactSet and Bernstein estimates.

Such a view is strongly reinforced by merely looking at the investment profiles of the average online investor. We estimate that the beta of the stocks owned by the typical online investor are roughly 100% higher than the broader market (see Exhibit 34), while portfolio turnover levels are six to seven times that of the market. Further, the amount of margin debt in the system today (as a percent of total consumer debt) is at record levels — almost twice historic averages (see Exhibit 35). If and when the market turns down, we would expect the velocity of wealth loss in the online arena to be dramatic. Further, for the most part, we suspect investor portfolio betas are inversely correlated with the commissions charged by their broker. In a market of very strong double-digit returns, the euphoria of low-cost online investing has been obvious. Just as, we suspect, will be the carnage in a downturn. In our view, the barriers to entry are simply too low and the current investment environment too ideal to expect so many players to survive (from a base of basically zero, there are now over 140 online brokers — see Exhibit 36), much less thrive.

Exhibit 34 Estimated Trend in the Beta of Schwab Clients' NASDAQ Stocks

Source: NASDAQ trader.

Exhibit 35 Margin Loan as Percent of Total Consumer Credit (Excluding Mortgage)

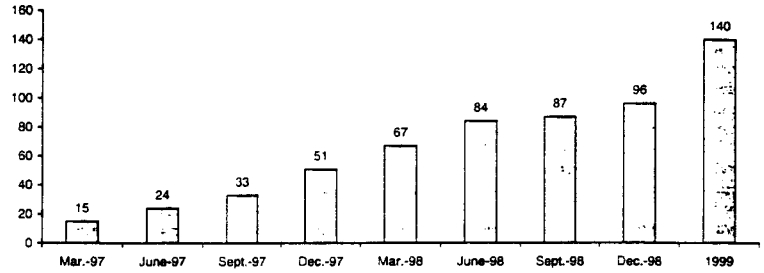


Note: Total consumer credits include must short and intermediate credit extended to individuals, such as credit card, automobile and trailers, etc., excluding loans secured by real estate.

Source: Federal Reserve.

Beyond the risks inherent in the investment portfolios of the typical on-line investor (not to mention the traditional cyclical volatility of the market), investors will probably also need to assess the impact of technological changes in the market. For instance, Fidelity is rumored to have among the most sophisticated voice-recognition software systems in the world. How much incremental e-business is likely to flow to Fidelity when consumers are able to yell at their computers "buy 100 shares of IBM" and have the trade executed? What happens when Intuit or Microsoft set up a financial services arm? How much would Ameritrade's brand be tarnished if its servers and back-ups go down for a whole day? What is the first-mover advantage likely to accrue to the next iteration of new Web home-page architecture? And so on.

Exhibit 36 Number of Online Brokers



Source: Gomez Advisors, Forrester Research and Bernstein estimates.

E*Group: Beyond the Hyperbole, a Sustainable Niche

As skeptical as we may be about the valuations accorded to the Internet brokers generally, there is a clear selection bias in our choice of E*Trade for coverage. That is, we would not have picked up coverage of the company simply to be provocative for a year or two. Notwithstanding all the hyperbole of world domination over "legacy" competitors, E*Trade actually does seem to "get it." The company has dramatically shifted its *modus operandi* from simply transaction processing towards a model of becoming the broad-based financial service provider of the Internet generation. In our view, E*Trade's move to reduce reliance on commissions in its overall revenue mix is what clearly distinguishes it from the pack of e-also-rans. In addition to the Telebanc and TIR Holdings (an international institutional securities trading operating) acquisitions, the company is actively developing a fund supermarket business, has investments in a prominent Internet incubator fund and has accelerated the pace of its international joint venture investments. Ultimately, we would expect commissions to account for considerably less than 50% of revenues as a more diversified business model supplants the company's current very high velocity model (see Exhibit 37).

Exhibit 37 600% Turnover Results in Unsustainable Asset Yields

E*Trade	1995	1996	1997	1998	1999E
Transaction Yield	2.45%	1.92%	2.01%	1.71%	1.93%
Revenue Yield	3.39	2.72	2.86	2.59	2.79
Accounts	32,000	91,000	225,000	544,000	1,516,000
Yearly Trades	583,750	1,537,000	4,095,500	6,905,000	18,625,500
Transaction Revenues per Trade	$35.69	$28.74	$26.78	$23.48	$19.43
Assets per Average Account	$54,902	$52,033	$48,861	$29,129	$27,476
Average Number of Trades per Year	23	25	26	18	18
Estimated Portfolio Turnover[1]	3.9	4.5	5.0	5.8	6.2

1 (Number of trades x trade value) divided by average assets per account.

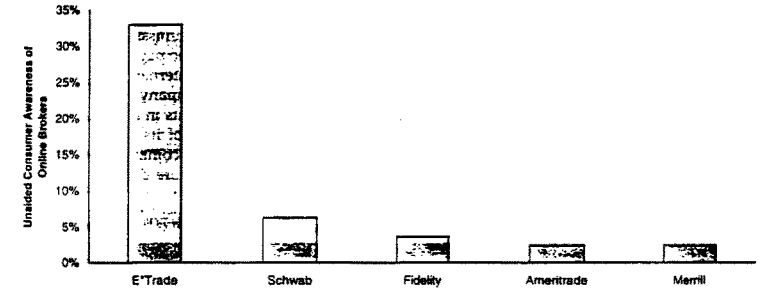
Source: Corporate reports and Bernstein estimates.

In hindsight, the private placement with Softbank that raised $400+ million last summer will probably prove to be *the* meaningful strategic difference between E*Trade and others in the e-brokerage arena. By building a

war chest of some $800 million that allowed the company to open the marketing floodgates immediately, we believe E*Trade has been able to create an enormous first-mover brand advantage. The huge investment the company has made in advertising over the last 18 months has allowed E*Trade to become the single brand most affiliated with the digital financial movement (see Exhibit 38), and the fourth most associated "e-merchant" on the net behind Amazon, Priceline and EBay. Even though advertising dollars get expensed, the brand value here could clearly be capitalized in an economic, if not accounting, sense.

While all our research suggests that higher-end investors will always desire at least some human interaction, as long as E*Trade's product offerings are broad enough, we believe the company can sustain a franchise by commanding a larger chunk of its target audience's pocket book. Further, the company recently expressed at least some interest in perhaps setting up a joint-venture structure with an established player who already possesses a bricks and mortar presence. In short, E*Group may be here to stay; we expect the company to become the dominant player in a specialized niche of the exclusive provision of digital financial services (in other words, it is going to sell its stuff without bricks and mortar). Whether the company becomes a major player in the broader financial service sense may, ultimately, depend on the strength of its currency. To date, management has done a nice job of using a very expensive currency to acquire niche operations that broaden its revenue base. Whether this can continue in the face of a treacherous near-term environment remains a valid investment controversy.

Exhibit 38 Building an E*Brand: Blasting Ads Early and Often



Source: NFO.

What Will the End-Game Economics Look Like?

For the most part, we see really two distinct business models developing in the industry, each with quite different end-game economics. First, the very low end of the business will likely develop with economics quite similar to any other extremely cyclical commodity businesses. That is, we would look for the pure processors of trades to ultimately generate returns on capital — on average — of high single digits, with losses in troughs and perhaps high teens to 20% returns at peaks. In essence, these players (Datek, Ameritrade, NDB, etc.), absent any specific trading advantages they might derive from customer flow, will ultimately trade and be valued no differently than, say, an airline — suffering from booms, busts and even bank-

ruptcies around market cycles. At the end of the day, a transaction-driven business model is unlikely to prove robust, given the questionable economics involved for the most profitable consumer. As one major player described it, Internet trading is not really Internet trading — it is really just e-mailing in stock orders to a computer that, in turn, sends the order on to be executed. With commissions coming down across the board, pure online brokerage offers relatively little value as executions can be spotty and switching costs are low. Further, their most important and profitable customers are turning their portfolios over incredibly rapidly; a circumstance whose sustainability is questionable. In short, pure commodity brokers will be lucky to earn their cost of capital over a full cycle.

At the other extreme will be players that are really only using the Internet as one part of an integrated full-service financial advisor product. Within the value-added model, we suspect there will be a low end (probably defined by E*Group) and a high end (perhaps defined by PaineWebber's EDGE product). The low end will, for the most part, target mid-tier wealth ($50,000+ in investable assets) clients and still rely on commissions and margin lending to drive earnings. The high-end Internet broker, in contrast, will service the traditional full-service broker client but within a wrap-fee-type product, where the Internet is really only cog in the machinery of the overall financial advisor/client relationship.

More basically, of course, the question arises, What will prove most important to the end-game economics of the value-added segment of the industry? — The Internet specifically? Technology generally? Or the financial services industry broadly? Today, individual companies whose end-game economics may look quite similar, are actually being valued along entirely different metrics. E*Group is being assessed (covered by the sell-side and valued by the market) as an Internet company, Schwab as a kind of hybrid Internet/technology/growth company, and PaineWebber as a traditional, cyclical retail broker. In our view, these differences in coverage and valuation are likely to create arbitrage opportunities ahead as e-economics begin to converge around a financial services model and return structure. This is not to say that the Internet and technology will not be critical in shaping success and failure in the industry. But rather, all the costs, uncertainties and advantages that technology brings to bear in the delivery of financial services will have to be assimilated into everybody's business model — from E*Group to Merrill Lynch. As business models increasingly converge, so will the technology component of most companies, blurring some of the current distinctions between, say, PaineWebber and E*Trade. In our view, there will ultimately only be gradations of Internet reliance — from 100% (E*Trade) to something less. The core earnings power of a given company will be determined by its customer demographics, brand positioning, cost structure (where E*Trade should have a large advantage which should, in turn, show up in its value proposition), and its ability to extract returns for high-value services.

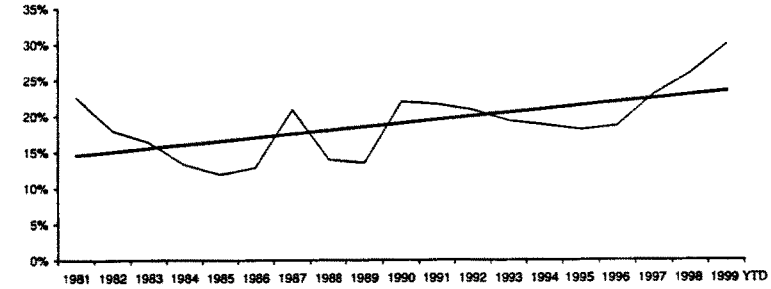
Retail Business Valuations: Financial Services Economics Should Ultimately Dominate

Given the extreme valuations of the Internet brokerage stocks, one could easily be left with the impression that E*Group *et al.* have not only invented a better mousetrap, but also a much more profitable one. In the final analysis, we suspect they have not. That is, the mousetrap may be more efficient, but the profits will be competed away and go to the consumer as competitors respond or emerge. What the e-brokers have done, however, is demystify the investment process (and the trading costs associated with it), and tremendously improved the ease of access to the average individual. The

combination has resulted in meaningfully higher levels of trading volume among retail customers as the elasticity of demand for trades has been high. We estimate that individuals have gained well over 500 basis points of market share of trading volume at the NYSE over the past 18 months (see Exhibit 39), and likely a greater portion at NASDAQ.

At the end of the day, we believe each company can be modeled around the returns that can be expected from an average client — accepting upfront that there may be no such thing. (The concept of an "average" client at E*Trade clearly brings home the concept that a man can drown in a river that averages an inch in depth; while the average client generates around twenty trades per year, platinum clients execute at least 300.) The key variables in coming up with a valuation are relatively straightforward: 1) the expected annual cash income on each client (generally $50-$100); 2) the expected cost of sourcing new clients (around $200); 3) an expected growth rate in new (the key variable) and existing client assets (7%+); and 4) an average expected duration for each client (seven years or less). Not surprisingly, the further up the value-added chain each broker's business model is, the more robust its revenue per account will likely be. In this sense, we believe it is extremely unusual that E*Trade can be capitalized in the market at $4,000 per account, when its average account only has $18,000 in assets with the company. Over the last year, the e-brokers exploded to the upside as the expected growth rate of new client accounts soared. As the e-trading boom continues to slow, investors have to begin paying greater attention to retention rates and assets rather than simply account growth. In many ways, we would expect the fastest account gatherers (distinct from asset gatherers) to also be the fastest asset losers as the barriers to departure (sending an e-mail) are even lower than the barriers to entry (sending an e-mail and a check). With this in mind, we believe investors should be leery of the outlook for the Dateks, NDBs and Ameritrades of the world, and we would generally avoid firms whose model revolves around generating very high revenue yields per dollar of client assets (see Exhibit 40).

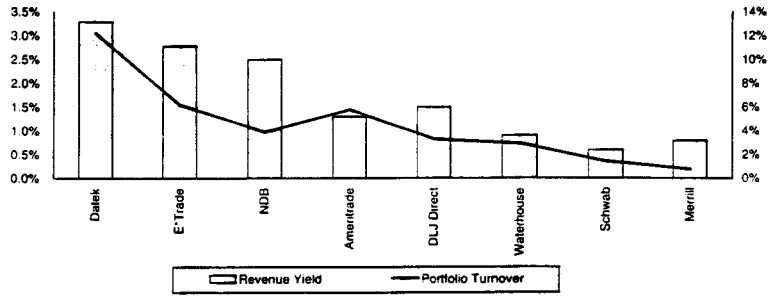
Exhibit 39 Retail Trading Volume at NYSE



Source: NYSE.

Exhibit 41 provides a basic breakdown per account for each of the major retail brokerage operations under our coverage. Clearly, the most interesting valuation mismatch would seem to be between Merrill's cash cow and the lower-ticket Internet growth machines. By valuing Merrill at 1 times retail client revenues, the market is healthily skeptical of the company's ability to maintain its cash cow. The growth assumptions imbedded in the Internet brokers, on the other hand, seem quite high in the face of an impending competitive response from the establishment. Again, in light of the decline in the overall cost of Merrill's product offering, we believe it is likely that the competing e-brokers will begin to experience decelerating growth with the advent of a more price-competitive full-service offering.

Exhibit 40 The Benefit of Advice? Saving Us from Ourselves



Source: Corporate reports and Bernstein estimates.

Exhibit 41 E-Expectations Are Quite High

	Ameritrade	Schwab	E*Trade	TDWaterhouse	DLJ Direct	Merrill	PaineWebber
Adjusted Market Cap[1] ($ bil.)	$3.2	$30.0	$5.5	$4.8	$1.6	$12.5	$3.5
Number of Accounts (mil.)	625	6,400	1,500	2,100	700	5,100	2,100
Value per Account ($)	$5,120	$4,688	$3,667	$2,286	$2,286	$2,451	$1,667
Estimated Revenue per $	450	600	500	450	350	2,000	1,500
Estimated Revenue Yield	1.30%	0.60%	2.80%	0.90%	1.50%	0.85%	0.85%
Price to Revenue	11.4	7.8	7.3	5.1	6.5	1.2	1.1

1 We have pulled out the capital in non-retail operations for Merrill and valued them at a DLJ 1.8x book. PaineWebber's businesses we valued at book.
2 Average life of eight years; NPAT of 10%.

Source: Corporate reports and Bernstein estimates.

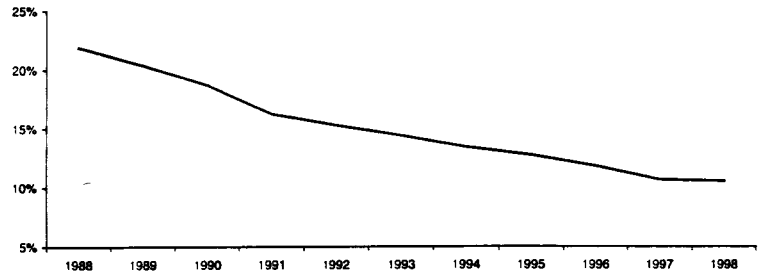
Asset Management: Records Were Made to be Broken

While we fully appreciate the magnitude of the global growth opportunity in transferring financial assets from low-yielding bank deposits to higher-return equities and bonds, the reality is that the returns in the asset-management business today are probably unsustainable. With the advent of the mutual fund supermarkets for distribution (all the more powerful in an Internet environment), barriers to entry have probably never been lower, the availability of cheaper cross-substitutes (index funds) never higher, and the appeal of self management never greater.

In the near term, our general fears about significantly above-trend results in the retail brokerage arena also apply to the asset-management business. Despite the fact that the industry has secularly lost market share in the

mutual fund business (see Exhibit 42), growth in asset-management fees has still been a key driver of revenue increases in the securities industry. From a base of $150 billion in mutual fund assets under management at the start of the decade, the key players in the securities industry now broadly manage over $530 billion in assets (twice that level when institutional assets are included). Asset management-related revenues now account for just under 20% of total industry revenue. As pressures from increased cost transparency (even the SEC is getting involved — witness the Commission's new fee calculator service now available on the Internet — http://www.sec.gov/mfcc/mfcc-int.htm) and poor fund performance spill over into the asset-management arena, we expect an accompanying deceleration in revenue growth and deteriorating returns.

Exhibit 42 Broker-Dealer Groups' Market Share of Open-End Mutual Funds



Source: Lipper and Bernstein analysis.

Strategic Fit Is Compelling...But No More So Than When Citi Owned Chancellor, Lehman — Ark, etc.

Conceptually, the appeal of integrating asset-management operations into a securities firm is appealing. In their simplest form, investment banks serve as the conduit between issuers and investors; having your finger directly on the pulse of the latter can be a powerful aid in preventing disintermediation. More simply, owning an asset manager also allows you to keep the business all in the family. The more common strategic justification articulated for the recent push in adding asset-management operations has, however, been the annuity-like revenue stream that the business purports to offer. In a business as inherently volatile as the securities industry, diversification towards more stable revenue streams (that could still be considered core and high return) should, in theory, offer multiple enhancing prospects. It is worth noting, however, that this infatuation with money-management operations is in no way new to the financial services industry (see Exhibit 43). In fact, more than a dozen prominent buy-side investment managers were, at one point, a part of major banks or brokerage houses. What we suspect this history should tell us is that money-management revenues, earnings, and returns are probably best not looked at through the rose-color glasses of a 20-year bull market. Financial asset deflation could potentially cause "annuity" to become viewed as something of a non-sequitor with the brokers' asset-management revenues. Generically, we believe the asset-management business is a much better business over a cycle than

trading. Having said that, we suspect one would still probably be much better off "owning" Goldman's trading operation than its investment-management business. That is, as with most businesses, industrial positioning matters a great deal in determining economic value; a lesser asset manager is unlikely to create as much value, even with lower inherent volatility, than a world-class trading operation. In short, it is our general sense that too many of the brokers are not being completely intellectually honest in their assessments of their asset-management aspirations. Just as it is supremely difficult for an outsider to crack the Big Three's hold on franchise corporate finance business, we suspect it will prove challenging for any of the major investment banks to produce a truly world-class money-management operation.

Exhibit 43 This Asset-Management Movie Has Been Shown Before

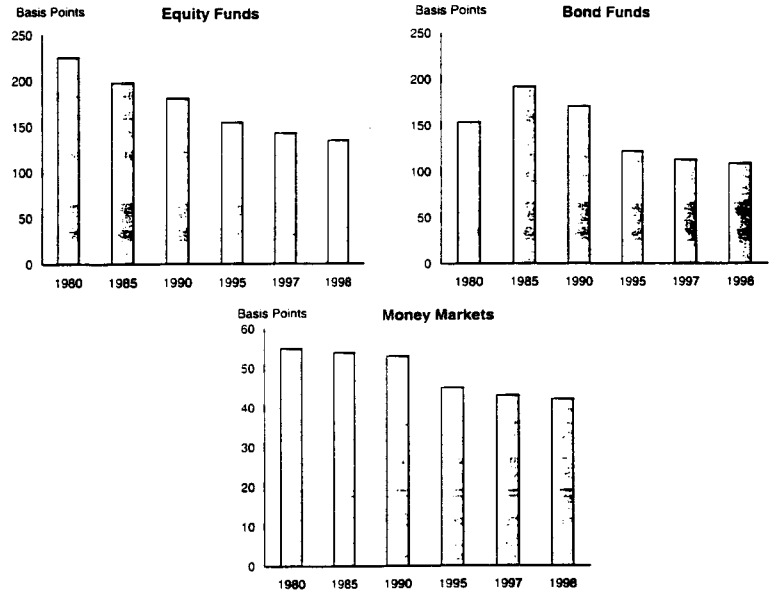
Investment Manager	Former Owner	Current Status
Oppenheimer Funds	British & Commonwealth	
Brinson	First Chicago	UBS
Chancellor	Citibank	Amvescap
Chase Investors	Chase	UBS
Ark	Lehman	
Mercury	S.G. Warburg	Merrill
Gartmore	Indosuez	NatWest
Bank of America Investment Capital	Bank of America	Monarch
Manufacturers Hanover Investments	Manufacturers Hanover Trust	PaineWebber
Wells Fargo Asset Management	Wells Fargo	Nikko
Alliance Capital	Equitable	Partial Public
Dillon Reed Investment Management	Dillon Read	TCW
RCM	PaineWebber	Management then Dresdner

Source: Corporate reports and Bernstein estimates.

Disinflation Slow to Come to Asset Management

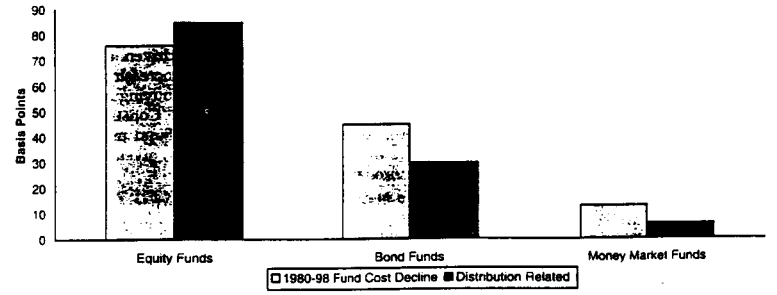
Recent data provided from the Investment Company Institute (ICI) point to a decline in costs to the consumer of investing new money into mutual funds (see Exhibit 44). Factually, this is correct. We believe, however, it is a bit misleading because when you break down the components of the costs over time, it is clear that most of the price improvement for the consumer has been driven by lower loads, or distribution costs (see Exhibit 45). As no-load funds have grown more rapidly than their load counterparts, and the popularity of index funds surged, costs to the consumer have, obviously, come down — perhaps in line with the decline in costs to the provider. There has, however, been no significant reduction in management fees charged by money managers. The entire "reduction" in owning a mutual fund has been predominantly mix and distribution driven, as low-cost index funds and no-load funds have gained an ever-increasing share of the investment pie. Said another way, while the cost of buying a mutual fund may be on the decline, the cost of owning one is not. Consumers are driving aggregate fees lower by voting with their feet. Fund managers rarely proactively reduce fees (nor should they, necessarily, given the incredibly benign investment environment of the past decade).

Exhibit 44 Total Fund Shareholder Costs Have Fallen



Source: ICI, sales-weighted average, annuitized loads.

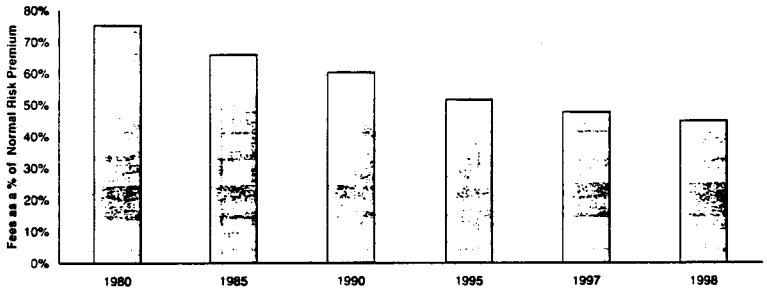
Exhibit 45 The Cost of Buying Funds Has Gone Down; But Owning Them?



Source: ICI, Vanguard and Bernstein estimates.

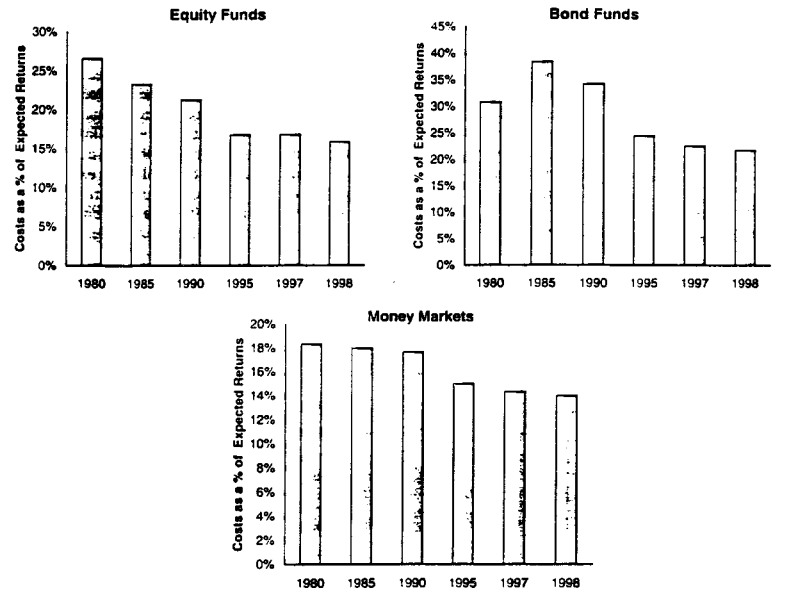
Looking ahead, however, in an era of $14.95 trades (a 90% reduction over prior norms), the analysis should probably not focus on the 2-3% compound annual reduction in total fund costs over time, but rather whether costs of mutual fund ownership relative to expected returns is high. We would posit that they are — particularly in light of the economics of most fund managers (see below). By way of reference, in the equity arena almost half of today's equity risk premium of stocks is consumed each year by manager expenses (see Exhibit 46). More broadly, around 20% of long-term expected returns, across asset classes, are transferred from shareholder to manager (see Exhibit 47). Neither of these points, of course, is likely to drive consumers into rebellion when returns are well north of 20%, and fees are absorbing a relatively minor portion of the investors' take. As expected returns decline, however, fee sensitivity should rise — particularly given the wave of consumerism and investment value that characterize the current era.

Exhibit 46 But a Large Chunk of the Risk Premium Is Still Being Eaten Up



Source: ICI, Vanguard and Bernstein estimates.

Exhibit 47 Fees Still Absorb an Outsized Percentage of Expected Mutual Fund Returns



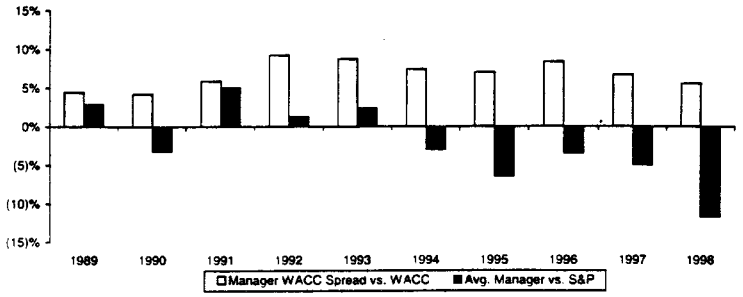
Source: ICI, Vanguard and Bernstein estimates.

Mutual Fund Managers' ROICs Exceed Investors': Unsustainable Nirvana

Just as high absolute returns have been a magic elixir for e-brokers at the individual level, they have also been a welcome salve in the money-management business. As current stock and fixed-income returns have run almost double the norm, investors have overlooked poor relative performance in both the fixed income and equity arenas. In an EVA context, the mutual fund industry has — collectively — fallen short of its investors' cost of capital (market returns) by some 250 basis points, while exceeding its own costs by hundreds of basis points (see Exhibit 48). Notwithstanding this, while cheaper substitutes (i.e., index funds) have continued to gain market share, the 1990s still witnessed a shift in ownership from individual securities to pooled products (see Exhibit 49). In the near term, the money-management industry has benefited from rising volume and market tides that have overwhelmed the structural changes taking place in the competitive landscape. Specifically, robust returns and growth have attracted enormous numbers of new entrants into the business (see Exhibit 50), resulting in an industry that is three times more fragmented than the average American sector (see Exhibit 51), yet also twice as profitable. Unfortunately, following the financial nirvana of the 1990s, the financial characteristics

(with respect to both returns and profit margins) of the money-management business appear out of line with the competitive structure of the industry. What other industry — with a very fungible product — offers players with 1% market share 40%+ operating margins and very high returns on capital? Looking ahead, we expect returns to fall to levels more commensurate with a fragmented, but still quite brand-centric industry.

Exhibit 48 Mutual Fund Managers Add More Value for Their Shareholders Than Their Investors



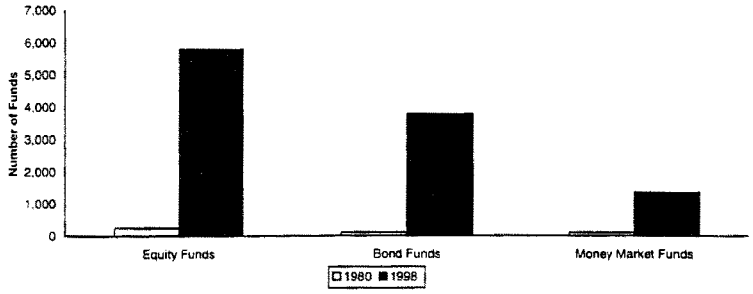
Source: Vanguard, FactSet, Rogers Casey and Bernstein estimates.

Exhibit 49 Mutual Funds: Share of Household Discretionary Financial Assets

1980	3%
1981	4
1982	5
1983	5
1984	6
1985	9
1986	13
1987	14
1988	13
1989	13
1990	13
1991	12
1992	14
1993	17
1994	18
1995	18
1996	20
1997	24
1998	26
1999E	27
2000E	25
2001E	23
2002E	22
2003E	21

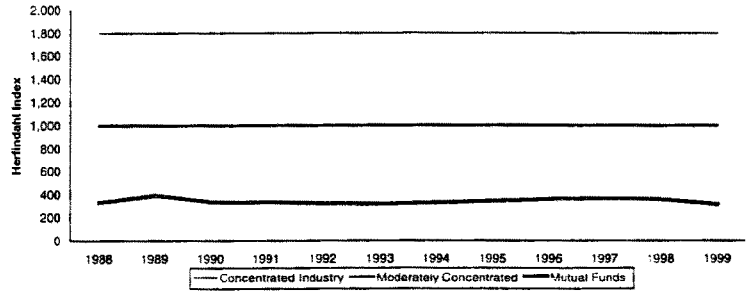
Source: Federal Reserve, ICI and Bernstein estimates.

Exhibit 50 **Explosive Growth in Mutual Funds**



Source: ICI and Bernstein estimates.

Exhibit 51 **Mutual Fund Concentration at Odds with Profitability**



Note: One thousand indicates moderate concentration; the fund industry at 300+ is among the more fragmented in the U.S. A 1% market share participant can still earn 40% operating margins.

Source: ICI, corporate reports and Bernstein estimates.

Bogle's Folly Becomes Vanguard's Victory

With messianic zeal, Jack Bogle has railed against the futility of active mutual fund management for the masses. As the first champion of the index approach to investment management, Bogle was subject to much derision among many in the investment management business, and even the press. His arguments for passive management have, however, always held considerable intellectual appeal. Given reversion to the mean over time, mutual fund managers' investment performance will, in aggregate, mirror the broad market. Investors will, therefore, necessarily underperform the indexes by an amount exactly equal to mutual fund costs. Advocates of active management argue that the fallacy to an indexing program is that not all mutual fund managers are average. Further, the S&P 500 today is basically a large-cap growth fund — which is why so many active managers have performed poorly. Regarding mean reversion of mutual fund managers,

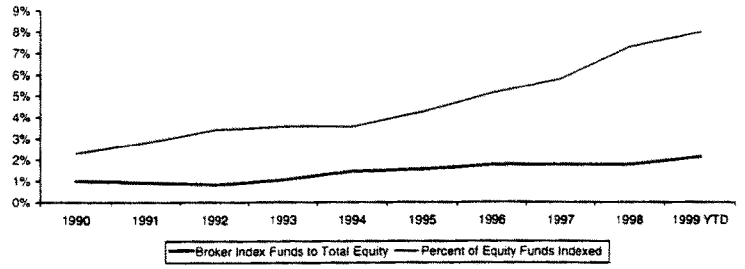
the data support Bogle's view. Over long periods of time, strongly performing mutual fund managers tend to demonstrate a degradation in returns, while poor performers improve (or, just as likely, go out of business). There will, of course, always be exceptions to reversion to the mean in mutual fund management, but in aggregate, the long-term results on performance are decidedly in the indexer's favor. With respect to the S&P 500 being an overvalued growth proxy, that may be true today, but it is not relevant to the outlook for indexing. The basic tenant of indexing is that the average mutual fund manager will actually perform in line with index averages — not be crushed by them, as has been the case recently. The whole index advantage is cost-driven (tax, trading and execution-driven), not (in aggregate) a reflection of subpar mutual fund manager stock-picking skills. As such, we actually would expect some reversion to the mean from such prominent index outperformance.

Indexing on the Rise: Active Growth at Risk But Move to Fee Models Makes Indexing a Natural

The money flows of the last few years may have assured Bogle's ascension from zealot to visionary. As index funds outpaced active managers, vast flows of money began to find their way to passive management. In fact, at its peak, Vanguard was actually garnering fully 60% of all money that moved into equity mutual funds. Some will clearly argue that — given just how prominently indexes have trounced active managers — money flows have been on the rise, just at what will be the cyclical peak of index relative performance. While history would suggest there is validity to this point, the current environment has actually not been totally ideal for index funds. In an environment where the average equity mutual fund has been generating 20% returns, the (at least) 100 basis point difference in costs between active and passive management does not seem so egregious. In an environment of 5% expected returns for stocks, however, those 100 basis points would really stand out. Much as the current investment environment may have caused some investors to confuse a bull market with profound stock insight, it may have also glossed over mutual funds' still-high fees.

One other probable — though not much discussed — by-product of the wirehouses' moves to fee-based retail models is the potential for accelerating index growth among brokerage houses' proprietary offerings. Today, consistent with a view that sage advice can add to performance (not to mention commissions), the major Wall Street firms (with the exception of Schwab — see below) are really underrepresented in the indexing arena (see Exhibit 52). While brokers will, obviously, still be pushing the value of their advice, the decoupling of the old commission model from the broker/client relationship should readily allow them — in a pure unbiased fee model — to fairly aggressively push index product. Although Merrill still quite actively declares its allegiance to active management, the company's hiring of the Banker's Trust quant team suggests that it is probably worthwhile watching both its mouth and its feet on this front. In our view, under the guise of its fee-based Unlimited Advantage product, Merrill is an absolute natural for an aggressive push in indexing (all the more so in light of the heartburn accompanying last year's blip in proprietary fund performance). Again, while we would not want to be overly dramatic on the point, this is yet one more area that Schwab has heretofore really had to itself that may now be getting a bit more crowded in the very near future.

Exhibit 52 Brokers: Well Underrepresented in the Index Arena



Source: ICI, Lipper and Bernstein estimates.

Still, Psychology Favors Active Management and Brands *Do* Matter

The argument for indexing is simple and compelling. Charles Schwab is an advocate. Heck, Warren Buffet is an advocate. So why not forecast a complete implosion in asset-management revenues — both asset declines and pricing pressures? Retail investors' belief that they can pick the next Peter Lynch remains quite high, and the whole nature of passive mutual fund management seems, well, un-American to some. To some extent, the sustenance of high returns in the face of generally mixed performance and potentially threatening economics lead us to conclude that there must be a very important brand equity component still inherent in the consumer's decision-making process regarding investment managers. Perhaps not surprisingly, many investment management companies today are beginning to spend almost as much on advertising relative to sales as other leading consumer products companies. The industry has seen a 30% compound growth in advertising expense over the past decade (see Exhibit 53), while assets have compounded at just over a 20% clip. While a legitimate debate can be held as to whether investors actually in any way benefit from these heavy marketing expenditures, their presence goes a long way toward proving the adage that investment products are still not bought, but rather, sold.

Given the obvious tension between what is arguably good for the typical retail investor, and what is still probably psychically preferred by them (and marketed to them), we suspect the growth in indexing will be steadily upward rather than explosively so. Rapid share gains in indexing will largely come in periods of poor nominal returns and strong index performance, with a slowdown in share gains in periods of high nominal returns and poor index performance. Over our forecast period we would expect the combination of direct pricing pressure from cheaper index alternatives, in-house mix-shifts towards indexing from active products, as well as slower asset growth to reduce retail revenue per mutual fund asset by some 20 basis points versus history.

Exhibit 53 Advertising Increases: Pressuring Rising Competitive Intensity ($ million)

1984	$20
1985	33
1986	77
1987	110
1988	77
1989	105
1990	130
1991	135
1992	154
1993	168
1994	206
1995	214
1996	360
1997	510
1998	663
CAGR	29.6%

Source: LNA, Competitrack, corporate reports and Bernstein estimates.

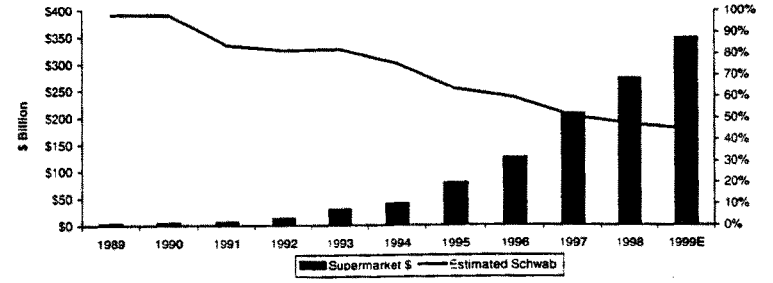
Schwab's Supermarket and Index Success: The Power of Distribution and Teflon

Benefiting from the explosion in mutual funds (leading the explosion in mutual funds?), Schwab has become the natural distribution agent for mutual funds — big and small. Schwab's success in becoming one of the most prominent asset gatherers in the world was founded in a novel distribution mechanism and has been maintained by Teflon. That is, by offering nothing but low-risk money market and index products under its "own label," while levering a supermarket of brands like Janus — all the while keeping the direct interaction with the customer in-house — Schwab has created marketing nirvana. Growth investing can go out of style, value can go out of style, small-cap can go out of style — heck, stocks can go out of style — and the revenue stream never has to leave Schwab's coffers. In essence, through its supermarket structure, Schwab has created an asset-management operation that has diversified away style risk, product risk — really, performance risk. In the same way that Vanguard has benefited from rapid growth in index funds, Schwab has gained from a combination of indexing and "blameless" investment growth. This has been, obviously, a wonderful business model. In fact, so wonderful that over 25 new entrants have come into the supermarket arena in the last five years. Effectively, despite assuming relatively little risk today (distinct from the clear entrepreneurs' risks the company took when coming up with the OneSource product), Schwab has created a business with high margins (20%+), high returns (30%+), high growth (40%+) and, up until recently, few competitors.

While the Teflon effect provides a nice barrier to keep client persistency high (north of 90%) — especially since the fees for the service are provided by the fund family (only indirectly by the consumer) — the distribution part of the equation may be losing its uniqueness. Specifically, while Schwab clearly capitalized on its first-mover advantage in this field, the arena has become remarkably crowded recently. Further, the Internet may prove to be a wonderful equalizers for all players. Whereas ten years ago when Schwab launched the OneSource product direct marketers had relatively few alternatives, as with everything retail, the Internet has dramatically changed the rules of engagement. From a base of basically nil a decade ago, we estimate mutual fund distribution via supermarkets has now reached well over $300 billion (see Exhibit 54. Frankly, if a competitor with as much proprietary product as Fidelity is attacking the supermarket arena, virtually all direct marketers should now be potential competition for

Schwab. As alternatives to the Schwab model continue springing up, OneSource's growth will likely slow; we are forecasting a deceleration in growth from this avenue from north of 30% historically to the mid-teens level.

Exhibit 54 The Supermarket Explosion



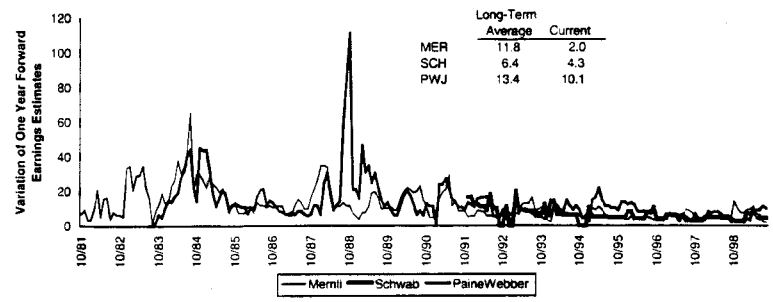
Source: Cerulli, corporate reports and Bernstein estimates.

So with All This Uncertainty, What's the Consensus Bet? Greater Uniformity of Expectations Than Usual

Merrill's announcement that it was unbundling its trading costs from its traditional retail pricing scheme has drawn wildly disparate reactions from the investment community as to its impact on the retail and asset-management business: ranging from "death by fire" to "the full-service brokerage industry will remain robust." Despite these polar views, earnings estimates (pulling out Bernstein's numbers) for those companies among the most levered to the U.S. retail brokerage business (Schwab, Merrill, PaineWebber) are now actually somewhat less divergent and broadly higher than prior to the announcement of Merrill's new Internet offering (see Exhibit 55). While part of this clustering of estimates may be a reaction to the very uncertainty the actions have created (causing analysts to cling, even more so than usual, to management's guidance), history suggests that the impact of a decline in commissions will yield dislocation in the market.

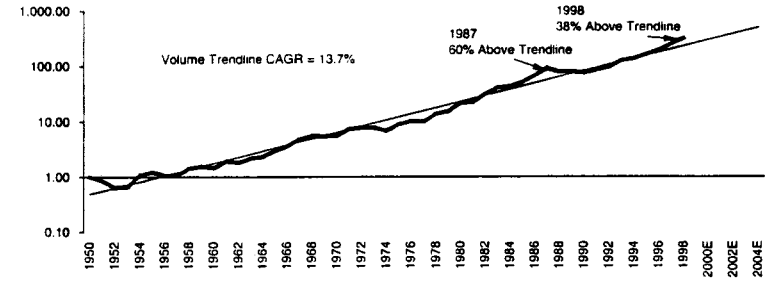
With virtually no exceptions, a retail market dislocation (of even modest magnitude) is priced into the companies with the heaviest retail exposure. In fact, for the most part, a continuation of the status quo is reflected in these stocks today. Considering the status quo includes: record ROEs, exchange volumes 30%+ above 50-year norms (see Exhibits 56 and 57), and stocks more out of sync with bonds than at any point in the last 20 years — just when retail revenue yields are likely to fall. It is difficult to be overly sanguine about the risk/reward of the pure retail plays today. Until the pricing structure of the industry stabilizes, or the stocks discount lower returns (which recently seems to be happening), the risk/reward in the retail sector of the brokerage business is simply not particularly favorable.

Exhibit 55 Compression of Estimates Implies Greater Certainty Than We Believe Is Prudent



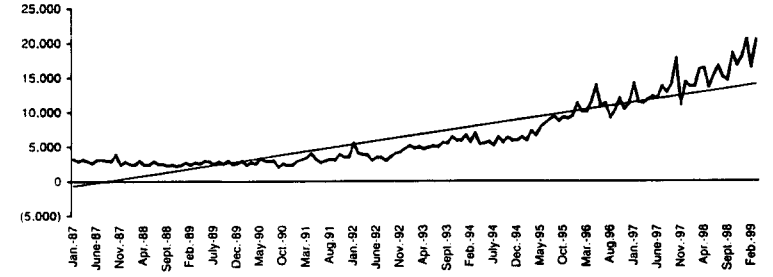
Source: I/B/E/S and Bernstein analysis.

Exhibit 56 NYSE: 38% Above Trend



Source: NYSE.

Exhibit 57 NASDAQ: 40%+ Ahead of Trend



Source: NASDAQ.

MONSTER Mash — Business-to-Business E-Commerce

We, the subscribers, brokers for the purpose and sale of public stocks, do hereby solemnly promise and pledge ourselves to each other that we will not buy or sell from this date, for any person whatsoever, any kind of public stocks at a less rate than one-quarter of one percent commission on the specie value and that we will give preference to each other in our negotiations.

The Buttonwood Tree Agreement - 1792

Current U.S. Equity Markets: Designed for Fred Flintstone, Serving George Jetson

In an era where George Jetson would probably feel right at home, the U.S. stock markets still seem designed for Fred Flintstone. Forecasts of dramatic change in our markets have been made for decades, however, and for decades they have proved premature. For the first time since the rollout of the NASDAQ, however, credible evidence of competition has emerged on the scene. In fact, competition has grown rapidly — as eight or nine ECNs have been developed in the last year or so (see Exhibit 58). From a base of around 10% of volume three years ago, over 25% of NASDAQ trading volume now moves through ECNs (see Exhibit 59). Assuming no competitive response, we believe over the next five years as much as 50% of NASDAQ volume could ultimately move via ECNs.

While the NYSE has felt considerably less pressure on this front to date (roughly 8% of the business moves off-market), at least, in part, this has been due to a fairly arcane regulatory impediment[1] specific to the Exchange that precludes order flow from moving away from the floor. When and if Archipelago, Island, or even part of NASDAQ actually becomes an exchange (which may happen within a year to eighteen months), this impediment will no longer be significant — opening a window for incremental NYSE listed volume to begin flowing off the Exchange. In fact, while many market participants still see NASDAQ at greatest risk of disintermediation, given the momentum ECNs have generated in capturing trading flows, we suspect the NYSE, and its related participants, are also at risk. Given the importance of Rule 390, in particular, and regulation, in general, to the outcome of whether listed business moves the ECN route, however, the ultimate outcome will likely be a binary event. That is, if Archipelago, Island or NASDAQ establish exchange status, a portion of listed flow could rapidly shift off the Floor. If not, the status quo will likely continue. In light of Chairman Levitt's recent speech citing 390 as, perhaps, being in its ninth life — we would not wager heavily on the status quo.

While various reasons have been put forth as to why liquidity seems to be seeking conduits other than NYSE and NASDAQ, the simple answer is that technology has evolved to the point where the existing Exchange returns are too high relative to the value provided (see Exhibit 60). While Exchange players suggest that they are really only bringing in about $2 billion of profit on something like $14 trillion of trading value (about 1 basis point for those counting), the more salient analysis may be what kind of risk-adjusted return they are getting on their capital. Considering specialists only have to step in on about 10-15% of the trades, we would argue current returns are cyclically quite high. While necessarily somewhat imprecise, we estimate a significant specialist or market maker is generating well north of

1 Rule 390 of the NYSE prohibits member firms from trading stocks listed before 1979 "off an exchange."

a 30% ROE. Accordingly, increased competition is likely here to stay and we will soon see just what kind of a pricing umbrella the NYSE brand can support.

Exhibit 58 Who's Who in the ECN Lottery

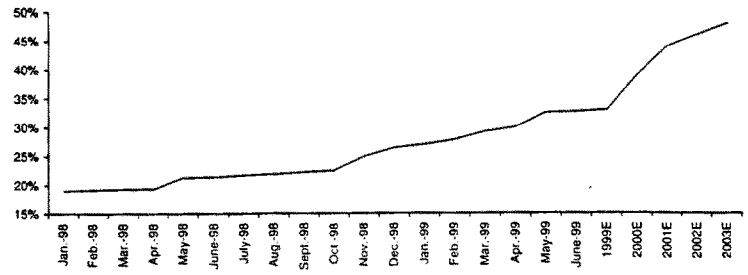
	Est. Daily Volume (mil.)	GS	EGRP	SCH	MER	MWD	BSC	LEH	DLJ	PWJ	JPM	SSB	Other Owners/Comments
Instinet	155												Reuters owned 30% growth, margins and returns
Island	95												Owned by Datek On-line; seeking new partners; filed for exchange, will go public
Archipelago	25	x	x		x						x		Instinet, CNBC Algorithm to be applied to other markets ECN - electronically and automatically matches buyers and sellers; filed to become an exchange, will go public
REDIbook	10			x				x	x	x			Spear Leeds, Fidelity, Schwab, DLJ, National Discount Brokers, Credit Suisse No plans to go exchange or to go public
ITG Posit/ Btrade	7												Integrating operations with B-Trade; six matches a day
Strike	5						x	x	x		x	x	Bridge; Sun Microsystems; Herzog; Cantor Fitz; Furman Selz; H&Q; CIBC Opp; Nationsbanc Montgomery Prudential; Robertson Stephens et al.
BRUT	5	x			x	x							SunGuard Data Systems, Knight-Trimark
Optimark		x			x								Softbank Not an ECN but a software "price-line" system Provides anonymity - tension exists between traders and PMs on the product
Primex Trading		x			x	x						x	Madoff - Designed for after hours Electronic auction market that could ally with or compete with the Big Board
Tradepoint Financial		x				x				x	x		Instinet; Warburg Dillon Read, Archipelego, American Century British for-profit stock exchange

Source: NASDAQ, corporate reports and Bernstein estimates.

Liquidity will, of course, be the key to success. While early gains can be driven by retail flow, ultimate success will probably require the confidence of both major institutional and retail players. With trading costs accounting for more than 100 basis points of fund performance drain (in commissions and market impact) and with pockets of excess profit in the exchange system, more efficient trading mechanisms will continue to emerge. It is inconceivable, however, that the current environment of nine or ten ECNs is tenable; we expect the competitive dynamic to evolve quickly down to one, maybe two, survivors — probably among Redi, Archipelago and Island. Looking to other product lines, any trading chain that currently has a significant level of manual content can ultimately be turned on its head through lower-cost trading technology. This is explicitly not, however, to say that research and capital commitment will be diminished in importance. Rather, they can now just be much more clearly valued. Alternative trading systems really highlight in a very transparent way the cost of physical trade execution ($0.00075!). In such an environment, institutions and individuals alike will logically be much more focused on what they are getting for their money within a trading relationship. While the NASDAQ

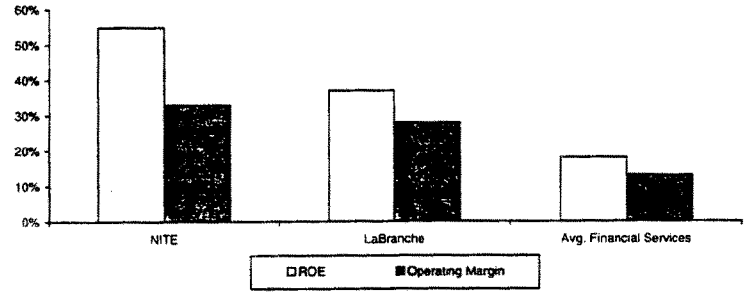
market has seen the greatest impact to date, we would expect listed stock, options, fixed income, and perhaps even some underwriting markets to experience technology-led changes ahead.

Exhibit 59 ECNs' NASDAQ Share



Source: NASDAQ and Reuters.

Exhibit 60 Being a Conduit of Liquidity Is Remarkably Profitable Today



Source: Corporate reports and Bernstein estimates.

Why ECNs? Trading Chain Economics May Be High Relative to Value Provided

When we first started drafting this report, the ECN end-game seemed remarkably far away. As we started making weekly, if not daily, adjustments to the various players involved and their timing for potentially seeking exchange status, it became quite clear that e-years really are like dog years. That is, we suspect the move toward fully electronic trading (that takes place virtually everywhere else in the world (see Exhibit 61), by the way, and that began three decades ago with the creation of the NASDAQ) is now on the cusp of occurring throughout most U.S. financial markets. The obvious questions to ask regarding the explosion of ECNs are: Why? and Why now? While there are probably multiple answers to these questions, the primary drivers of the ECN phenomenon are fairly basic. With respect to the "Why?" question, the simple answer is that the aggregate value propo-

sition of equity trading had become relatively poor compared to the value added. With the respect to "Why now?" the answer probably lies in a combination of 1) rapid advances of low-cost technology and 2) the ATS and order handling rulings by which the SEC opened a window for new, competing exchanges.

The SEC: Opening Doors for Change

Several extremely seasoned industry observers have suggested to us that the 1997's NASDAQ order handling rules, when combined with the SEC's December 1998 Regulation — Alternative Trading Systems (Reg. ATS) (www.sec.gov/rulemake.htm), are the most important events for the U.S. equity markets since May Day. The essence of the rulings that — 1) required display of customer limit orders that were superior to the market makers' quotes (including those of ECNs), 2) allowed for easier incorporation of an Alternative Trading System as a full exchange, and 3) incorporated a no-objection policy towards allowing exchanges to seek for-profit organizational status — opened the door for pools of liquidity to, potentially, challenge the status quo of NASDAQ and NYSE. While it may be debatable whether Reg. ATS and order handling rules are a cause of or a response to changes, the pace of change in the trading system of U.S. equities has accelerated dramatically since the ruling went into effect. To recap, both the NYSE and NASDAQ have indicated a desire for extended trading sessions and to go public. No less than nine ECNs are now on the scene capturing over 25% of NASDAQ volume and over 7% of listed business. Further, the SEC seems now not just an interested observer of the evolution of the U.S. markets, but an interested participant in the process of producing more efficient markets.

Above Floor Business: May Day Revisited

The perception has long been that the cash equity trading business of the major houses has become quite unattractive. If this were the case, unless all of the economic inefficiency of the U.S. equity market resides within the NYSE and NASDAQ, there would seem to be little for the ECNs to squeeze from the institutional brokerage lemon. For the most part, we believe this is largely true — particularly when compared to the amount of juice still left in the retail arena (or in the enfranchised players of the exchanges). Having said that, however, in the current market environment, the cash equity business has become a 20%+ ROE business for all but the more bloated institutional brokerage houses. It is our general sense that investors may have underestimated the recent improvement in the cash equities business and what it has meant for many major brokerage houses. We suspect this is a function of two things: 1) Big mutual fund complexes are probably constantly hearing the moan of institutional sale people about how hard it is to pay the rent on $0.05 per share; and 2) $0.05 per share is, well, $0.05 — a lot less than the $0.25 that existed pre-May Day. As one prominent critic of the current trading chain notes, however, while unit costs may have fallen, absolute costs have rocketed as turnover levels have gone to the sky, driven by positive elasticity of demand, as well as shortening investment horizons. Despite a steady decline in unit revenue per trade, volumes have risen so much to the upside that listed commissions revenues are actually now running some 33% above the 20-year trendline — despite an approximately double-digit compound price decline in the institutional business (see Exhibit 62). To some extent, one need only look to the incredibly robust results of Instinet to understand just how profitable even a pure agency equity business can be (the company is generating 30% growth with 30%

margins). Even allowing for higher overhead costs that traditional brokerage houses shoulder in their cash equity business (investment banking offsets some costs of analysts, etc.), it is easy to see why ECNs are not exclusively being driven by the monopolistic profits at the floor and market maker level. Again, despite the belief that cash equities is a mature, low-margin business, it is worth noting that listed institutional commissions and OTC trades represent in excess of $10 billion in revenue. There is still a reasonably large revenue pie to be eaten into; we suspect it will be.

If the nickel trade becomes standard, let me tell you, we are all going home.
— Sutro executive in the Wall Street Journal – 1975

What Does a Nickel Buy These Days? Not Much If You're Vanguard — More Unbundling Ahead

The pricing of institutional equity trading has been every bit as mysterious as that of the retail trade (see Exhibit 63). To begin with, the actual value of the physical act of processing a given trade is largely opaque to investors. That is, there is little incremental cost (other than some exchange fees) in processing a 100-share trade in IBM versus processing a 10,000 share trade. Instead, the pricing structure really reflects the actual physical trade, the execution (or trading expertise required to efficiently process the trade), research, and, typically, some allocation for expected capital commitment and allocations in underwriting deals.

Free-rider economics are clearly at work in the institutional equity business today, just as the remote Hawaiian villager sending a letter to his great uncle in Maine is subsidized by the New York apartment dweller sending a letter across town with a $0.33 stamp — at $0.05 per share, the index fund subsidizes the deal-crazy, 300% turnover, capital-commitment-abusing hedge fund. Again, Instinet was the first to understand the historic lack of a segmented pricing infrastructure in institutional trading. From a basic understanding of free-rider economics, the company has been able to create a spectacular 30/30/30 business: generating 30% growth on 30% operating margins and a 30% return on capital. Not surprisingly, economics like these are rare in the financial services industry — especially so in a pure agency business, hence, the rise in ECNs and, inevitably, further unbundling of the institutional equity trading business (perhaps accelerated by the growth in indexing). As the market has evolved, a reasonable case can be made that mediocre research (replaced by in-house product), IPO allocations (made redundant with a Dutch auction scheme) and execution (ECNs) have, or could, all become relatively less valuable over time. Looking ahead, it is difficult to imagine that the institutional equity market will not become more unbundled, with users of brokerage firms' services required to ante up the requisite $0.05-$0.06 per share, while more self-sufficient fund managers settle in below that. Combining competition from

Exhibit 61 Floor-Based Outcry Exchanges: Now the Exception — Not the Rule

Exchange	Types of Securities Traded	Trading System/Derivatives Markets
Amsterdam	Shares, gov't bonds, other bonds, warrants	Order and quote-driven screen-based system
Athens	Shares, bonds	Screen-based automatic electronic trading system
Australian	Shares	SEATS (screen-based)
Barcelona	Shares, bonds and warrants Shares and bonds	Completely automated trading and clearing (SIBE) screen-based
Bilbao	Shares, rights and warrants, private bonds and warrants public debt	SIBE (screen-based)
Brussels	Shares, warrants, corporate and public bonds Real estate certificates, Euro NM Futures and options	NTS (screen-based trading – no floor)
Buenos Aires	Shares, gov't bonds Corp. bonds, fund shares, trust certificates ADR-GDR Brady Bonds, Cedears	(1) Floor trading (2) SINAC: Electronic matching system (1) + (2) = Concurrent market (3) Continuous trading system: transactions closed on or off exchange (at the dealer's office)
CBOE	Equity options, index options, interest rate options, warrants, index notes	Auction market, open outcry with electronic execution overlay
Chicago	Shares	Midwest Automated Execution (MAX) System
Columbia	Shares: ordinary, preference, warrants corporate bonds	Order-driven market using a fully automated screen-based trading system
Copenhagen	Bonds, shares, warrants, options, futures	ELECTRA: (electronic continuous trading)
Deutsche Borse	Shares Bonds Warrants	Floor trading (BOSS-CUBE) Xetra (Screen-based)
Helsinki	Shares, subscription rights, bonds Derivatives	HETIX (screen-based trading for securities) SOM Derivatives market for all derivatives
Hong Kong	Shares, warrants Debt securities, UITs/mutual funds Stock options	Automatic order matching and execution system (AMS) screen-based Traded Options System, (TOPS) screen-based
Irish	Equities, warrants Government bonds Corporate bonds	Combination of market floor and screen-based telecom assisted (full electronic order-based dealing system to be implemented in 1999)
Istanbul	Shares, bills, bonds, currency	Fully computerized
Italian exchange		Electronic trading system which enables real-time trading in all securities Screen-based trading system split into three distinct information systems 1) Equity Market and Mercato Ristretto (unlisted securities) 2) Italian derivatives market (IDEM) 3) Bond Market (MOT)
Jakarta	Shares, bonds, warrants, rights	Auction market onscreen-based trading
Johannesburg	Shares, options, debt Derivatives	Fully automated (JET) SAFEX – screen/telephone
Korea	Shares, bonds, stock index futures and options	Fully computerized (KATS: KSE automated trading system)
Kuala Lumpur	Shares, fixed income, warrants	SCORE screen-based
Lima	Stocks, ADRs, mutual funds Bonds and mortgage drafts Money market	ELEX – automatic matching – continuous trading ELEX – automatic matching – period auction ELEX – direct application – continuous trading
Lisbon	Stocks, bonds, investment trust units	Continuous trading system (TRADIS) (automatic and open outcry)
Luxembourg	Shares, bonds, warrants	SAM (screen-based); MFX; MCD

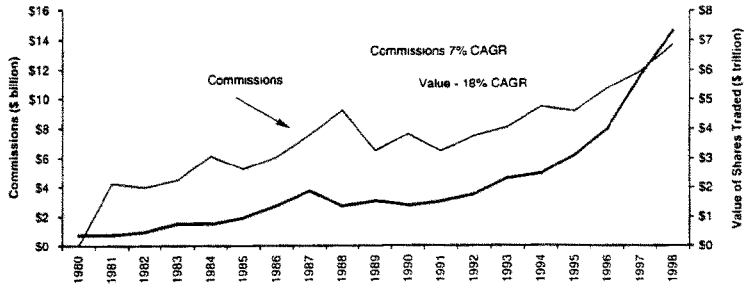
Exhibit 61 Floor Based Outcry Exchanges: Now the Exception — Not the Rule (cont'd)

Exchange	Types of Securities Traded	Trading System/Derivatives Markets
Madrid	Equities Fixed-income	SIBE (screen-based) equities module floor trading SIBE (fixed-income module)
Montreal	Shares, warrants, rights, options	Screen and floor trading
New Zealand	Shares, options, debt, warrants	SEAT (screen-based)
Osaka	Shares Futures	Screen-based trading system Screen-based trading system
Oslo	Shares, bonds, futures on bonds, options	Screen-based trading
Paris	Equity, bonds	
Philippines	Shares, convertible, preferred, bonds	Screen-based
Rio de Janeiro	Shares, bonds, warrants	SENN – National electronic trading system
Santiago	Shares Bonds, options, futures, gold and silver coins, U.S. dollars	Floor trading and electronic system Electronic system (Telepregon)
Sao Paulo	Stocks, debentures, closed-end funds options, forwards	Screen-based and open outcry (floor trading)
Singapore	Shares, bonds, warrants, options	Central limit order book system for all securities
Stockholm	Shares, bonds, convertible bonds	Stockholm Automated Exchange screen-based with automated order routing, matching and trade confirmation
Swiss Exchange	Shares, investment fund certificates, warrants, bonds, eurobonds	Fully integrated electronic trading system
Taiwan	Shares, bonds, beneficiary certificates, warrants	FAST (fully automated securities trading system)
Tehran	Shares, participation certificates	Automated execution
Tel-Aviv	Shares, bonds, convertibles, T-bills Options and futures	Tel Aviv Continuous Trading (TACT) fully computerized, order driven Floor trading
Thailand	Shares, warrants, bonds, debentures, unit trusts	Fully computerized
Tokyo	Shares, stock investment trust certificates Bonds Futures/options	Floor and screen-based trading with CORES (computer assisted order routing and execution system) and FORES (floor order routing and execution system) Bond trading system CORES-FOP
Toronto	Shares, warrants, convertible debentures options, futures	Screen-based Toronto Futures Exchange (floor trading)
Vancouver	Equities	VCT - screen-based order driven
Vienna	Shares, bonds, warrants	EQOS (screen-based)
Warsaw	Shares, Treasury bonds, warrants, futures	Screen-based - 1) electronic call auctions (single price auction); 2) continuous trading

Note: Bold denotes floor-based.

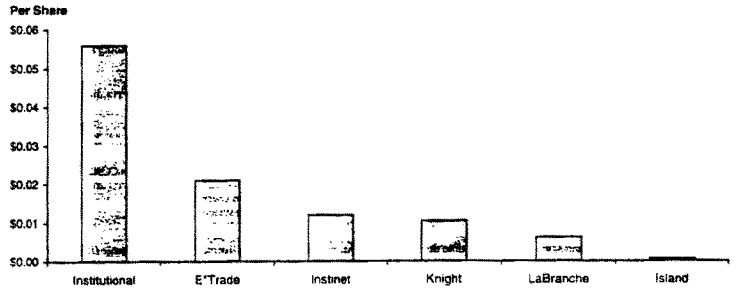
Source: Corporate reports.

Exhibit 62 Despite Price Declines, Commissions Now Show Strong Growth



Source: SIA and Bernstein estimates.

Exhibit 63 A View of Pricing in the Equity Trading Chain



Source: Corporate reports and Bernstein estimates.

ECNs with a further segmenting of the market, we would expect — after close to a decade of a slowing in the decline in institutional commission yields — another step down, probably in the order of 20% over the next five years. History has shown that there seems to be considerable elasticity of demand for shares even in the institutional arena, so we would expect revenues to decline at roughly half that rate.

Anonymity Premium on the Rise

Notwithstanding the fact that improved returns at the broker level have been a contributor to the growth of ECNs, research suggests another driver of their proliferation has been a rising desire for anonymity in the investment management community (see Exhibit 64). To provide some frame of reference, at $0.05-$0.06 per share, the average big-cap manager gives up roughly 12 basis points in performance to commissions. Listed commissions probably account for about 15% of the total performance gap between the average active manager and the indexers. While hardly insignificant,

these costs are dwarfed by the impact on performance related to market impact. Although different studies offer different magnitudes of the level of slippage that arises from moves in stocks as large funds seek to build or sell out of a position, most research suggests that the impact may be in excess of 80 basis points of absolute performance. Clearly, with so much (two-thirds) of the performance gap of active managers directly tied to execution, it is not surprising that most fund managers we polled (although interestingly, far fewer traders) are intrigued by the prospect of having their computer anonymously talk to a competitor's or broker's computer. Computers don't give you up. Although it remains to be seen in practice (see the discussion of Optimark below), market impact, could, in theory anyway, be less significant in a computer-to-computer trading world.

Exhibit 64 — Current Buy-Side ECN Allocation

	OTC 40%	Listed 47%	OTC 50%	Listed 37%	OTC 10%	Listed 16%
% of Volume	Up to 5%		6-15%		16-30%	

Seen Another Way...

	Mutual Fund	Institutional
Indexers	10-30%	30-50%
Active Managers	10% or Less	10%

...And Another...

	Using or Expect to Use	Actual Share of ECN Volume
Instinet	60%	55%
ITG	42	5
Optimark	35	1
Island	1	35
Strike	1	1

...And What They Expect to Do...

Non-Traditional Trading	Today	Two Years
NASDAQ	20%	30%
Listed	8	15

...And Why

Cost	46%
Anonymity	31
Speed	14
Liquidity	9

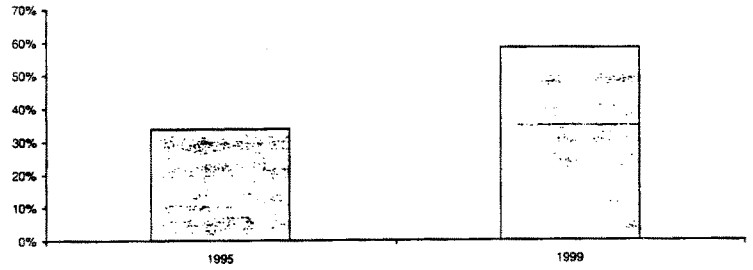
Source: Oliver, Wyman, BCG, Greenwich Associates, Bernstein survey and corporate reports.

The Reverse *Field of Dreams*: If You Come, They Will Build It

The typical ECN suffers from something of a reverse *Field of Dreams* effect. That is, many of these networks have been built but it is not clear whether the liquidity will come. In fact, the much hyped, but as yet not much used, Optimark trading service (www.optimark.com — which is, technically, not an ECN but a related profile-matching software system) has become something of a poster child for the failed promise of the business-to-business e-commerce in the equity arena. The general concern most market participants raise is: With so many of these alternative pools of liquidity developing, how can any gain sufficient scale to actually matter much? One observer described it thus: ECNs, and Optimark in particular, have developed this wonderful space-age rocket ship of a trading system, they just forgot to attach a "go" button. Perversely, the argument goes, rather than

add to efficiency, these competing pockets of trading volume will fragment or Balkanize the markets, resulting in higher overall transaction costs for users. From a market perspective, this anti-ECN rhetoric seems at least a bit misguided. Obviously, electronic trading is not for all (virtually every major hedge fund we interviewed vehemently opposed the movement — citing, most prominently, a need for access to capital and an analyst "ax" on a stock). The reality of the electronic market, however, is that virtually all ECNs will be linked and liquidity does not, by definition, need to be siphoned from the overall market — merely from entrenched, higher-cost players. In fact, a simpler response to the Balkanization claim is that it is just not true. The concentration of the NASDAQ has actually risen dramatically since the advent of the SEC's Order Handling Rules. The top four participants — Knight-Trimark, Mayer & Schweitzer (Schwab's market maker), Instinet and Island — now account for around 60% of the total NASDAQ volume (see Exhibit 65); a decade ago the top four players held something on the order of 40% (when most were divisions of the major securities firms).

Exhibit 65 **Fragmentation? — Top Four's NASDAQ Market Share Percentage**



Source: NASDAQ.

The ECN Lottery: Powerball or Shirley Jackson's?

Despite the fact that there are so many different players aligned in the electronic war on NASDAQ (and, ultimately, the NYSE, the CBOT, etc.), we actually believe the end-game is shaping up reasonably quickly. Without question, there are two 800-pound gorillas in the ECN market: Redibook and Archipelago. Regarding Redi, absent a breakdown in the relationship among participants, this alliance seems assured of survival for a very simple reason. The combination of Schwab, Fidelity, Spear Leeds and DLJ virtually ensures a pool of retail and institutional liquidity that will provide the grease for low-cost electronic trading. Survival is, however, different from thriving. All participants have made it quite clear that they have no interest in becoming an exchange (for profit or otherwise), and the primary goal of the alliance truly is to reduce costs for clients. While the allegiance is incredibly formidable, it is also somewhat encumbered with participants with legacy exchange ties (Spear, Leeds, Mash, etc.). As such, it is fair to ask whether Redi participants will truly be anxious to convert $0.02 per share business into $0.00075 per share business. In our view it is not necessarily coincidental that Island (and before it Knight-Trimark and before them In-

stinet) has been the most recent winner in the electronic trading volume chase so far. Because the company carries none of the excess baggage (read cost) of established players, Island has been able to profitably shrink a previously $200 million revenue volume business into a $20 million operation. In this sense, given the pace of technological change, a case can be made that the common denominator of winners in any number of trading markets may end up being almost a last-mover advantage.

Despite its relatively small size today, Archipelago also seems to merit gorilla status. The company's diversified shareholder base (Goldman, J.P. Morgan, E*Trade, Twentieth Century, and just recently Instinet, Merrill Lynch and CNBC) provides both a very strong mix of potential retail and institutional order flow but also vanguard and traditional thought. Additionally, Archipelago's plan to seek exchange status will offer the company the prospect of attacking the still relatively untouched listed market (assuming Rule 390 is not abandoned first). Finally, Archipelago seems destined to seek public floatation — which, as Knight-Trimark has demonstrated, provides a nice carrot to entice stakeholders to remain interested in directing order flow its way. In addition to the NYSE and NASDAQ, the likely loser in an Archipelago ascendancy could be Schwab's NASDAQ market maker (Mash) and Knight-Trimark — heretofore a beneficiary of E*Trade order flow. With respect to the alphabet soup of other ECNs (see Exhibit 58), Island also has to stand out — if for no other reason than with 100 million shares of daily volume, the ECN is quickly becoming the elephant in the room nobody wants to talk about. With respect to the other players, few seem to have either a compelling consortium of backers or sufficient current scale to ensure success today. We would expect any number of fringe ECNs to begin to drop by the wayside or merge their efforts with other players in order to try and achieve scale.

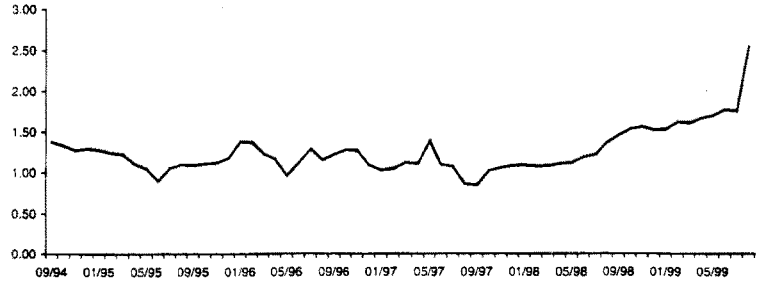
As with so much of the e-boom, it is somewhat difficult to fathom just what kind of valuation will be placed on the creation of a better exchange mousetrap — no matter how linked it may be with an existing one. If history is a guide, however, it can be reasonably well assured that there will be lots of zeros involved; at least out of the gate anyway. As a current reference point, Archipelago is already capitalized in private transactions at more than 10 times current revenues, or around $350-$400 million. It is our general belief that, benefiting from oligopolistic umbrellas created by the existing markets, one ECN will gain solid momentum (read liquidity), show robust share gains and rapid growth of financial results, and tap the capital markets at a valuation reflecting status as "the next big thing." As the NYSE and NASDAQ formulate their competitive responses to the rapidly developing threats, we suspect the real winners will again be the consumers or the users of the exchanges — who heretofore were not always paying economic prices for the services delivered. In our view, the key to any ECN's ultimate success as a real vibrant business will be threefold: 1) provision of liquidity; 2) product breath (well beyond NASDAQ stocks); and 3) some linkage of a "smart" algorithm to the process that provides more than a commodity meeting of limit orders. While the near-term payoff for a given ECN shareholder may be akin to Powerball, the end-game economics need to be sufficiently diverse in order to avoid having elements of Shirley Jackson's tale (where the holder of the "winning" lottery ticket got stoned). At the end of the day it is unclear whether a quoted ECN will be accorded a growth multiple (the Sydney exchange trades at close to 30 times earnings), or that of a highly regulated utility.

The Threat to Knight-Trimark

While a case could be made that any of Schwab, E*Trade or Ameritrade has been the primary beneficiary of America's move to online investing, we actually see Knight-Trimark as the most levered beneficiary of the online trading movement. Five years ago, the company did not exist — today, it controls almost 20% of NASDAQ volume and 7% of NYSE listed business. Were it a separate exchange, Knight would be the fifth largest in the world — ahead of the German bourse (see Exhibit 67). Founded as a consortium of various brokerages (the Knights of the Roundtable — E*Trade, Waterhouse, Discover, etc.), Knight combined a magic potion of immense retail trade volume, sophisticated proprietary trading and plain street smarts to post the most outstanding results in the entire financial services industry. In fact, we suspect the results are so outstanding that they are not even vaguely sustainable. At its peak in valuation this spring, Knight-Trimark commanded a valuation close to $8 billion — larger than Lehman, Bear Stearns or PaineWebber. Financially, the company has been posting numbers more akin to Microsoft than an OTC market maker: 100% revenue growth, 35% operating margins and a 60% ROE. Increasingly, today, however, it appears that while Knight has advanced on the technological sword of retail e-trading, the company could also face the down side of technological change in the form of ECNs.

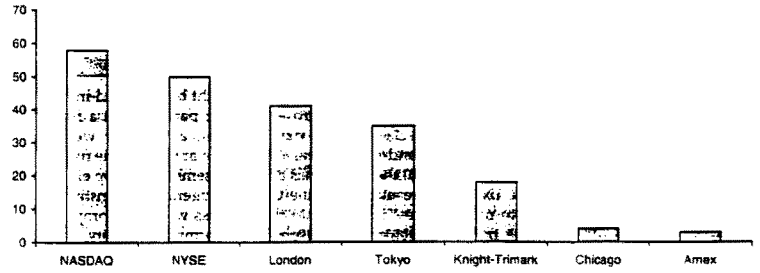
Clearly, the growth in ECNs in the face of very high market shares and volatility (both good for Knight) muddies the waters at home. Ultimately, of course, as a capital provider there will always be a prominent roll for the likes of Knight that an agency ECN simply cannot match. In fact, to some extent, the two models can be complementary. Knight can focus on providing liquidity (and get paid for it), while the ECNs can efficiently match limit orders in an agency capacity. Having said this, with Island offering agency limit orders at a cost 1/30th of Knight's (admittedly an apples to oranges comparison given the capital element of a market maker's services), profit pressure off of current returns are inevitable (to perhaps half current levels over a cycle). All this is not in any way, however, to say that there is no "there, there" with Knight. Quite the contrary. Ken Pasternak and his team have built a far superior business model than that of the traditional OTC market maker; one based on technology, trading flow that begets information flow that likely will yield superior returns over a market cycle. This is not your father's spread market maker. In our view, however, superior is very different from supra-competitive. Superior in a financial service context is probably high teens — maybe 25-30% in robust times. When combined with equity volumes running more than 30% above trend, margin debt 50% above trend, and Knight's heavy flow of Internet-related and IPO securities (see Exhibit 66), downside risks outweigh upside risks in the stock today. While Knight may transform the European markets like it has NASDAQ, with a vision of ultimately dealing a billion shares each day (implying as much as $6 in earnings power), execution risks are reasonably high and ultimate success is too far off to support a valuation much above today's.

Exhibit 66 Average Beta of Knight: Top 25 Volume Leaders (August 1999)



Source: NASDAQ

Exhibit 67 Volume of Knight and Various Exchanges



Source: Knight-Trimark and NASDAQ.

Sour Mash?

Schwab's Mayer & Schweitzer business (also a NASDAQ market maker) faces most of the same challenges as Knight. While something in the order of 40% of Mash's business is order flow from Schwab, best execution obligations being what they are, Schwab will not be immune to the electronic challenges that ECNs offer. In fact, it is actually helping to create one in the Redi alliance of Schwab, Spear Leeds, Fidelity and DLJ. The Mash business rarely draws much investor attention (perhaps rightly so, given how relatively more attractive other Schwab operations are long term). Given this, we suspect investors may be a bit surprised to find that 25-30% of the company's earnings growth in fiscal 1999 will stem from the 100% increase Mash's business. While we fully accept that Schwab's core business deserves a well-above-market multiple given its growth prospects, it is very difficult to argue that Mash could justify a multiple almost twice that of the market. In fact, there is a very good proxy for Mash's value in the market

already — and that is Knight-Trimark which currently commands about a 15x multiple on forward earnings. Seen another way, given just how important Mash has been to Schwab's growth in 1999, we believe investors may actually be paying even more for Schwab's core consumer franchise than it thinks it is. In any instance, we believe the potential for downside in Mash's market making profits [we forecast (3-4)% CAGR over the next five years from 1999's lofty levels] is not currently captured in Schwab's stock price (see Exhibit 68).

Exhibit 68 **Mash: Income Statement ($ million)**

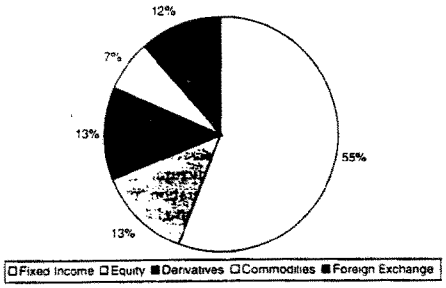
	1992	1993	1994	1995	1996	1997	1998	1999E	2000E	2001E	2002E	2003E	CAGR 1992-99E	CAGR 1999E-03E
Maver & Schweitzer														
% Change	106.3%	30.1%	(3.8)%	17.7%	34.2%	0.4%	11.1%	73.4%	10.5%	(3.4)%	(5.6)%	(2.1)%		
Principal Transactions	$130.0	$169.1	$162.6	$191.4	$256.9	$258.0	$286.7	$497.3	$549.7	$531.1	$501.1	$490.7	21.5%	(0.3)%
Volume (mil.)	3,023	3,933	4,279	6,174	8,563	10,750	15,089	23,680	24,985	26,553	29,474	32,716	34.8	8.4
Revenue per Share	$0.043	$0.043	$0.038	$0.031	$0.030	$0.024	$0.019	$0.021	$0.022	$0.020	$0.017	$0.015	(9.9)	(8.1)
Approximate Self-Directed Volume	1,360	1,770	1,926	2,778	3,854	4,838	6,790	10,656	11,243	11,949	13,263	14,722		
Revenue per Trade	$30.10	$30.10	$26.60	$21.70	$21.00	$16.80	$13.30	$14.70	$19.80	$18.00	$15.30	$13.50		
M&S Share	6.3%	6.0%	5.8%	6.1%	6.3%	6.7%	7.6%	8.8%	9.4%	9.0%	9.0%	9.0%		
NASD Trades (mil.)	47,750	65,750	73,750	101,500	136,250	161,500	197,250	241,631	265,794	295,032	327,485	363,509		
Principal Trading Income					$72.5	$72.4	$81.5	$139.2	$148.4	$138.1	$125.3	$122.7		
Principal Margins					28.2%	28.1%	28.4%	28.0%	27.0%	26.0%	25.0%	25.0%		
Principal to Total					18.4	16.2	14.1	15.8	14.6	11.6	9.1	7.7		

Source: Corporate reports and Bernstein estimates.

Fixed Income E-Commerce: Trading End-Game Close at Hand

As muddled as the world of equity ECNs might be, the fixed-income analogy may be quite straightforward — in large part because a floor-based, heavily-manual marketplace left the scene years ago. Today, we would argue the electronic end-game is reasonably close at hand in the fixed-income arena. In Tradeweb, the market has already assembled the top eight players in the fixed-income market. While Canter Fitzgerald and Instinet may be able to make modest in-roads into the business with their proposed alternative trading structures, we suspect with so much liquidity available at one central ECN, investors are unlikely to gain significant efficiencies in the sending business elsewhere. While bond trading generally seems akin to chasing pennies in front of a steamroller — on a global scale there are so many pennies that the business is worthwhile (see Exhibit 69). In particular, the ability to leverage flow in secondary trading and creating structured products and securities provides much higher levels of profitability for an integrated fixed-income business than we suspect most investors realize. That is, you rarely see a powerful derivatives outfit that is not attached to a strong cash fixed-income business. The latter typically feeds off the former as you sell the plain vanilla dollar straight to get the Thai bhat swap. While real debate can be had over whether an auction IPO scheme is appropriate for equities, given much lower valuation variance (or, seen another way, value added by an investment bank), it does seem inevitable that a Hambrecht-like electronic auction scheme gains currency in the fixed-income underwriting arena. In fact, we would fully expect such a model from one of the Big Three in reasonably short order. For the most part, investment grade underwriting is already priced like a highly competitive business, so the potential impact on most major houses will probably be minor.

Exhibit 69 Global Fixed Income Trading: Lots of Pennies in Front of This Steam Roller



Source: Corporate reports and Bernstein estimates.

Derivative Markets: Goldman May Have a Hull of a Deal

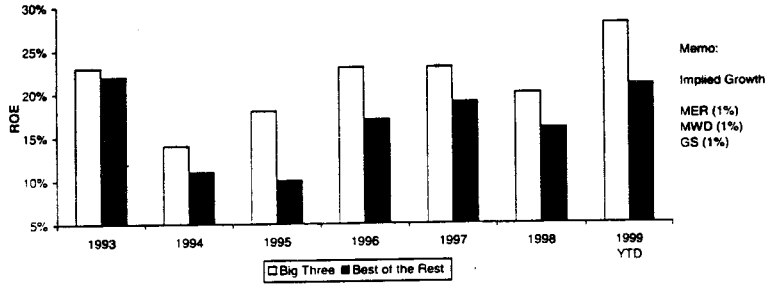
The remaining question regarding business-to-business e-commerce is how rapidly derivatives markets also begin to go more electronic. Highly structured swap products that require immense tax and accounting consulting are, by their nature, unlikely ever to offer sufficient volume to leverage an all-electronic platform. Options, futures and more standard swap products, however, seem ripe for a move towards more electronic trading. In this respect, while Merrill, and to a lesser extent Morgan Stanley, is avoiding fiddling to ensure that their retail businesses do not burn, Goldman's freedom to address the technology innovations underway in the institutional side of the business could pay significant dividends. In particular, in addition to Goldman's Softbank approach to investing in everything electronic on the equity side of the business, we believe the company may — assuming cultures do not clash — have a potential home run in the recent Hull acquisition. Hull has experienced extremely rapid growth as the company provided a high-tech alternative to the previously relatively low-tech world of options trading. Levering technology in this arena allowed Hull the fuel to generate really extraordinary growth by overlaying a more efficient mousetrap on the market (really no different than E*Trade in the retail arena). The challenge/opportunity for Goldman now is to see what other markets can benefit from an overlay of the Hull approach (which, in its simplest form, really substitutes capital for labor). While early days, we would suggest that minimally Goldman can apply Hull's technological trading model to an options aggregation product, futures and virtually any derivative instruments that lend themselves to electronic trading. As any number of new-era electronic operators have shown recently, the potential incremental revenue growth opportunities could ultimately be in the hundreds of millions of dollars.

On the second point regarding returns, we remain less sanguine. In this case, our view of experience clearly trumps hope. Simply stated, in an industry with egos as formidable as this, where the only real barrier to entry in a number of investment banking businesses is often capital (i.e., a checkbook), cyclical capacity will probably always come on at the wrong time. Still, the combination of strong revenue growth and ongoing profit/capital pressures is not all bad — once again conjuring up the technology analogy.

Global Investment Banking Franchises: Yours for Decades and Billions of Dollars

The Holy Grail of the securities industry continues to be a place in the bulge bracket. Of course, how the bulge bracket is defined is often open to significant interpretation. In fact, in the course of our research for this report we met more than a dozen industry players — all of whom claimed to be in the bulge bracket. Even the most ambitious of securities firms seem to recognize, however, that the bulge bracket is not a bracket at all but really two brackets: Goldman, Morgan Stanley and Merrill Lynch — and everybody else. Positioning within the top tier of the bulge bracket is of more than academic interest. Over the past decade, we estimate that Goldman Sachs, Morgan Stanley and Merrill Lynch have generated ROEs that are some 20% above the smaller industry players (see Exhibit 73). Again, however, not all investment banking operations are created equal and return profiles really run the gamut from Microsoft (M&A advisory) to Micron (short-dated, investment-grade underwriting).

Exhibit 73 The Case for a Bigger Cap Period for the Big Three



Source: FactSet.

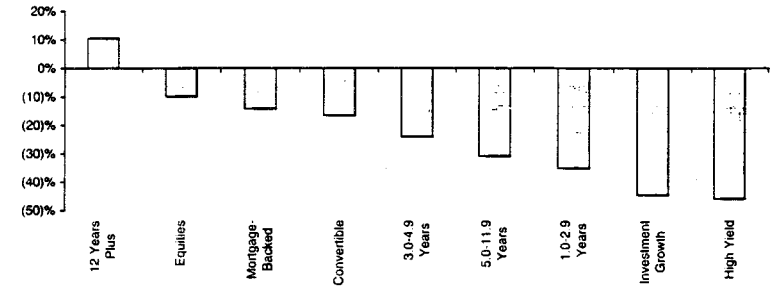
Not All Mandates Are Created Equal: Do Big Three Returns Support Higher Normal Valuations?

The economic returns from the pure advisory business in the securities industry are really unrivaled in financial services. Margins are north of 35%, returns on capital are close to infinite, growth has been high and steady, and risks are generally fairly low. So why do so many bulge bracket wannabes chase the equity and debt business, while so few seem to make forays into the world of advisory? The politically correct answer one tends to hear from the up-and-coming firms is that, to get the ear of the decision-makers, equity and debt trading and underwriting efforts are really a prerequisite — a first step if you will — to establishing an even more meaningful dialogue. The correct answer is more likely that, much like Coke has a brand equity built with consumers over years, so do Goldman Sachs and Morgan

Stanley. Simply stated, the business is tougher to crack. Again, as noted previously, capital-raising activities can often be acquired through a rented balance sheet and tend to be somewhat less strategic than major mergers or acquisitions. Advisory activity tends to be much more relationship-driven, with a given board of directors inevitably showing a strong desire to err on the side of experience with a name player. In consumer marketing parlance, frequent purchases considerably raise the buyer's price sensitivity; infrequent purchases generally shift the focus to qualitative issues. In this sense, short-dated debt underwritings are the milk and the bread of the industry, while an IPO or acquisition is the kid's college education. While there are clearly businesses where market share is inversely co-related to profitability (the investment-grade debt markets come to mind), the M&A advisory business is definitely not one of them.

The underwriting business, in contrast, runs across a much broader spectrum of profitability and returns. Not surprisingly, profit metrics are closely correlated with the strategic importance of the capital raising and involve running the gamut from IPOs to commercial paper issuance. Perhaps just as importantly, the higher-value product suite products have experienced considerably less spread degradation over time than the more pedestrian counterparts (see Exhibit 74). (High yield is something of an anomaly, given its relative youthfulness as a market.) Again, not so surprisingly, Goldman, Morgan Stanley and Merrill generally dominate the high value-add products (excepting DLJ's formidable position in the high-yield market). This goes a long way, in our view, to explain the return superiority that these franchise businesses tend to accrue through a cycle. Looking ahead, the profit gap differences between high- and low-end underwriting products will continue widening as new entrants continue to lead with their check books in the niche of businesses that generally can be "bought." This implies, of course, that the investment banking mix advantage of the Big Three may widen, lending at least some theoretical support to the secularly higher normal valuations we currently see in Morgan Stanley and Merrill Lynch (and which are distinctly absent in Lehman, Bear Stearns, and even DLJ).

Exhibit 74 Underwriting Spread Degradation in the Past Decade

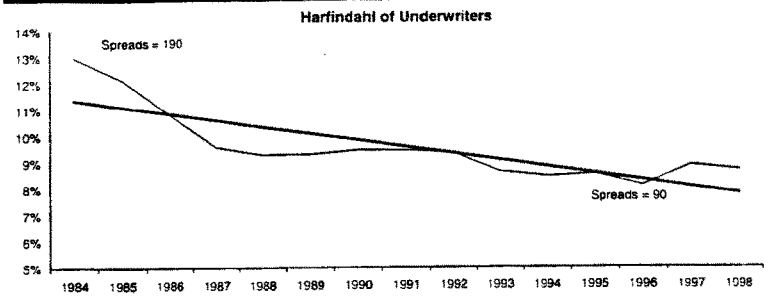


Source: Thomson Financial Services and Bernstein estimates.

Contrary to Industry Beliefs, Only Merger & Acquisitions Operations Are Getting More Concentrated

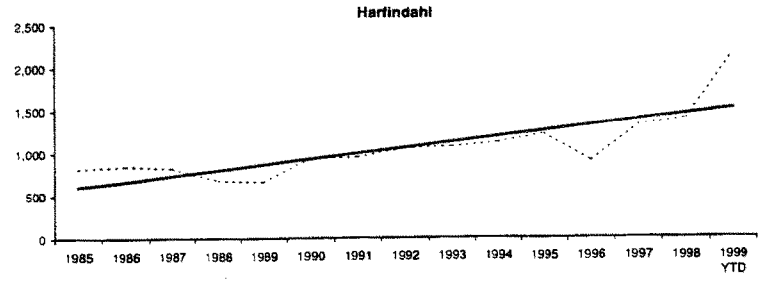
Virtually every major industry player asserts that one of the primary reasons investment banking is so terrific is that market share is increasingly accruing to an ever select group of winners. The argument is straightforward: as Kidder, E.F. Hutton, L.F. Rothschild, Drexel *et al.* have failed, a greater part of the booty is being allocated among a smaller group of players. The data, however, suggest otherwise. In fact, of the chief components driving the investment-banking business — equity & debt underwriting, IPOs and mergers & acquisitions — only M&A has become materially more consolidated over the last 20 years (see Exhibits 75 and 76). While some above-market gains have accrued to Morgan Stanley, Goldman and Merrill, the reality is, the level below these majors has actually become more fragmented over time. For every Drexel exit there has been a Deutsche entrance — and then some. With this in mind, it is not surprising that the trendline for fees in most investment banking services — other than M&A (and to a lesser extent IPOs) — has been strongly downward.

Exhibit 75 The Myth of Increased Concentration



Source: Thomson Financial Services.

Exhibit 76 Increasing Concentration Supports High M&A Returns



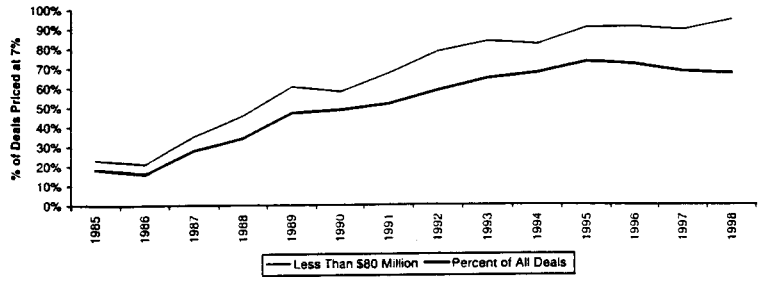
Source: Thomson Financial Services.

Interestingly, what generally separates M&A from the other investment banking offerings is that, for the most part, capital commitment is not necessarily an integral part of the consumers decision-making process. Given this, non-bulge-bracket competitors can fairly consistently rent market share by leading with their check books. While it is probably dangerous to isolate the profitability of a single investment banking operation from the whole (given a tendency for both clients and banks to think of things in a relationship context), the advisory business more than any other seems franchise-driven. As such, we believe existing positions of strength (and weakness) will be much harder to alter over time than capital-committing business. Said another way, Goldman and Morgan Stanley are squarely in the driver's seat; dominance is theirs to lose.

What Is the 7% Equity Solution?

Over 90% of all IPOs under $80 million are priced at exactly 7% (see Exhibit 77). In an industry notorious for diminishing pricing trends across virtually all capital-raising products, this fact stands out as a tremendous aberration (so tremendous, in fact, that the government has embarked on an investigation of potential collusion). For the most part, however, we believe that such universal agreement on one price point for smaller equity underwritings genuinely reflects a consensus view that economics worse than this would broadly fall into the — not worth the trouble camp. A uniform 7% IPO price point pricing may also, obviously, reflect fat times. In any instance, given fees from this segment of the IPO market account for approximately 25-30% of all IPO underwriting fees, we do not believe an unwinding of this 7% anomaly to average levels (of around 5.5%) will materially change the economics of the IPO market as some have speculated. Taking this entire segment of underwriting down to average IPO spreads would result in about a $150 million diminution in industry IPO revenue — *de minimus* in the scheme of things. Instead, the more important long-term concern for the industry is not that the relatively small 7% consortium gets broken up, but the more important big ticket equity market sees profit pressures akin to those experienced in other underwriting products. As currently configured, beyond the Big Three we expect the usual battles for league-table positions among the usual suspects (Salomon Smith Barney, DLJ, Lehman and Bear Stearns) and some newer ones (J.P. Morgan). Given the definitional infrequency of the actual event for any given company, a real shake-up of the economics of the IPO market would obviously need to be driven by a completely new — and far better — capital-raising mechanism. Whether the open IPO format is that mechanism or not remains to be seen. With the historic mispricing of equity deals, however, the opportunity for a new underwriting methodology has probably never been better than it is today. If the format does gain currency, we would likely see a step-down in underwriting spreads — accompanied by a dislocation of the status quo in market shares among existing players (Merrill, Goldman, Morgan Stanley).

Exhibit 77 Is an Open IPO System the 7% Solution?

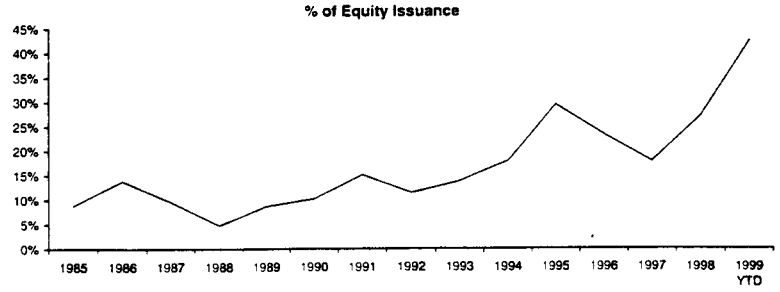


Source: Thomas Financial Services and Bernstein estimates.

Technology-Related Banking Fees Have Outsized Import: Fee Volatility Could Rise

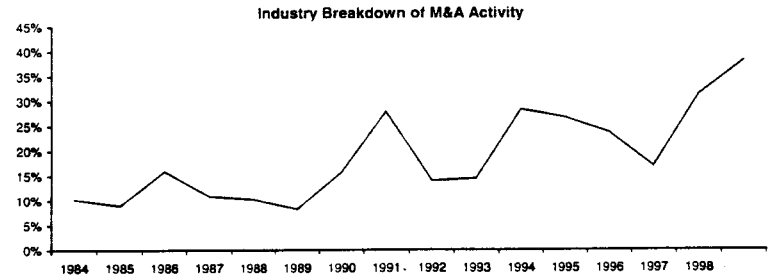
Investment bankers are remarkable animals. Despite an overwhelming trend towards specialization among investment bankers along industry lines, most firms have proved quite nimble in changing course mid-stream to catch the latest wave of deal flow. Most recently, the wave of activity has been financial services-related as the rationalization of the U.S. banking system began in earnest. Prior to that, it was healthcare, and before that, real estate. At various times any one of these industries might have accounted for as much as 25% of total corporate finance deal flow. Today, however, technology has moved front-and-center position in the banking world (see Exhibits 78 and 79). In and of itself, the dominance of technology in the industry is not terribly troubling. As technology and related industries currently assume a greater percentage of market capitalization than at any time in recent history, it is probably only natural that an outsized percent of investment banking business is accruing from this sector (see Exhibit 80). What may give some cause for pause, however, is just how quickly that technology sector rotates from boom to bust. While it is easy to get the sense that this time is different, with technology and its importance in the economy (and, therefore, investment banking), historically this bet has been far from bullet-proof. At the risk of being branded a Luddite, we believe that the recent technology boom has resulted in both an acceleration in investment banking opportunities, but also volatility.

Exhibit 78 TMT Reliance = TNT?



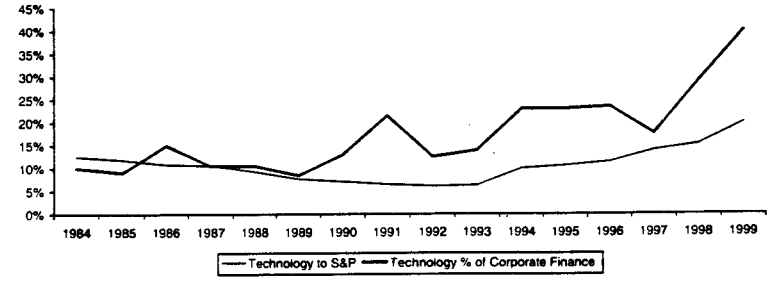
Source: Thomas Financial Services.

Exhibit 79 TMT: M&A Driver as Well



Source: Thomas Financial Services and Bernstein estimates.

Exhibit 80 Technology: Outsized Business vs. History



Source: Thomson Financial Services and Bernstein estimates.

To the Bundler Go the Spoils

Unbundling, the curse of any number of areas in the securities industry, may potentially be poised to actually "go the other way" in the core investment banking business. Both our polling of corporate CFOs, as well as discussions with players across the financial service spectrum, suggest that one-stop shopping is gaining currency as a form of competitive advantage. Reacting to this, Morgan Stanley and Goldman Sachs are building syndicated lending operations to support their already robust investment banking franchises, just as Chase is using its balance sheet to promote advisory mandates. As models converge, it is easy to see the corporate CEO being able to launch a cross-border takeover bid in which bridge, take-out, equity underwriting, advisory, interest rate and currency swapped are all bundled in a single (albeit incredibly long and probably legalistic) mandate. While any single institution may offer better terms (and competency) on a specific part of the financing package, the ability to limit the number of providers seems to hold significant appeal for consumers of the investment banking product. As with most economic models, bundling typically leads to opaqueness which generally leads to higher levels of profitability. While virtually every major capital markets competitor claims one-stop shopping capability, of the U.S. players we tend to conclude that relatively few players can actually deliver the goods globally. Only Citi, Morgan Stanley, Goldman, Merrill and, perhaps increasingly, J.P. Morgan stand out as players capable of providing integrated equity/debt/currency and derivative solutions in a bundled package on a global scale.

The Advantage of the Diversified Business Model: Avoiding the Devil and the Deep Green Hold-Up

Without question the single biggest risk any company faces in employee retention will be the occurrence of company-specific problems in an otherwise robust securities environment. Given the mercenary nature of the industry, such a circumstance provides the ultimate dilemma for management — how to balance the deep green hold-up in the form of an unacceptably high compensation ratio versus the devil of experiencing a potentially franchise-crippling staff outflow. While some might argue that the choice on this point should be clear — it is actually in shareholders' interests to ensure high employee retention — the alternative in a time of stress — being taken out at a premium by acquisition — may often hold even greater appeal for stockholders.

Beyond the obvious goal of reducing the volatility of an earnings stream, it is also reasonably clear that a diversified business model holds considerable appeal in limiting staffing booms and busts that generally accompany earnings booms and busts (see Exhibit 81). It is not a secret that the employee histrionics that used to accompany the old Salomon Brothers' earnings volatility generally resulted in far greater compensation costs through a cycle than competitors were forced to pay. In this sense, we suspect Morgan Stanley may, in fact, now benefit from a widening competitive advantage versus its peers. The spread of its businesses should not only allow investors to place a longer duration on the company's earnings streams, but also allow the company to avoid the very high cash and friction costs of excessive employee turnover. While tested in last year's third quarter, this same analysis broadly applies for Merrill Lynch (in fact, we have been somewhat surprised that Merrill did not experience higher employee turnover recently — it has been roughly flat around 11%). Of the Big Three, Goldman continues to maintain the least diversity and it will be interesting to see how the firm would fare — as a public company — should it experience anything like 1994's bond market rout.

Exhibit 81 Compensation to Net Revenue (1990-98)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average	Standard Deviation
BSC		42%	48%	40%	53%	43%	44%	44%	52%	48%	8.6%
MWD			-	50	50	49	50	46	46	48	1.9
LEH			54	52	47	50	51	51	51	50	1.8
MER	53%	53	51	50	52	52	51	51	52	51	0.9
DLJ	61	58	61	63	60	61	56	55	57	58	3.3
Industry	57	50	52	52	57	52	52	51	54	53	2.4

Source: SIA, corporate reports and Bernstein estimates.

Is Silicon Valley or Accrued Wealth the Biggest Risk to the "Asset" Pool?

Next decade's high-priced rainmaker is, of course, often today's second-year MBA. Accepting that the assets on the Street truly are the individuals, there has been considerable press coverage that the allure of the DOT may unalterably shift the tide of new talent away from New York directly to Silicon Valley. In this context, we felt it was worth taking a look at whether the Street was in fact experiencing a brain drain (leading to a lower quality asset pool with — presumably — concomitantly lower returns), or whether the perception that Wall Street is yesterday's career was inaccurate. Somewhat surprisingly, the data actually suggest that more recent top business school graduates have headed to the Street rather than fewer (see Exhibit 82). To some extent this trend may merely reflect the nature of the tech entrepreneur — the most famous one being a college drop-out. While it remains to be seen whether the latest flood of newcomers will prove to be contra indicators or not, the numbers suggest that the pipeline of "assets" should be reasonably full in the near term.

The more pressing issue we have heard from virtually every company in the industry is not a fear of a Silicon Valley brain drain (at either the entry level or the managing directory level), but rather, How do you keep people motivated when they have made so much money? This is especially so if the business becomes a lot less "fun" in any downturn. The simple answer may be that the Type A personalities the industry attracts tend to be motivated by more than money anyway. With the average compensation per employee in the industry now running north of $220,000 (see Exhibit 83), however, we suspect wealth-induced employee turnover could become a real issue for a number of players — most obviously Goldman — but really across the industry. By Goldman's own admission, following the IPO, they do expect some uptick in managing director turnover, perhaps moving from well-below peer averages (6%ish historically) to perhaps as much as twice that in the next few years. Given how highly Goldman's employees are currently capitalized by the market (see Exhibit 84), we believe investors should increasingly pay particular attention to the trend in intangible assets moving out the door at that company specifically, but all companies generally over the next few years.

Exhibit 82 **Top MBA Programs: Percentage of Graduates Choosing Investment Banking/Brokerage**

School	1994	1995	1996	1997	1998
Wharton	19%	18%	19%	25%	28%
Northwestern (Kellogg)	13	13	14	13	17
University of Chicago	15	16	20	24	29
University of Michigan	2	6	7	7	9
Harvard	19	17	16	16	13
Columbia	31	33	34	36	37
Duke (Fuqua)	11	12	14	19	18
Cornell (Johnson)	11	12	13	15	21
Stanford	16	15	12	14	14
Dartmouth (Tuck)	19	20	12	26	20
UCLA	14	17	14	21	22
MIT (Sloan)	17	11	17	23	21
Average	15%	16%	16%	20%	21%

Source: Universities.

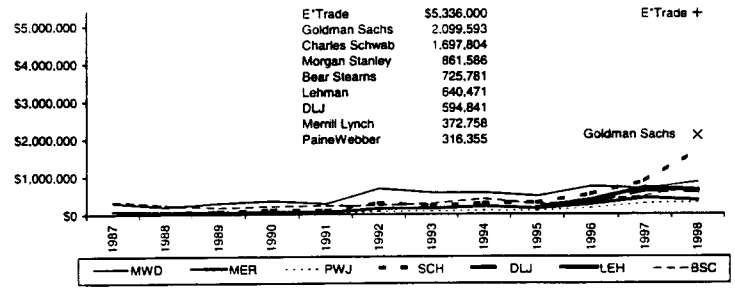
Exhibit 83 **Compensation per Employee ($ 000)**

	1993	1994	1995	1996	1997	1998
Merrill	$125	$112	$113	$133	$140	$144
MS	248	179	203	247	278	317
Morgan Stanley	107	95	98	113	127	145
Lehman	189	166	199	231	235	235
Bear Stearns	164	168	144	190	208	230
DLJ	290	197	258	261	271	264
PaineWebber	113	107	126	140	146	146
Goldman Sachs	254	199	246	270	292	294
Schwab	60	48	57	74	76	87
Average	172	141	164	184	197	207
Average Excluding Schwab	186	153	177	198	212	222

Note:
BSC data is for fiscal years ending June 30.
MS is Morgan Stanley stand-alone. 1997 and 1998 are estimates.
MWD includes credit services.

Source: Corporate reports and Bernstein estimates.

Exhibit 84 **Are Goldman's Employees Really Three Times as Good as its Peers'?**



Source: FactSet.

Investment Banking Cost Fixity on the Rise? Long-Term Contracts...

Daytraders and Internet valuations, the NYSE's desire to go public, extended trading hours, Goldman's IPO — each has been — in its time, dubbed the sign of the market's top. In our view, these admittedly ominous signs pale in comparison to recent press reports that the scions of Wall Street may soon be represented by — agents. All that's missing to confirm that the apocalypse is upon us are investment banking trading cards (I'll give you two John Macks for one Ace Greenberg), and a rollout of The Analyst's Café (an HP12C at every table). Along these lines, in our view, the most alarming recent trend for shareholders has to be the advent of the long-term guarantees for investment banking talent. As the rainmaker job market has become increasingly tight, firms have extended the length of their obligations to attract top talent. Historically, the maxim on Wall Street had been, 'you always overpay your mediocre people and can almost never overpay your best people.' The logic behind such a statement actually made good sense. A talented investment banker who could lure in a big ticket transaction could easily pay for him- or herself with one transaction, require no real incremental capital, and could be laid off in any downturn. With long-term guarantees, however, we are no longer certain this maxim holds true. In fact, we suspect even a number of the very best people on Wall Street may now actually be overpaid in an economic sense. That is, by setting and terming out compensation at the height of a bull market, it is no longer clear that risk and reward is being meted out proportionally among shareholders and employees. Human nature being what it is, we suspect shareholders are much better off owning their talent as perpetual free agents who need to earn their paychecks each year rather than locked-in, high-priced talent. The advent of multiyear contracts on the Street has likely increased the cost fixity of the business.

...And the Fear of Blinking

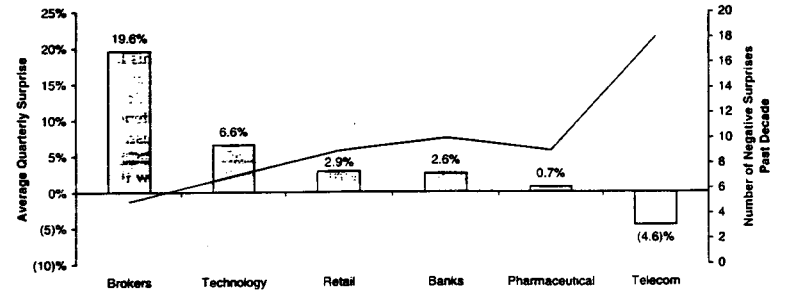
Finally, we suspect the other reason costs may prove more sticky in a downturn than most insiders would acknowledge is the somnolent effect a bull market can have on even the most engaged cost hawk. We assert this, not so much in the sense of questioning management's ability or willingness to lower bonus accruals intra quarter, but much more so in the sense of making the significantly more difficult decision to downsize staff. Every management we interviewed for this report has aggressively taken the position that the single-biggest "mistake" they may have made in the past decade had been in reducing staff levels in response to short-term market shocks. Merrill has been roundly criticized for "blinking" in last year's market seize-up. Goldman still publicly rues the redundancies from 1994's bond market debacle (which allowed, quite directly, DLJ to increase its prominence in fixed income). And so forth. In light of this kind of buy-on-the-dips attitude, we believe it is reasonable to expect that there will be, in the next downturn, something of a lagged effect on headcount reductions by many industry participants. While most players contend that their operations are already "right-sized," the reality is the industry has not faced any kind of sustained downturn in well over a decade and returns are probably about 30% above normal. As such, it is our view that, more likely than not, the current trend of well-above-consensus earnings by the group will just as likely be mirrored to the downside, with sustained below-consensus results in the face of any prolonged downturn.

Valuation — Mo′ Mo′ or No Mo′?

A Decade of Exceeding Consensus Expectations: When Does Cyclical Become Secular?

The bull market has made a mockery out of the sell-side consensus (OK — more of a mockery than usual). In an industry notorious for being filled with chronic optimists, brokerage companies have exceeded sell-side forecasts by a wider margin than any major sector of the market (see Exhibit 85). While, in part, the underestimation of the groups' earning power may be directly related to the relatively limited analyst coverage, poor disclosure on most industry participants part, and the surprise of a vastly extended business cycle, the mismatch between expectations and reality is noteworthy. After this decade-long string of positive quarterly surprises, a legitimate question has to be asked: Has the industry simply evolved to the point where it is capable of generating higher returns and growth on a sustained basis? Said differently, Should these stocks really be viewed as growth stocks rather than cyclical-growth stocks? For the most part, we think not. Again, the technology analogy applies. While the underlying organic growth prospects in many key lines of business are quite robust, and will likely continue to be, the survivorship rates in the industry are so poor that it is overly generous to extrapolate earnings too far into the future for most industry players. While Morgan Stanley, Merrill and Goldman probably have the depth and breadth of business today to ensure the long-term survival of their franchises, survival is distinctly different than thriving. One only has to look back to Drexel, First Boston or Salomon Brothers to see just how quickly a strong franchise can move from first to worst. Now clearly, while Drexel and Salomon had much greater earnings concentration than Morgan Stanley or Merrill, the variability of league table positions generally shows just how ephemeral even the stronger franchises in the industry can be. When this variability is combined with generally higher levels of leverage today (and lower return on assets), it is perhaps a bit more understandable why even the top franchises in the sector are trading at such steep discounts to the market on current earnings.

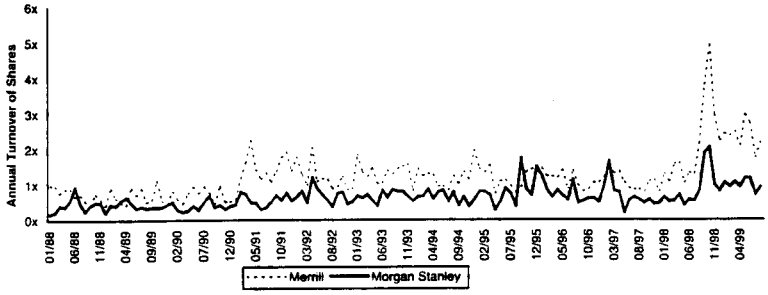
Exhibit 85 Brokers' Positive Surprises: When Does Cyclical Become Secular?



Source: FactSet and Bernstein estimates.

As we have noted in the past, in the near term, the stocks in the securities industry trade can be viewed as high beta proxies for the market. Not surprisingly, the volatility of the group provides a fairly binary set of investors in the stocks: the near-term trader looking to leverage her market bets on the one hand, and the buy-and-hold GARP investor endowed with a case or two of Maalox. Clearly, in the near term, the traders have been winning out. This is most dramatically evidenced in looking at the turnover in Merrill's shares over the past decade; the average holding period has moved from years to months (see Exhibit 86).

Exhibit 86 Merrill's Shareholders Now Think in Months Rather Than Years



Source: FactSet and Bernstein estimates.

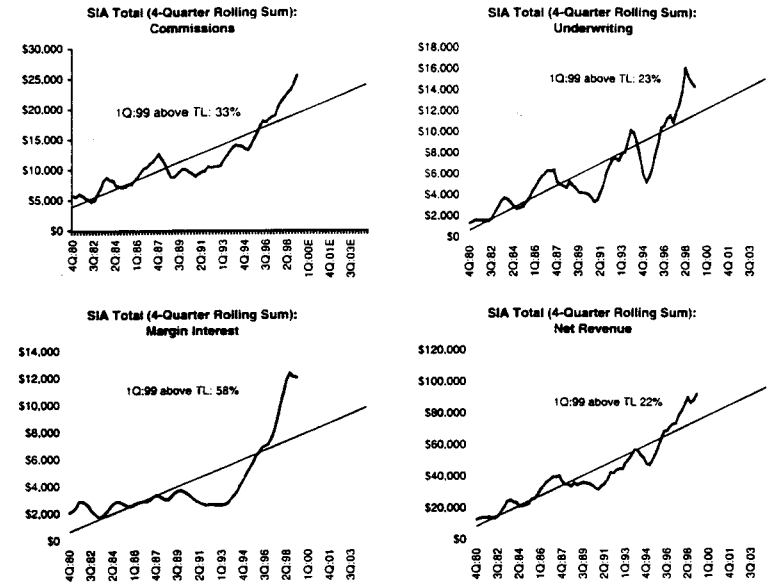
The Revenue Growth Story Is Real, But the Industry Is Running Far Ahead of Trend

Again, for several areas of the businesses, we are actually reasonably convinced of the long-term secular revenue growth that will benefit industry leaders. In fact, on a Bernstein-adjusted basis, we are quite giddy about the group's long-term outlook. The synchronous opening of international markets, remarkable advances in communications, massive consolidation of global industry, and the tremendous need for retirement savings have all combined to create a nice environment for growth. Trading volumes, global mergers and acquisitions, and increases in household financial assets have each grown at rates well in excess of global GDP, and are probably likely to do so prospectively as well. So why then are three brokerage stocks among the ten stocks in the S&P with the lowest P/E multiples on 2000 estimates? Well, despite a powerful secular platform for growth, a detailed look at most relevant data suggests that current earnings, returns and growth levels are simply too far above trendline to offer a favorable risk/reward profile for investors today.

While net income can obviously be extremely volatile on a year-to-year basis, industrywide net margins have shown a very strong tendency to average around 10% over several decades. As such, the key to forecasting earnings falls squarely on the revenue line of the profit and loss statement. It is here, of course, that the near-term results versus trend highlight some of the risk in the group today. Exhibit 87 graphically presents the industry's chief revenue drivers and their trendlines over a 20-year period. As will quickly become evident, even the most mature revenue items, like listed commissions, are running far above trend. In fact, both revenues and net income would have to remain flat for about five years for the industry to

get back on trend — while margin interest is running a frightening ten years ahead of norms. In light of these statistics, it is easy to make the case that current earnings are, in fact, quite close to "normal" earnings, and very little should be expected in the way of earnings growth through the next cycle. Stated more simply, we have a cyclical growth industry generating near-peak earnings so, of course, current multiples are low. As such, the prospect of buying into potential earnings declines in the industry seems reasonably high today. Historically, the market has anticipated these earnings declines one to two quarters in advance and this time seems to be no different.

Exhibit 87 Chief Engine Drivers vs. Trendline ($ million)

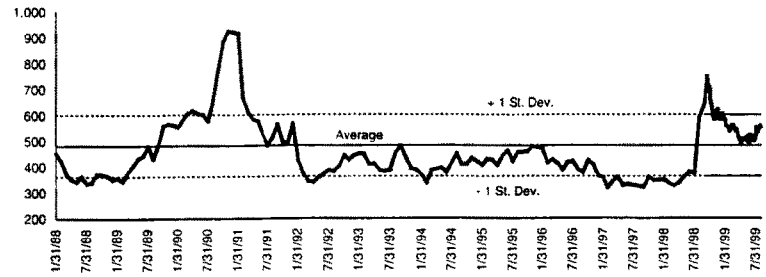


Source: SIA and Bernstein estimates.

Debt Spreads Are on the Rise, a Precursor to Underperformance

One of the better near-term leading indicators of stock performance in the group is fixed-income spreads (see Exhibit 88). We suspect this is true for the fairly straightforward reasons that the fixed-income business is very important to industry earnings power (as spreads widen liquidity moves inversely), but also because the debt market has generally proved a decent leading indicator for virtually all markets. That is, if liquidity in the debt market dries up, equities, underwriting, currencies and even, to a lesser extent, mergers and acquisitions ultimately become far less robust.

Exhibit 88 Bear Stearns' High Yield Composite Index Spreads Over Treasuries



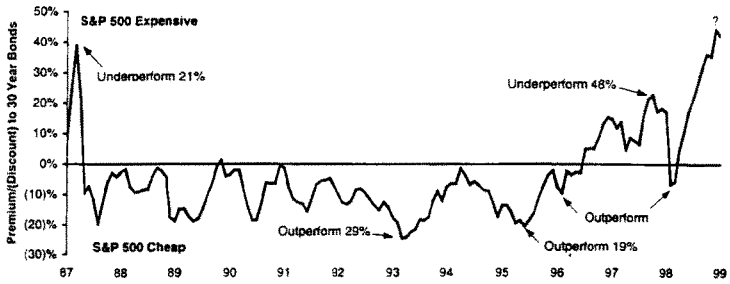
Source: Bear Stearns.

Again, investors seem to understand this fact. Notwithstanding the year-to-date strength in the business for virtually all market participants (and the above-expectation earnings that strength generated), most brokerage stocks are now experiencing considerable multiple compression as debt spreads have been rising nominally. While still far removed from last summer's (or, indeed, 1987's) peaks, debt spreads are at levels that, at least historically, have indicated an impending slowdown in trading activity.

On the Equity Side Risks Seem Exceptionally High

Given the importance of near-term market conditions to stock performance in the group, it is worthwhile to incorporate some form of market model to help measure potential imbalances in the U.S. equity markets. The relatively straightforward model we have elected to use is one that compares the expected returns in the S&P 500 to those of long-term bonds. The model measures expected return on stocks (by regressing long-term earnings to mean returns over a ten-year period), and compares this result to the 30-year Treasury bond. While somewhat more complicated than the model purportedly used by the Fed in looking at stock market risk (comparing the inverse of current price earnings ratios to the ten-year bond), the model does incorporate a forward-looking assessment of market earnings. While some may question the usefulness of interest rate models in a time of such low inflation, and "new paradigmers" will question whether returns will regress to a mean at all, a back-test of the model has proved to be useful in signaling subsequent six-month broker performance (see Exhibit 89). Essentially, when expected returns of the S&P have been 20% less than the long bond, the brokers have underperformed; when 20% above, the 30-year stocks have outperformed. Today, the model indicates the spread between expected return on stocks is almost 40% less than Treasuries — a level that exceeds 1987 pre-crash levels. Not surprisingly, given high betas, individual brokerage stocks have lagged the market following periods of extreme stress, while generating strong returns when market valuations were "low."

Exhibit 89 S&P Valuation vs. the Long Bond



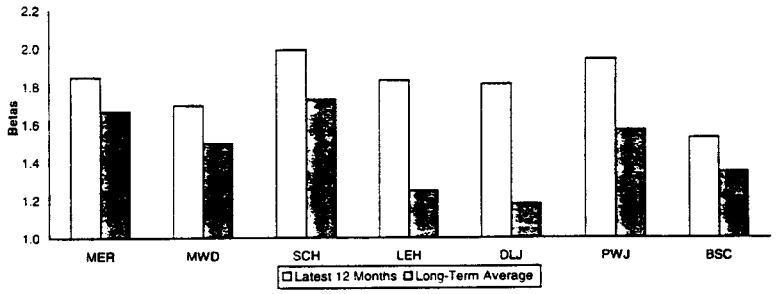
Note: Highlighted points show subsequent six-months relative performance of the brokerage group.

Source: S&P, FactSet and Bernstein estimates.

"Normal" Valuations and Above-Trend Revenues Suggest Better Entry Ahead

Making broad industry valuation arguments using an historical context is somewhat difficult because of just how much the landscape has changed over the years. With the exception of Merrill Lynch, PaineWebber and Bear Stearns, few companies have really had a long enough history as publicly quoted concerns to really provide meaningful valuation data. In fact, seven of the ten companies in our coverage were either formed or went public during the recent bull market. Recently, of course, swept up in the current zeitgeist, the stocks have been driven by price and earnings momentum. Given the inherent volatility in the securities business, however, we would expect the best predictor of stock performance in the group over the long haul to be price-to-normal-earnings, or the average earnings power a given firm could expect to generate through a cycle. A normal earnings construct obviously makes sense, given the inherently cyclical nature of the business and the tendency towards booms and busts. In recent history, of course, the extended boom period in financial assets has resulted in investors placing a much greater emphasis on current earnings, and price momentum in valuing the stocks and the group has really acted like the S&P on steroids (see Exhibit 90). As the benign environment has persisted longer than the consensus could have imagined, we have seen a reasonable upward slope in the secular normal valuations some of the brokers have been accorded (see Exhibit 91). In our view, this probably only makes sense if returns on capital have been rising secularly. On this point, however, the evidence is not compelling (see Exhibit 93). Again, while our bias on the long-term prospects of the industry is reasonably positive, the combination of normal to above-normal valuations, and well-above-trendline growth in most key revenue categories, suggests that the current risk reward profile is still not universally favorable. Having said that, the group does tend to self-correct quite quickly so it would not be shocking to see the overtrend environment fully (if not more than fully) reflected in stock prices by the time this book goes to print.

Exhibit 90 The Brokers: The S&P on Steroids

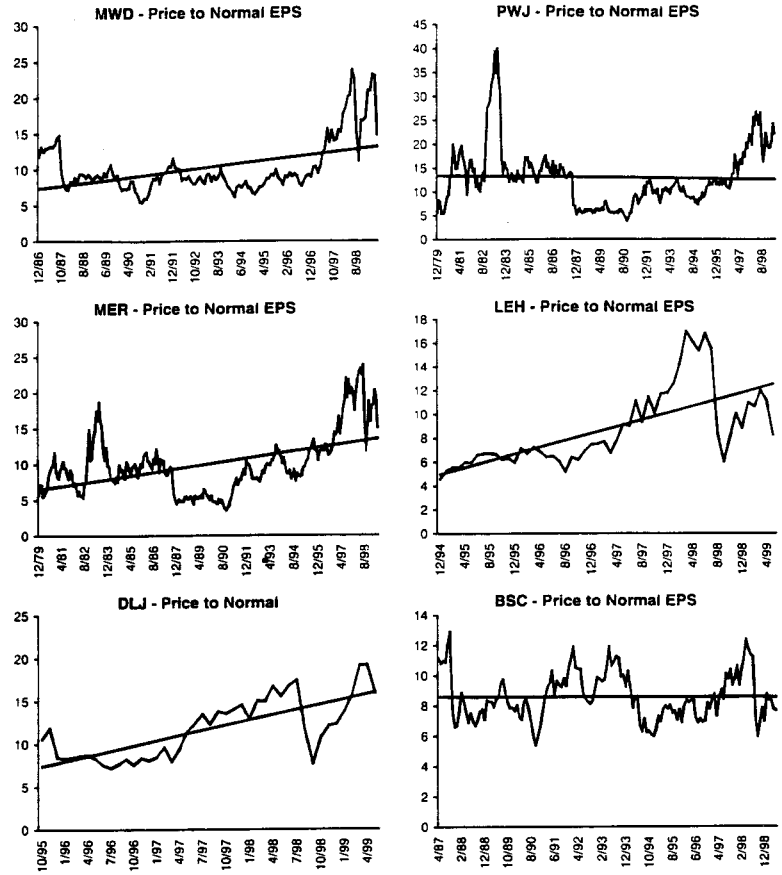


Source: FactSet and Bernstein estimates.

Beyond the Bubble — Franchise Value and Duration: The Big Three's Case for a Longer Cap

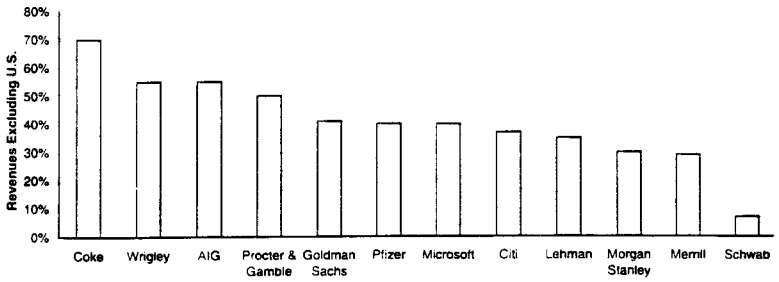
To a man (or woman), senior management in the securities industry consistently cite "franchise value" as a chief competitive advantage that their firm possesses. The beauty of an industry where assets and liabilities are marked-to-market each day, of course, is that, for the most part, the excess of market value over book value provides pretty much a daily scorecard of this franchise value. Interestingly, a dispassionate look at the data suggests that some of the Street's franchises are being accorded a higher premium than their financial characteristics might suggest is warranted. Lehman and Bear Stearns fall squarely in the Rodney Dangerfield category, while Goldman seems to be benefiting, at least to a degree, from an outsized premium relative to its likely financial results through a cycle.

Exhibit 91 Brokers Price to Normal Earnings Over Time



Source: FactSet and Bernstein estimates.

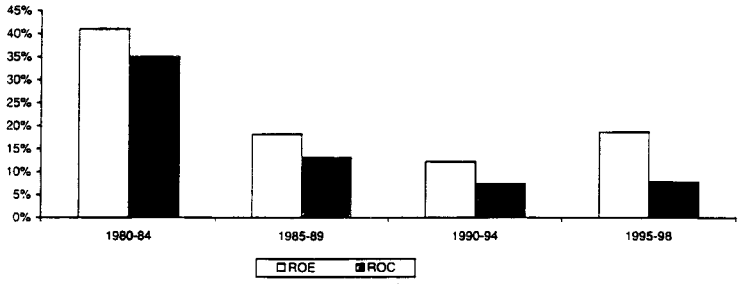
Exhibit 92 Big Three (and Lehman) Sneaking Up on Multinationals



Source: Corporate reports and Bernstein estimates.

Looking deeper at the franchise issue, increasingly the three big global players Morgan Stanley, Merrill and Goldman Sachs will probably genuinely be able to make the argument that their brands can become almost as widely known (and, more importantly, used) as Gillette or Coke. From a relatively low base only a decade ago, these global bulge-bracket players are now in a position to potentially derive almost half their income overseas — which actually compares quite favorably with most multinational consumer franchises (see Exhibit 92). As international operations gain scale, it is reasonable to make the case that the Big Three's earnings can both grow faster and become less volatile over time, given a kind of global smoothing across business cycles. In short, their competitive advantage period is widening. While there has been a growing valuation gap between the Big Three and the pack over time, it is interesting to note that the capital markets are still assigning a reasonably short duration on the companies earnings streams. As we discussed earlier, given the low survivorship of the average brokerage firm, short-duration valuations still make sense in the group. In our view, given the strong international progress that has been made by Merrill, Morgan Stanley and Goldman, it is not inconceivable that, ultimately, someone in the group is accorded a multiple a bit more in line with other global, broad-based financial service providers like American Express or AIG. In the very near term, however, too many of the group's businesses are running too much ahead of long-term trendline for investors to rush in and make a multiple-expansion-to-AIG-levels bet. To provide a tangible example of just how difficult it is to crack the top rung of the investment banking ladder, it is worth noting that J.P. Morgan spent the better part of a decade, and billions of dollars, before it really began to make its presence truly felt.

Exhibit 93 Domestic Institutional Securities Firms' Returns

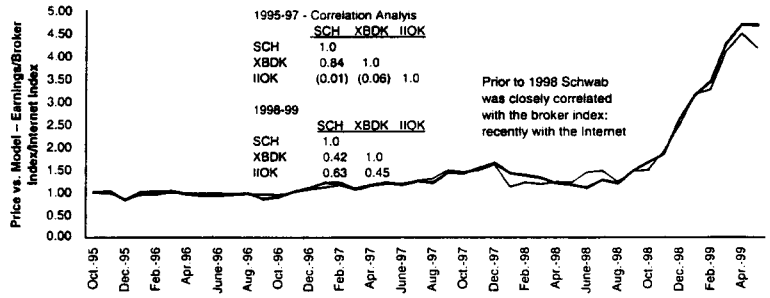


Source: SIA and Bernstein estimates.

Schwab's Valuation: From Super Broker to Net Darling and Back?

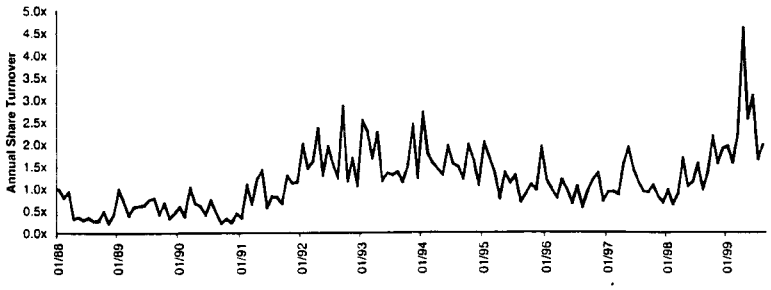
Schwab is one of the few legacy companies (if one can consider a company that floated as recently as 1987 as legacy) that became completely revalued as a new era company with the Internet wave. At some levels, this revaluation upward seemed reasonable. The company's growth rate accelerated meaningfully (almost doubling from 1997 [14%] to 1998 [28%] and again from 1998 to 1999 [50%+]), and financial services was clearly the killer application for the Internet. As these facts became clear, Schwab completely broke out of its historic trading pattern (see Exhibit 94), and became closely correlated with the movement in Internet stocks broadly rather than more traditional metrics. Corresponding (leading?) with this move into lock-step with the DOT has been a massive increase in the annual turnover of the shares (from an average holding period of just under two years five years ago to about three months today — see Exhibit 95).

Exhibit 94 Schwab: One Stock — Two Eras



Source: FactSet.

Exhibit 95 Schwab Investors on Internet Time: Holding Period Fell from Three Years to Three Months



Source: FactSet.

Having fallen around 50% from its highs, the stock is squarely stuck in the middle between its old legacy valuation as a great long-term growth company (its long-term relative average P/E prior to the online boom was 130% versus 150% today), and the more recent Internet run-up. The obvious question: Which valuation is more appropriate? For the most part, the latter would require the company to compound earnings at about an 18% long-term clip (actually about 300 basis points below its historic average), while the former would require something in the order of low-teens growth to be appropriate. Given a number of challenges we see across Schwab's businesses today (notably Mash, the RIA operation, supermarket operations, and retail commissions broadly), we are projecting that the company generates low-teens earnings growth over the forecast period. To obtain a higher growth rate off of today's base, the company would have to once again reinvent itself in a reasonably profound manner. It has done so in the past and it is highly possible it will do so again in the future. In our view, however, the stock already discounts success on this point. Further, and perhaps more importantly, we broadly expect a deceleration in earnings growth in the face of many near-term challenges before a subsequent re-acceleration occurs. With this forecast, we believe it is highly unlikely that the stocks multiple expands in the near term.

E*Group: The Brokerage and Investments Gets You to $15 — That Vision Thing Required for More

We estimate almost 50% of E*Group's current valuation is supported by a conviction that management can execute on its vision of becoming the leader in digital media finance (see Exhibit 96). For the most part, we actually think it will. The company is now blessed with two profound competitive advantages versus any other player in the financial services: 1) With no legacy anything (branches, computer systems or management thinking), E*Group is in a very strong position to provide a value advantage over any real competitor — from Schwab to Merrill to American Express; and 2) by betting the ranch early and often, E*Trade has now established itself as the leading brand for what it does on the Internet. Absent hubris, the niche technophile market is probably E*Group's to lose.

Exhibit 96 E*Trade's Valuation: Almost 50% from That Vision Thing

	Brokerage-Only Model Assumptions	Diversified Business Model: Moderately Aggressive	Aggressive	Very Aggressive	Timing
Account Growth	by 2004, about 4 mil. accounts by 2014, about 10 mil. accounts 4-year CAGR 26.4% 15-year CAGR 13.5%				
Trading Activity	Stable (19/account/year)				
Pricing	Fairly Stable ($19-$17/trade)				
Margin Debt Loan Rate	Stable ($2,000/account) Stable (net 3.5%)				
International	Steady Growth at 20% (CAGR = 20%)	60% in year 2001 20% at year 15 15-year CAGR 31%	80% in year 2001 20% at year 15 15-year CAGR 37%	100% in year 2001 20% at year 15 15-year CAGR 41%	43.5% 2004-14 15-year CAGR 37%
Other	15-year CAGR 25% Steadily decreasing 40-15%	60% in year 2000 20% at year 15 15-year CAGR 31%	80% in year 2000 20% at year 15 15-year CAGR 38%	100% in year 2000 20% at year 15 15-year CAGR 41%	37.5% 2004-14 15-year CAGR 38%
COS to Transaction	Stable at 60%				
Marketing	Steadily decrease to 12% of net revenue by 2004				
Tech Development	Steadily decrease to 13% of net revenue by 2004, and 11% by 2014				
G&A	Decrease to 10% of net revenue by 2004, and stable afterwards				
Discount Factor	Discount rate 20%				
Growth Rate After 15 Years	8%				
Current Value per Share	$10.17	$15.67	$23.50	$33.75	$19.96
Cash & Investments per Share	$3.00				
Broker & Investments to Current Price	57%				

Source: Corporate reports and Bernstein estimates.

So with $18 trillion in consumer financial assets available to be pumped through the broadband, why not optimum here? The simple answer is that while the ultimate model calls for a broadly diversified model of revenues, the current reality is still almost 80% broker-related. While the Telebanc acquisition should close by the end of the year, and E*Group will undoubtedly make progress towards other diversifying efforts, our fears are that the cacophony of noise from both legacy and Internet competitors over the next few quarters will likely slow the company's torrid growth rate. Slowing growth rates, and Internet valuations, have historically been quite combustible and we do not really expect this time to be different. Further, the existing metrics of this core retail brokerage operation are deteriorating quite noticeably (see Exhibit 97). In other words, while we can ultimately see the path from here to there, we believe there are a number of competitive landmines that could result in 40% downside in the stock over the next six months.

E-Related Stocks: Analyst Arbitrage Opportunity

As we mentioned earlier in this report, we suspect the next few quarters will provide a reasonably compelling analyst arbitrage opportunity in Schwab, E*Trade and, perhaps, Knight-Trimark. E-years being what they are, we expect that digital financial services' end-game economics will be-

come transparent sooner rather than later. In our view, the process can only be accelerated by the move — seemingly *en masse* — of the traditional industry participants online. For the most part, however, E*Trade, Knight and, to a lesser extent, Schwab continue to be tracked by Internet analysts rather than financial service specialists. Not surprisingly, the stocks have tended to trade much more tightly with the Internet index than with the brokerage index. The most visible example of this tendency has been with Schwab's stock. For years the stock traded like a hybrid of a traditional growth stock, with some sensitivity to inputs that move traditional brokerage stocks (spreads, exchange volumes etc.). More recently, however, Schwab broke out of sync with traditional brokerage operations (in fact, it has actually recently become negatively correlated with the broker index) and has moved pretty much in lock-step with the DOT index since the latter part of 1998. As end-game economics become more obvious, and all financial players embrace the net, we suspect e-finance stocks will necessarily begin to trade based on harder metrics like something as mundane as earnings — rather than share of eyes or what have you. Inevitably, the transition from dot.com status towards "just one more member of the digital financial service pack" status will result in something of an analytical vacuum. We hope to be able to fill that vacuum.

Exhibit 97 — 600% Turnover Results in Unsustainable Asset Yields

E*Trade	1995	1996	1997	1998	1999E
Transaction Yield	2.45%	1.92%	2.01%	1.71%	1.93%
Revenue Yield	3.39	2.72	2.86	2.59	2.79
Accounts	32,000	91,000	225,000	544,000	1,516,000
Yearly Trades	583,750	1,537,000	4,095,500	6,905,000	18,625,500
Transaction Revenues per Trade	$36	$29	$27	$23	$19
Assets per Average Account	$54,902	$52,033	$48,861	$29,129	$27,476
Average Number of Trades per Year	22.9	25.0	25.9	18.0	18.1
Estimated Portfolio Turnover	3.9	4.5	5.0	5.8	6.2

Source: Corporate reports and Bernstein estimates.

RESPONSES FOR THE RECORD OF RICHARD G. KETCHUM, PRESIDENT, NATIONAL ASSOCIATION OF SECURITIES DEALERS

Question 1. Should NASDAQ's delay cause the entire market to delay trading in decimals? Does the NASDAQ plan to develop a rounding indicator for those trading in decimals? If not, will it be difficult for brokers to comply with best execution obligations?

Response: On May 10, 2000 the NASD responded to the SEC's release on revising the decimal implementation schedule. We stated in our comment that the NASD will be ready to implement either of the alternatives suggested in the SEC's release for the exchange-listed market, full dual pricing or a pilot of dual pricing by September 4, 2000, as the SEC finds to be in the public interest in maintaining fair and orderly markets and to protect investors. The NASD will also be ready to initiate decimal pricing in Nasdaq securities on March 31, 2001. There has been no change to these dates.

Today, no rounding indicator is supported in the Nasdaq production software. If an indicator were to be required, it would be a new requirement, with technical implications for our downstream systems as well as vendors. Adding this requirement could jeopardize the planned implementation dates for decimals. This question has arisen previously, specifically during the implementation of the SEC Order Handling Rules. At that time, the SEC did not require special rounding indicators.

Once the new software is implemented, firms will be allowed to enter prices up to 4 decimal places. The system will round, according to pre-defined logic, to the minimum price variation for the security (pennies or nickels). Screens will display the rounded price. It should also be noted that our systems currently accept quote entries in 64ths and round to 16th or 32nds, as required.

The issue of rounding is an important one that the SEC, the NASD, the other markets, and the securities industry must carefully consider, because of, among other things, the implications for best execution obligations. One of the benefits of a decimalization pilot, if the SEC were to request one, would be to understand the need for rounding conventions and how best to provide them.

Question 2. NASDAQ has recently announced alliances in Germany, England and Japan. These are all decimalized markets. Why can't NASDAQ use those countries' decimalized systems here?

Response: The other international markets that Nasdaq has announced alliances with now run on separate hardware platforms and networks, all of which handle far lower message traffic and are not connected to U.S. clearance and settlement systems. Moreover, none of these systems support either market makers or Electronic Communications Networks (ECNs). Conversion of any of these systems to support Nasdaq Stock Market in the short term is simply impractical.

Question 3. When will NASDAQ be ready to trade all stocks in decimals?

Response: As stated in the answer to question 1 above, the NASD recently responded to the SEC's release on revising the decimal implementation schedule. We stated in that comment letter that the NASD will be ready to implement either of the alternatives suggested in the SEC's release for the exchange-listed market, full dual pricing or a pilot of dual pricing by September 4, 2000, as the SEC finds to be in the public interest in maintaining fair and orderly markets and to protect investors. The NASD will also be ready to initiate decimal pricing in Nasdaq securities on March 31, 2001. There has been no change to these dates.

Question 4. What is the single biggest market inefficiency investors are facing in the market? What rule changes are/is necessary to eliminate this inefficiency?

Response: We believe that the single greatest inefficiency investors are facing in the market today is fragmentation. In our opinion, fragmentation continues to pose a tremendous and credible threat to the integrity of the U.S. securities markets. We believe that this threat is not insurmountable and that the best way to address it is through quick, decisive, cooperative efforts by the NASD/Nasdaq and the SEC with Congress' support.

As you are aware, electronic communications networks (ECNs) have become a significant force in the Nasdaq market. They collect hundreds of thousands of orders from customers across the country, and perhaps, world. Thus, ECNs contain and provide access to huge pools of liquidity. While recent rule and market-structure changes have increased transparency and access to these pools of investor interests, today it is still impossible to determine the entire depth of the market within the ECNs and consequently, within Nasdaq. This, in turn, limits the quality and efficiency of the Nasdaq market and potentially harms the individual investor.

As I am sure you are aware, under the firm quote rule of the Exchange Act, a market maker may place a better-priced order into an ECN and not update its quote to reflect the better-priced order if the ECN disseminates the top of its file to

Nasdaq and the ECN provides broker/dealers equivalent access to these orders. Thus, the public only sees the best-priced buy and the best-priced sell order (i.e., top-of-file) that resides in each of the nine ECNs in Nasdaq. The public does not see the often significant liquidity in the ECN that is just below the ECNs' top of file. If a market maker places into an ECN an order that is priced better than the market maker's quote but is below the ECN's top of the file, that order will remain hidden from the market unless that order becomes the ECN's top of file. Currently, the only way for a market participant to monitor the full depth of the market is to subscribe to each of the ECNs, which is costly, inefficient, and unmanageable. This type of fragmentation makes it particularly difficult for institutions to conduct business in Nasdaq because the institution cannot adequately determine the available liquidity at and near the inside market. In addition, because only the top of the file of each ECN's and market maker's book is displayed in Nasdaq, it is possible for the market to trade through orders that reside on the market participant's back book at a price away from the inside. Because there currently is no way in Nasdaq to aggregate and display trading interest at multiple price levels, the current market structure fosters fragmentation.

In response to the second part of the above question, we believe that the best way to address the problem of fragmentation is to allow the markets and market participants—fueled by the forces of competition and innovation—to provide a solution. Specifically, we believe that the Nasdaq Order Display Facility, or SuperMontage, which we submitted to the SEC last year, addresses the problem of fragmentation. In essence the SuperMontage will build on Nasdaq's strengths, as a collector and aggregator of trading interests—the traditional role of a market. In addition, the SuperMontage will be an inclusive model, in that it does not favor or a particular business type (e.g., ECN, fully integrated market making firm, wholesale market making firm). It will encourage innovation and competition while improving on transparency and liquidity. Technology advances have for the first time allowed Nasdaq to create a market where investors around the world can view and have electronic access to virtually the full depth of the market and can have their orders interact with one another virtually instantaneously.

The SuperMontage will show the best bid/best offer in Nasdaq and two price levels away, accompanied at each price level by the aggregate size of the "displayed" trading interest of market makers, ECNs, and exchanges granted Unlisted Trading Privileges to Nasdaq securities (UTP Exchanges). Nasdaq market participants will be able to designate an order as "attributable" or "non-attributable," and also will be able to indicate a reserve size for an order. Attributable orders will be displayed next to the Nasdaq market participant's acronym (Market Maker ID or MMID) in the current Nasdaq quotation montage, and will also be displayed in the SuperMontage as part of the aggregate trading interest at the inside and two prices away). Non-attributable orders will be displayed only in the Nasdaq Order Display Facility as part of the aggregate trading interest at the inside and two prices away. In addition, Nasdaq market makers and ECNs will be permitted for the first time to give multiple orders and orders at multiple price levels, which the system will manage and display in Nasdaq when the order is eligible for display next to the market participant's MMID and/or in the SuperMontage. Further, Nasdaq market participants will be able to access orders in the SuperMontage virtually instantaneously using a substantially-enhanced Nasdaq order delivery and execution system, which will be built on an architecture that accommodates the technology needs of all Nasdaq market participants, market makers and ECNs alike. The system will route orders to the market participant in queue and next eligible (based on a general time priority) to receive an order/execution against its quote. Thus, the system will provide one of potentially many links of all market participants trading Nasdaq-listed securities.

We believe that the SuperMontage provides substantial benefits to the individual investor and improves market quality, while also encouraging innovation and competition. The system reduces fragmentation by allowing market participants to transmit to Nasdaq multiple levels of orders and by aggregating and dynamically displaying all orders at the inside and two price levels away. Market participants will see for the first time in the SuperMontage the full depth of the inside market and two price levels away, which will enhance transparency and liquidity, and will also be able to view the full depth of the market in Nasdaq for all prices levels.

The ability to transmit and display multiple orders will reduce the possibility that an order will be traded through in a fast moving market and also enhances best execution, which directly benefits the individual investor. The order routing capability of SuperMontage will enable the system to effectively link all markets—including UTP Exchanges—that trade Nasdaq securities. We believe this will create, for the first time, a national market system consistent with Congress' mandate in the 1975 amendments to the Exchange Act.

Question 5. What are the expected benefits decimalization will bring to investors?

Response: Potential benefits that decimalization may provide include more easily understood numbers and investor savings. The least disputed benefit of decimal pricing is that decimal pricing is easier for investors to understand.

Regarding savings for investors, there is an increased savings potential for investors if decimal pricing leads to smaller price increments and narrower bid-ask spreads. Each price change (called an uptick or downtick respectively) would increase or decrease the price per share by 6.25 cents at a minimum. With decimals, there is the potential to trade at a nickel or a penny increment. At a nickel increment, the uptick or downtick will be at 5 cents per share; a potential savings of 1.25 cents per share for investors. At a penny increment, investors could save up to 5.25 cents per share as the uptick or downtick goes one cent at a time. Narrower spreads mean investors could save money as they are able to achieve a more precise price for their trades. Of course, any calculation of benefits should recognize that in many cases there will be relatively little depth at a penny increment and that most of the buying and selling interest will likely be five to ten cents away from the displayed price.

Question 6. What effect would the NASD's SuperMontage proposal have on competition in the marketplace? How would use of the SuperMontage be voluntary if the NASD retains any affiliation with the regulator of competitors of SuperMontage?

Response: We believe that the SuperMontage is a pro-competitive development that will broaden competition and lead to further innovation. SuperMontage will also permit Nasdaq to remain competitive in an environment of increased globalization of the world's securities markets. We firmly believe the proposal meets the statutory requirements under the Exchange Act, and that the proposal responds directly to Congress' goal of establishing a true national market system. We believe that the proposal protects investors and promotes the establishment of a free and open national market system, in that it reduces fragmentation in the Nasdaq market and improves the efficiency of transactions in Nasdaq.

Specifically, the SuperMontage attempts to increase price transparency and alleviate fragmentation by providing a means for centralizing trading interest, displaying this trading interest to investors, and providing an efficient means for accessing such interest. We note that these are essential functions of an exchange. Every registered securities exchange in the United States has a limit order facility, which serves as the point of order aggregation. Nasdaq is currently in the process of registering as an exchange. Nasdaq should be permitted to have a method of aggregating, displaying, and accessing investors' interest to better serve investors in Nasdaq-listed securities and in the spirit of equal regulation of similarly situated market participants.

The SuperMontage encourages competition by providing an open and inclusive architecture in which competing market centers may operate. We are not, as some have suggested, directly competing with our members. Rather, we recognize that market centers that trade Nasdaq securities add value to the market and offer alternative services. For example, we are not offering through the SuperMontage certain value-added services, such as anonymity through settlement, that ECNs offer today. Moreover, while the proposal provides a central means for accessing liquidity in Nasdaq and other market centers, it in no way establishes the SuperMontage as the sole means for providing or accessing liquidity. NASD members, individual investors, and members of other exchanges are free to leave their orders with any market center they chose. Moreover, subscribers of ECNs are free to use the execution services offered by the ECNs to access liquidity within those markets. UTP Exchanges will continue to offer innovative execution services to their members. Orders will continue to be handled by and executed in multiple trading venues. SuperMontage thus provides a central, but not exclusive, means of accessing liquidity and of exposing trading interest to the market.

Competition will continue to flourish in the new regulatory environment that the SEC has created through its recent regulatory initiatives, as shown by recent announcements by certain ECNs to link with one another (independent of the Nasdaq network and systems) and plans of some broker/dealers to register as exchanges.

As the second part of your question, we reiterate the position that we have publicly articulated to our members and the SEC—*the SuperMontage is completely voluntary.* Nothing requires or compels market participants to give their order book to Nasdaq. We understand that market participants may not wish to relinquish their order book to Nasdaq and that they may provide valuable services away from the central Nasdaq market. ECNs and market makers are free to give Nasdaq only their best buy and sell orders, or they can chose to give Nasdaq all or some of their orders. Nor does anything require that executions in Nasdaq securities occur

through the SuperMontage, or other Nasdaq facility. Any of these options for handling and executing orders would be consistent with NASD rules. This is similar to the experience of exchanges. In the past every exchange has had a limit order facility, and that members of such exchanges have not been compelled by rule or regulation to leave their limit orders with the member's resident exchange or the primary market. To the contrary, the SEC has encouraged exchanges to actively compete for order flow and avoided requiring members to leave orders with the primary exchange.

Finally, we reiterate that we in no way believe or intend for the SuperMontage to be mandatory, regardless of the NASD and Nasdaq's affiliation. NASD Regulation—a separate, wholly-owned subsidiary of the NASD—is vested with regulatory authority over Nasdaq. Other than its role in establishing market policy and rules, Nasdaq's regulatory role is extremely limited. The separation between the regulatory function of NASD Regulation and the market function of Nasdaq is clear and strong. The separation between these two corporations will become even greater when Nasdaq recapitalizes, Nasdaq registers as an exchange, and the NASD becomes a minority owner of Nasdaq.

Question 7. I introduced a bill that passed the House and requires trade reporting information to be disseminated to improve price transparency for corporate debt. How will NASDAQ's TRACE proposal impact the market? Is it more than just price reporting? Is it in the interest of competition to have an SRO set the rules for trading that will be centralized with the NASD and benefit NASDAQ? Does this proposal use regulatory power to create a monopoly?

Response: The NASD is responsible for regulating virtually all securities trading on Nasdaq and in the over-the-counter (OTC) market, including corporate bonds. Section15A of the Securities Exchange Act of 1934 was adopted to expand the concept of self-regulation to the OTC market, and the NASD was formed to provide a mechanism to supervise the conduct of broker-dealers participating in that market.

This authority includes the regulation of trading in corporate debt securities. The NASD is the only self-regulatory organization (SRO) that has regulatory authority over NASD broker-dealers that trade corporate debt securities over-the-counter, that is, not on a registered securities exchange, and is thus the only SRO that can enhance the oversight of the operation of the OTC corporate bond market.

SEC Chairman Levitt called for increased transparency in the corporate bond markets by requesting: rules requiring dealers in US corporate bonds to report all transactions, systems to receive and distribute transaction prices immediately, a regulatory database of bond transactions, and a bond market surveillance system using that database.

The NASD filed a proposal with the SEC that both responded to Chairman Levitt's request and addressed the goals in your bill. The NASD's proposal will provide: (1) a flexible trade reporting facility based upon standards all NASD members must adhere to when trading over-the-counter; (2) a mechanism to give price disclosure to all market participants equally; and (3) an audit trail for NASDR to surveill the market.

The NASD is responding to Congressional and SEC objectives by using facilities that are in place and have worked well for the last decade. TRACE uses existing linkages between the industry, Nasdaq, and NASDR, to solve the regulation and transparency problems of the corporate bond market quickly and efficiently. The NASD will use its wholly owned subsidiary, NASD Regulation, to regulate under new trade reporting rules we have filed with the SEC. The NASD will enhance transparency through trade reporting facilities also already in place and operated by its other subsidiary, Nasdaq.

It is important to note that the system is not a bond trading system, and that Nasdaq's role will be simply that of providing a facility, not making rules or regulating the system. The NASD will in no way use its regulatory powers to enhance the position of Nasdaq, and will not use regulatory power to create a monopolistic situation. The NASD, not Nasdaq, has been charged by the SEC with collecting, disseminating, and policing the information on corporate bond trade reports. The NASD, not Nasdaq, will be responsible for owning and operating the mechanism for trade reporting and regulation of this market.

There has been confusion about the role of the NASD regarding the ownership and revenue from the sale of the data collected. While others have suggested that they should instead provide the data on a selective basis, the NASD, as it now does with equity trade data, will distribute bond transaction data to all vendors on an open, fair and independent basis, subject to SEC regulation. We expect a robust market for resale of that data by vendors, just as now exists in equity trade data. The NASD will use any revenues that it receives from the sale of TRACE data to cover the NASD's costs in operating the system, including NASDR's regulatory ac-

tivities and the systems that collect and disseminate the trade information to the public. Any revenue beyond these regulatory and technology costs will be shared with the market participants that provided the data in the first place.

Finally, the TRACE proposal addresses the balance of market impact and market transparency by setting dissemination caps for the investment grade and the below investment grade markets. The NASD will also conduct liquidity studies to monitor market impact. We have already begun discussions with firms and industry organizations to address their concerns on both the market impact and market data issues.

Question 8. Given the technical difficulty that NASDAQ has had in converting to decimals, why should we rely on NASDAQ to build a central point of failure for the bond market through TRACE?

Response: The NASD is confident that Nasdaq will be able to implement TRACE as a trade reporting facility. TRACE is based in large part on Nasdaq's current trade reporting system for equity securities—the Automated Confirmation Transaction Service (ACT). Every trading day ACT technology reliably processes hundreds of thousands of last-sale trade reports in equity securities and accurately disseminates that information to market participants worldwide. This existing facility will be tailored to handle the different data elements necessary for corporate bonds. It should also be noted that corporate bonds trade less frequently than equities and that the system hardware for TRACE is independent of equity trading hardware.

There must be a single mechanism that consolidates and validates the trade reporting information for regulatory and transparency purposes. Historically, the single mechanism for performing this task has been operated by an SRO that has the statutory obligations to ensure that all information is properly collected, fairly disseminated, and closely scrutinized. The TRACE proposal follows that historical model.

Question 9. A CLOB, based on price-time priority reduces best execution to the NBBO. There are, however, many factors that could influence a decision to trade. In your opinion, what factors should be considered for best execution?

Response: Although we believe that a CLOB based on strict (universal) price-time priority would stifle market-wide competition and disadvantage investors, we also note that Commission has stated that best execution cannot simply be reduced to guaranteeing the NBBO (National Best Bid or Offer). Rather, a market participant must also evaluate the opportunity for its customers to receive price improvement or other value-added benefits.

As a general matter, however, best execution is a facts and circumstances determination. As the SEC has stated, there are a number of factors for market participants to consider in evaluating the quality of the executions they receive and whether they are providing best execution to their customers. Execution quality may involve the following: the opportunity for and likelihood of receiving price improvement; the speed and certainty of execution; the adequacy and certainty of accessible liquidity, including liquidity beyond what is displayed; the nature of the security to be traded; the type of order to be placed; the level of transactions costs; and the scope of trading anonymity available. Individual investors may focus entirely on one factor, or on several. For example, one investor may wish to receive a guaranteed execution at the prevailing NBBO, while another may forego speed of execution in favor of the opportunity for price improvement. Institutional investors may desire to have their orders executed anonymously, regardless of speed or price improvement. The same investors may focus on different factors in different contexts. Finally, a member is obligated to make a routine and rigorous analysis of order routing arrangements to determine the quality of executions he or she is receiving for customers.

Nasdaq aims to provide a broad array of choices for investors to access the liquidity provided by Nasdaq in the manner that best serves their needs.

Question 10. Should we call for the elimination of the Intermarket Trading System? Do we need to designate a replacement for that system, or would market forces adequately fill the gap?

Response: While we share the general frustration of all market participants with the Intermarket Trading System (ITS), which is clearly technologically outmoded and which has raised concerns on the unanimous vote requirement, we do not believe it should be eliminated. While ITS technology and corporate governance are in need of improvement, we do not believe this is the time to abandon a system that links the markets. Instead, we believe it is time to make a concerted effort to improve the way markets access each other. The NASD has taken steps in this direction. In particular, the NASD has adopted rules and developed technology to open its exchange-listed trading facility to a broader array of market participants. The NASD has opened its facilities to ECNs as well to registered market makers and

thus opened access to ITS and the Consolidated Quotations System to ECNs, which may now participate in these systems.

Even if improvements undertaken by the NASD and other participants are not sufficient and a new system were introduced for accessing market liquidity, we do not believe that ITS should be eliminated without a thorough assessment of the new system's efficacy in linking the markets.

Furthermore, under the ITS National Market System Plan approved by the SEC, ITS membership is limited to the NASD and registered national securities exchanges, all of which are registered with the SEC as self-regulatory organizations ("SRO"). As such, the SROs are required to establish and maintain regulatory programs to ensure that their members act in accordance with the requirements of the Plan and the federal securities laws, including the rules of the SROs, which are adopted under those laws. Any entity providing a trading venue that wants to operate as a registered SRO, like the other National Market System participants, should be able to participate fully in ITS. Similarly, we believe that any entity that wants to set up a competing system should also be required to register with the SEC as an SRO, submit a National Market System Plan for the system to the SEC for approval, and be subject to SEC oversight.

Question 11. The NASD recently granted ECNs access to their market linkage system through the Computer Assisted Execution System (CAES). Please explain what CAES does and why this does or does not adequately address the problems of efficient linkage among markets. Have any ECNs chosen to use CAES? Please identify them.

Response: Nasdaq operates the Computer Assisted Execution System (CAES), a trading system that allows NASD member firms to direct orders in exchange-listed securities to NASD Market Makers for execution. Through CAES, NASD market makers and ECNs are able to enter marketable limit orders in exchange-listed securities to be executed against other market makers and ECNs who are quoting in those securities. CAES also serves as the NASD's interface with the ITS, a trading link between the Nasdaq system and U.S. stock exchanges, including The American Stock Exchange, the New York Stock Exchange, and the regional stock exchanges. Through CAES, all qualifying NASD members are able to effectively link to all other ITS participant markets.

On March 16, 2000, the SEC approved an NASD rule filing that allows ECNs to participate in CAES on an equal basis as market makers, and therefore, to link to ITS. CAES will be open to all NASD member ECNs that are able to demonstrate compliance with the CAES rules and system requirements. To date, several ECNs have expressed interest in CAES participation and were recently provided with the modified CAES system specifications that will allow them to assess any internal system modifications necessary for participation in CAES.

The NASD believes that CAES will provide an efficient and well-regulated linkage for market makers and ECNs to access other market centers. As with the ECNs that participate in Nasdaq for Nasdaq-listed securities, customer orders of CAES-participant ECNs will be afforded broad exposure to all other NASD members in exchange-listed securities. Furthermore, any order displayed by a CAES-participant ECN is broadly displayed through the Consolidated Quotation System to all vendors and market participants. These displayed orders are then available to be accessed by any ITS participant.

Although CAES is linked to ITS, CAES is itself a self-standing linkage that can accommodate various market participants and competing market centers. CAES also offers its participants distinct options in determining best execution, rather than placing sole emphasis on global time priority. With the inclusion of ECNs, CAES participants will be able to offer their customers an expanded range of desired execution characteristics, such as stock price, speed of execution, fill rate, commission cost, or some combination of the above.

By encouraging direct competition among participants, the Third Market via CAES will assure service innovations that are not possible in the current ITS environment. Unlike ITS, the Third Market itself will continue to innovate and evolve its market structure and technology to benefit all participants. The Third Market has the potential to ultimately serve as the next-generation direct linkage for all markets, rather than as a conduit to those markets through ITS.

Question 12. I understand both the NASDAQ and the NYSE are planning to become for-profit exchanges. Do you plan to spin off your regulatory arm entirely? If not, why should you have any interest in the regulator of your competitors?

Response: The NASD currently operates in a structure where it is the parent to the Nasdaq Stock Market, the American Stock Exchange, and NASD Regulation, and is thus a full owner of these three subsidiaries. Under the current separately operating subsidiary structure Nasdaq and NASDR, our regulatory arm, are more

widely separated than any other U.S. market and its regulator. When Nasdaq completes its recapitalization, the NASD will spin off about 80% of the ownership of Nasdaq to NASD members, Nasdaq issuers, and other market participants who purchase shares in it. This will increase the separation between market and regulator—and the potential for conflicts of organizational interest—to a degree not found in any other market in the world, and allow the market and the regulator to function independently. It is the NASD's present intention to sell its remaining shares in Nasdaq in the near term after the Nasdaq Board reaches a determination as to whether to move forward on a public offering.

Question 13. What disclosure do you provide regarding your costs and revenues associated with market data? Would you object to providing more information about those costs and revenues to the public?

Response: As noted by the Commission in its recent market data concept release, the NASD, through its consolidated financial statements, already provides detailed information regarding its internal cost and revenue structures. In addition, Nasdaq, as a registered Securities Information Processor (SIP), also files with the SEC a detailed financial statement that outlines the revenues received from the operation of numerous Nasdaq systems and services, including those that distribute market data. While the NASD fully supports the provision of complete and accurate market data cost and revenue information to the public, the scope and manner of such disclosure should take into consideration SRO administrative costs and burdens in producing such information. As the acknowledged leader in SRO cost disclosure, the NASD looks forward to working with Congress and the Commission in establishing fair and reasonable uniform cost and revenue disclosure standards for all market participants that consolidate and distribute market data.

NEW YORK STOCK EXCHANGE, INC.
June 8, 2000

The Honorable THOMAS BLILEY
Chairman
U.S. House of Representatives
Committee on Commerce
Room 2125, Rayburn House Office Building
Washington, D.C. 20515-6115

DEAR CHAIRMAN BLILEY, It was a pleasure to appear before the Finance Subcommittee of the House Commerce Committee. I appreciate the opportunity to respond to your follow-up questions. I would be pleased to meet with you or your staff if I can be of any further assistance.

Sincerely,

ROBERT J. MCSWEENEY

Enclosures

RESPONSES FOR THE RECORD OF ROBERT J. MCSWEENEY

Question 1. Will the elimination of Rule 390 allow ECNs to compete directly with the NYSE? If not, what other regulatory changes are needed? Will they be able to compete if they become an exchange, as several have filed an application to become an exchange?

Response. As NASD broker-dealers, ECNs were never subject to Rule 390. NYSE members could always use ECNs for one-sided agency transactions (not "crosses"). Since ECNs are basically limit order matching files, the removal of Rule 390 permits our members to execute proprietary trades in the 23% of stocks previously covered by the rule.

The SEC's Regulation ATS provides sufficient flexibility for ECNs to compete with the NYSE as NASD broker-dealers, or by registering as an exchange with the SEC, provided they meet the Commission's regulatory infrastructure requirements to do so.

Question 2. What is the single biggest market inefficiency investors are facing in the market? What rule change(s) is (are) necessary to eliminate this inefficiency?

Response. The biggest single market inefficiency that investors face is internalization (and related payment for order flow economic inducement). A broker-dealer internalizes when it either trades as a dealer against a customer agency order or directs the order to an affiliated dealer for execution. Broker-dealers internalize agency market orders by buying from their customers at or near the bid price, and selling to their customers at or near the offer price. These agency orders do not interact with other public orders, and they are often denied the opportunity to receive the

full degree of price improvement available at the NYSE. Internalization allows the order-originating broker-dealer to profit at the expense of denying the customer the ability to obtain a better price. In addition to the conflicts that internalization practices raise, these practices seriously threaten the price discovery process because the internalized order flow is not exposed to, and therefore does not directly interact with, the overall liquidity of the marketplace.

If a significant amount of internalization takes place, the agency auction, in which 75% of the price discovery represents customers meeting customers (rather than dealer intermediation) would disappear and become a "dealerized" market, depriving customers of the savings between the quotation spread associated with customer-to-customer price discovery.

Therefore, we believe internalization should be banned. Absent that, broker-dealers should be required to provide customers with price improvement over the national best bid or offer. We have proposed that the SEC enact such a rule in our filing to repeal Rule 390, as well as in our response to the SEC's Concept Release on Fragmentation.

Question 3. What are the expected benefits decimalization will bring to investors?

Response. Decimalization will result in narrower quotation spreads in many stocks, providing significant savings to investors, presuming that the minimum price variation is reduced to a penny rather than a nickel. It will certainly make it easier for retail investors to track price movement and trading variations.

Question 4. What are the competitive implications of internalization?

Response. Because internalization deprives markets of optimal price discovery, U.S. markets will be less competitive than they would be otherwise. To compete with foreign markets, U.S. markets should be as robust as possible through the full participation of both retail and institutional order flow in the price discovery process.

Question 5. A CLOB, based on price-time priority reduces best execution to the NBBO. There are however, many factors which could influence a decision to trade. In your opinion, what factors should be considered for best execution?

Response. Best execution should be determined based upon each customer's needs, and we believe technology would enable that to be on an order-by-order basis. Factors that should be weighed in making order-routing decisions include: the bid and offer prices; their size, in terms of depth of liquidity, and the probability of receiving a complete "fill" (rather than partial execution); the probability of price improvement; the probability of receiving an execution in size greater than the displayed bid or offer and the market impact of large orders; the speed of execution-, as well as the cost of execution.

We believe that our platform of customer choice, called "Network NYSE" recognizes that "one size doesn't fit all", and that a range of execution services will provide the optimal facility for best execution.

Question 6. Should we call for the elimination of the Intermarket Trading System? Do we need to designate a replacement for the system, or would market forces adequately fill the gap?

Response. Yes, you should call for the replacement of the Intermarket Trading System. It provides inappropriate free access to our market by competitors and its quarter-century-old market-to-market linkage should be replaced with the more efficient and robust communications technology available today for linking broker-dealers and brokers to markets. A conversion period would be appropriate, during which time we would work with the industry, similar to Y2K and decimalization, to ensure that a sufficient time would be provided for broker-dealers and individual market members to avail themselves of that technology. (Enclosed is a copy of our response to the SEC's Concept Release on Market Fragmentation.)

In that way, broker-dealers and brokers can exercise their best-execution responsibilities in a more efficient manner. If an order is routed to a market and a better price becomes available on another market, the market where the order was routed would match or the participant would electronically transmit the order to the market providing the opportunity for the best execution.

If ITS is not eliminated, an important prerequisite for direct access should be SEC-approved self-regulatory organization status, as presently required, for reasons outlined in the response to your next question.

Question 7. The NASD recently granted ECNs access to their market linkage system through the Computer Assisted Execution System (CAES). Please explain what CAES does and why this does or does not adequately address the problems of efficient linkage among markets. Has CAES sufficiently linked ECNs with ITS?

Response. I would defer to the NASD for an explanation of the specific infrastructure of that interface. The NASD access is appropriate since ECNs are NASD broker-dealers; however, some ECNs want direct linkage to the NMS without ex-

change status. That would create an unfair advantage vis-à-vis other broker-dealers; it would result in insufficient regulatory safeguards; and it would fragment liquidity rather than consolidate order flow. It would suggest that countless entities technologically capable of creating an order file and interface network should proliferate quotes, while retaining order flow in the hope of attracting a "match", resulting in capacity and fragmentation inefficiencies.

Question 8. I understand both the NASDAQ and the NYSE are planning to become for-profit exchanges. Do you plan to spin off your regulatory arm entirely? If not, why should you have any interest in the regulator of your competitors?

Response. No decision has been made regarding the advisability of demutualization. Our Board formed a Special Committee on Market Structure, Governance and Ownership in October of 1999, comprised entirely of the public directors. Because market structure decisions can influence deliberations regarding governance and ownership, the Committee spent six months considering a broad spectrum of market structure recommendations. The result is the Market Structure Report embraced by our full Board in April. A copy is enclosed for your review.

The NYSE is recognized as the world's pre-eminent self-regulator. We have invested more than any other market center in differentiating our regulatory brand to our competitive advantage. Therefore, we do not intend to spin-off our regulatory function.

Later this year, and hopefully with the benefit of an appreciation of the industry impact of decimalization, the Committee will consider the issues of governance and ownership. Within the context of the demutualization deliberations, we will assess the issue of forming a separate NYSE regulatory entity within a holding company structure and with separate governance.

As to the issue of regulating our competitors, the self-regulatory process presently has that potential conflict in that we regulate members who compete for market share through their equity in ECNs and "internalize" order flow on regional and OTC markets. We do not regulate ECNS, since they are NASD broker-dealers, and our members have been able to effect trades on regional exchanges for decades. There has never been an allegation of inappropriate regulatory action based upon that potential conflict. I am sure the SEC would expeditiously investigate and not tolerate regulatory discrimination. The alternative of a single-self-regulatory body suggested by some would result in greater broker-dealer expenses, since present regulatory funding is subsidized by the broader exchange revenues. In addition, it would lack sufficient marketplace accountability, which could lead to an inappropriate expenses and bureaucracy.

Question 9. Mr. Atkin states that the SROs earn monopoly revenues in the area of market data and use it to subsidize business activities they enter into in competition with their own members. Should the regulation of market data be changed to provide for competition among market data providers, and, if so, how?

Response. SROs develop and maintain the order-routing infrastructure and capacity infrastructure necessary to create market data. Our market data revenues are not "monopoly" revenues. They are subject to constituent consensus through Board approval and SEC oversight in terms of their fairness. In fact, those fees have decreased significantly in conjunction with increased volume. The percentage of NYSE market data revenues to our overall revenues has remained relatively constant over the years, at 14-17 percent.

We have recently responded to a SEC release on market data (also enclosed) in which we state our belief that, rather than the suggested "utility rate-making," self-regulatory organizations should be permitted sell market data based upon freemarket vendor pricing and consolidation, which would continue to be subject to SEC review for fairness. We believe that supply and demand is the best regulator of prices.

Question 10. Do current market information fees restrict the availability of real-time information?

Response. No. I have enclosed a copy of our market data fee structure. For public investors, real-time data is free and ubiquitous.

Question 11. What disclosure do you provide regarding your costs and revenues associated with market data? Would you object to providing more information about those costs and revenues to the public?

Response. Our market data revenues, as well as our expenses for systems and related support are disclosed to the public in our Annual Report (enclosed). More detailed disclosure of the costs associated with the performance of each SRO function would push each market into product-line accounting, would produce arbitrary results that are susceptible to second guessing, would require the Commission to establish uniform accounting standards and procedures, would require each market to overhaul its accounting and auditing functions, and would require difficult alloca-

tions of overhead and other costs. If the Commission were to mandate cost-based ratemaking, than all of these burdens would represent unavoidable consequences of that decision. If the Commission does not adopt a cost-based rate-making requirement, then such significant and expensive new burdens require careful thought and the assessment of a cost/benefit analysis.

Question 12. At our last hearing, one of our witnesses, Island, demonstrated how their entire order book is publicly available on their web site in real time. Doesn't this level of transparency help investors? You stated that the NYSE intends to provide such access to investors. Please describe exactly what information will be provided to investors and how they will access it.

Response. We agree that making the electronic limit order books available increases transparency to the advantage of investors. We are exploring three non-exclusive alternatives: a direct transmittal to member broker-dealers; a similar transmittal to vendors; and publication on our web site. The entering firm identity would be blocked and broker-dealers and vendors would format the data as they choose. A publication on our web site would provide total shares and number of orders at several increments above and below the best bid and offer, with a summary-range format beyond the designated level. We are in the process of identifying the needs of broker-dealers and investors as to the most effective means of making that information available.

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