DIMENSIONS OF THE BUDGET

19. COMPARISON OF ACTUAL TO ESTIMATED TOTALS

In successive budgets, the Administration publishes several estimates of the surplus or deficit for a particular fiscal year. Initially, the year appears as an outyear projection at the end of the budget horizon. In each subsequent budget, the year advances in the estimating horizon until it becomes the "budget year." One year later, the year becomes the "current year" then in progress, and the following year, it becomes the just-completed "actual year."

The budget is legally required to compare budget year estimates of receipts and outlays with the subsequent actual receipts and outlays for that year.[1] Part I of this chapter meets that requirement by comparing the actual results for 2003 with the current services estimates shown in the 2003 Budget published in February 2002.

Part II of the chapter presents a broader comparison of estimates and actual outcomes. This part first discusses the historical record of budget year estimates versus actual results over the last two decades. Second, it broadens the focus to estimates made for each year of the budget horizon, extending four years beyond the budget year. This broader focus shows that the growth in differences between estimates and the eventual actual results grows as the estimates extend further into the future.

PART I: COMPARISON OF ACTUAL TO ESTIMATED TOTALS FOR 2003

This part of the chapter compares the actual receipts, outlays, and deficit for 2003 with the current services estimates[2] shown in the 2003 Budget published in February 2002. This part also presents a more detailed comparison for mandatory and related programs, and reconciles the actual receipts, outlays, and deficit totals shown here with the figures for 2003 previously published by the Department of the Treasury.

Receipts

Receipts in 2003 were $1,782 billion, which is $339 billion less than the current services estimate of $2,121 billion in the 2003 Budget. As shown in Table 19–1, this shortfall was the net effect of legislative and administrative changes; economic conditions that differed from what had been expected; and technical factors that resulted in different collection patterns and effective tax rates than had been assumed.

Table 19–1. COMPARISON OF ACTUAL 2003 RECEIPTS WITH THE INITIAL CURRENT SERVICES ESTIMATES

(in billions of dollars)

	February 2002 estimate	Enacted legislation/ administrative actions	Different economic conditions	Technical factors	Net change	Actual
Individual income taxes	1,009	–33	–51	–131	–215	794
Corporation income taxes	208	–40	7	–44	–76	132
Social insurance and retirement receipts	750	–2	–13	–23	–37	713
Excise taxes	69	....	*	–2	–2	68
Estate and gift taxes	24	....	–*	–2	–2	22
Customs duties	21	–1	*	–*	–1	20
Miscellaneous receipts	40	....	–6	*	–6	35
Total	2,121	–76	–62	–201	–339	1,782

* $500 million or less.

Policy differences. The Job Creation and Worker Assistance Act, which was signed by President Bush on March 9, 2002, reduced 2003 receipts by $36 billion. Enactment of the Jobs and Growth Tax Relief Reconciliation Act in May 2003 reduced 2003 receipts by an additional $36 billion (see Chapter 16, "Federal Receipts" for a description of this Act). Other legislative and administrative changes reduced 2003 receipts by an additional $4 billion.

[1] These requirements, for receipts and "uncontrollable outlays," are in 31 USC 1105(a)(18) through (20).

[2] The current services concept is discussed in Chapter 24, "Current Services Estimates." For mandatory programs and receipts the February 2002 current services estimate is based on laws then in place. For discretionary programs the current services estimate is based on the current year estimates adjusted for inflation.

Economic differences. Differences between the economic assumptions upon which the current services estimates were based and actual economic performance accounted for a reduction in 2003 receipts of $62 billion. Lower-than-anticipated wages and salaries and other sources of personal income were in large part responsible for the reductions in individual income taxes and social insurance and retirement receipts of $51 billion and $13 billion, respectively. Lower-than-expected interest rates, which affect deposits of earnings by the Federal Reserve, were in large part responsible for the $6 billion reduction in miscellaneous receipts below the February 2002 estimate. These reductions were only partially offset by a $7 billion increase in corporation income taxes, attributable to higher-than-expected corporate profits.

Technical reestimates. Technical factors reduced 2003 receipts a net $201 billion below the February 2002 current services estimate. This net reduction was primarily attributable to lower-than-anticipated collections of individual and corporation income taxes of $131 billion and $44 billion, respectively. Lower-than-anticipated collections of social insurance and retirement receipts reduced 2003 receipts relative to the February 2002 estimate by an additional $23 billion. Lower effective tax rates on wages and salaries than estimated in February 2002 were primarily responsible for the net reductions in collections of individual income taxes and social insurance and retirement receipts. Different collection patterns and effective tax rates than assumed in February 2002 were primarily responsible for the lower-than-anticipated collections of corporation income taxes.

Outlays

Outlays for 2003 were $2,158 billion, $78 billion more than the $2,080 billion current services estimate in the 2003 Budget (February 2002).

Table 19–2 distributes the $78 billion net increase in outlays among discretionary and mandatory programs and net interest.[3] The table also makes rough estimates according to three reasons for the changes: policy; economic conditions; and technical estimating differences, a residual.

Policy changes are the result of legislative actions that change spending levels, primarily through higher or lower appropriations, which may reflect legislative responses to changed economic conditions, or changes in authorizing legislation. For 2003, policy changes increased outlays an estimated $132 billion relative to the initial current services estimates.

Policy changes increased discretionary outlays by $88 billion. Defense discretionary outlays increased by $70 billion and nondefense discretionary outlays increased by $18 billion, largely due to the 2003 Emergency Wartime Supplemental Appropriations Act. Policy changes increased mandatory outlays by $40 billion above current law. Farm income subsidies increased by $13 billion due to the Farm Security and Rural Investment Act of 2002 and the Consolidated Appropriations Act of 2003. Unemployment compensation outlays increased by another $13 billion due to the Job Creation and Worker Assistance Act of 2002 and the subsequent extensions of temporary extended unemployment compensation. The increase also includes outlays for temporary state fiscal relief totaling $9 billion, $4 billion for Medicaid and $5 billion for state fiscal assistance grants, resulting from enactment of the Jobs and Growth Tax Relief Reconciliation Act of 2003. The remaining $5 billion increase includes a $2 billion reduction in offsetting receipts from delaying spectrum auctions. Debt service costs increased by $4 billion due to outlay and revenue policy changes.

[3] Discretionary programs are controlled by annual appropriations, while mandatory programs are generally controlled by authorizing legislation. Mandatory programs are mostly formula benefit or entitlement programs with permanent spending authority that depend on eligibility criteria, benefit levels, and other factors.

Table 19–2. COMPARISON OF ACTUAL 2003 OUTLAYS WITH THE INITIAL CURRENT SERVICES ESTIMATES

(outlays in billions)

	Current Services (Feb. 2002)	Changes				Actual
		Policy	Economic	Technical	Total changes	
Discretionary:						
Defense	351	70	....	–16	54	405
Nondefense	409	18	....	–6	12	421
Subtotal, discretionary	759	88	....	–22	66	826
Mandatory:						
Social Security	472	....	–*	–1	–1	470
Other programs	674	40	*	–6	35	708
Subtotal, mandatory	1,145	40	–*	–7	34	1,179
Net interest	175	4	–28	3	–22	153
Total outlays	2,080	132	–29	–25	78	2,158

* $500 million or less.

Economic conditions that differed from those forecast in February 2002 resulted in a net decrease in outlays of $29 billion. This decrease almost entirely consists of a $28 billion decrease in net interest due to lower-than-expected interest rates.

Technical estimating differences and other changes resulted in a net decrease in outlays of $25 billion. Technical changes result from changes in such factors as the number of beneficiaries for entitlement programs, crop conditions, or other factors not associated with policy changes or economic conditions. Outlays for discretionary programs decreased an estimated $22 billion, largely due to slower-than-expected defense outlays. Outlays for mandatory programs decreased an estimated $7 billion. This reflects lower-than-anticipated outlays for Federal employee retirement and farm income subsidies, and downward subsidy reestimate of Export-Import Bank loans, partly offset by higher-than-anticipated outlays for Medicare. Net interest outlays increased by $3 billion largely due to higher deficits in 2002 and 2003 stemming from technical factors compared to the February 2002 estimates.

Surplus/Deficit

The preceding two sections discussed the differences between the initial current services estimates and the actual amounts of Federal Government receipts and outlays for 2003. This section combines these effects to show the net impact of these differences.

As shown in Table 19–3, the initial 2003 current services estimate was a surplus of $41 billion. The actual result was a deficit of $375 billion, a swing of $416 billion. Receipts were $339 billion less than the initial estimate and outlays were $78 billion more. The table shows the distribution of the changes according to the categories in the preceding two sections.

Table 19–3. COMPARISON OF THE ACTUAL 2003 DEFICIT WITH THE INITIAL CURRENT SERVICES ESTIMATE

(in billions)

	Current Services (Feb. 2002)	Changes				Actual
		Policy	Economic	Technical	Total changes	
Receipts	2,121	–76	–62	–201	–339	1,782
Outlays	2,080	132	–29	–25	78	2,158
Surplus/Deficit(-)	41	–207	–34	–175	–416	–375

Note: Surplus changes are receipts minus outlays. For these changes, a minus indicates a decrease in the surplus.

The net effect of policy changes for receipts and outlays reduced the surplus by $207 billion. Economic conditions that differed from the initial assumptions in February 2002 accounted for an estimated $34 billion decrease in the surplus. Technical factors further reduced the surplus by an estimated $175 billion.

Comparison of the Actual and Estimated Outlays for Mandatory and Related Programs for 2003

This section compares the original 2003 outlay estimates for mandatory and related programs under current law in the 2003 Budget (February 2002) with the actual outlays. Major examples of these programs include Social Security and Medicare benefits for the elderly, agricultural price support payments to farmers, and deposit insurance for banks and thrift institutions. This category also includes net interest outlays and undistributed offsetting receipts.

A number of factors may cause differences between the amounts estimated in the budget and the actual mandatory outlays. For example, legislation may change benefit rates or coverage; the actual number of beneficiaries may differ from the number estimated; or economic conditions (such as inflation or interest rates) may differ from what was assumed in making the original estimates.

Table 19–4. COMPARISON OF ACTUAL AND ESTIMATED OUTLAYS FOR MANDATORY AND RELATED PROGRAMS UNDER CURRENT LAW

(in billions of dollars)

	2003		
	Feb. 2002 estimate	Actual	Change
Mandatory outlays:			
Human resources programs:			
Education, training, employment, and social services	8	11	3
Health:			
Medicaid	159	161	2
Other	17	15	–2
Total health	175	175	–*
Medicare	229	246	17
Income security:			
Retirement and disability	93	91	–2
Unemployment compensation	41	54	14
Food and nutrition assistance	36	37	2
Other	100	100	–*
Total, income security	270	283	13
Social security	472	470	–1
Veterans benefits and services:			
Income security for veterans	28	29	2
Other	3	2	–*
Total veterans benefits and services	30	31	1
Total mandatory human resources programs	1,185	1,217	33
Other functions:			
Agriculture	12	17	5
International	–3	–7	–4
Deposit insurance	1	–1	–3
Other functions	8	7	–1
Total, other functions	19	16	–3
Undistributed offsetting receipts:			
Employer share, employee retirement	–50	–49	1
Rents and royalties on the outer continental shelf	–3	–5	–2
Other undistributed offsetting receipts	–5	....	5
Total undistributed offsetting receipts	–58	–54	3
Total, mandatory	1,145	1,179	34
Net interest:			
Interest on Treasury debt securities (gross)	348	318	–29
Interest received by trust funds	–161	–156	5
Other interest	–11	–9	2
Total net interest	175	153	–22
Total outlays for mandatory and net interest	1,320	1,332	11

* $500 million or less.

Table 19–4 shows the differences between the actual outlays for these programs in 2003 and the amounts originally estimated in the 2003 Budget, based on laws in effect at that time. Actual outlays for mandatory spending and net interest in 2003 were $1,332 billion, which was $11 billion more than the initial estimate of $1,320 billion, based on existing law in February 2002.

Actual outlays for mandatory human resources programs were $1,217 billion, $33 billion more than originally estimated. This increase was the net effect of legislative action, differences between actual and assumed economic conditions, differences between the anticipated and actual number of beneficiaries, and other technical differences.

Outlays for other functions were $3 billion less than originally estimated. Undistributed offsetting receipts were $3 billion less than expected, largely due to lower spectrum auction receipts.

Outlays for net interest were $153 billion, or $22 billion less than the original estimate. This decrease was the net effect of changes in interest rates from those initially assumed, changes in borrowing requirements due to differences in surpluses, and technical factors.

Reconciliation of Differences with Amounts Published by Treasury for 2003

Table 19–5 provides a reconciliation of the receipts, outlays, and deficit totals published by the Department of the Treasury in the September 2003 Monthly Treasury Statement and those published in this budget. The Department of the Treasury made adjustments to the estimates for the Combined Statement of Receipts, Outlays, and Balances, which decreased receipts by $202 million and increased outlays by $370 million. Additional adjustments for this budget increased receipts and outlays by $227 million and $731 million, respectively. The major changes were inclusion of the transactions of the United Mine Workers of America benefit funds and adjustments of the exchange stabilization fund principally to exclude gains and losses in the valuation of foreign currencies held in the fund.

Table 19–5. RECONCILIATION OF FINAL AMOUNTS FOR 2003

(in millions of dollars)

	Receipts	Outlays	Deficit
Totals published by Treasury (September MTS)	1,782,317	2,156,536	–374,219
Miscellaneous Treasury adjustments	–202	370	–572
Totals published by Treasury in U.S. Government Annual Report	1,782,115	2,156,906	–374,791
United Mine Workers of America benefit funds	190	190	....
Exchange stabilization fund	....	484	–484
Other	37	57	–20
Total adjustments, net	227	731	–504
Totals in the budget	1,782,342	2,157,637	–375,295
MEMORANDUM:			
Total change since year-end statement	25	1,101	–1,076

PART II: HISTORICAL COMPARISON OF ACTUAL TO ESTIMATED SURPLUSES OR DEFICITS

This part of the chapter compares estimated surpluses or deficits to actual outcomes over the last two decades. The first section compares the estimate for the budget year of each budget with the subsequent actual result. The second section extends the comparison to the estimated surpluses or deficits for each year of the budget window—that is, for the current year through the fourth year following the budget year. This part concludes with some observations on the historical record of estimates of the surplus or deficit versus the subsequent actual outcomes.

Historical Comparison of Actual to Estimated Results for the Budget Year

Table 19–6 compares the estimated and actual surpluses or deficits since the deficit estimated for 1982 in the 1982 Budget. The estimated surpluses or deficits here for each budget include the Administration's policy proposals. Therefore, the original deficit estimate for 2003 differs from that shown in table 19–3, which is on a current services basis. Earlier comparisons of actual and estimated surpluses or deficits were on a policy basis, so for consistency the figures in Table 19–6 are on this basis.

On average, the estimates for the budget year underestimated actual deficits (or overestimated actual surpluses) by $26 billion over the 22-year period. Policy outcomes that differed from the original proposals increased the deficit by an average of $24 billion. Differences between economic assumptions and actual economic performance increased the deficit an average of $12 billion. Differences due to these two factors were partly offset by technical revisions, which reduced the deficit an average of $9 billion.

The relatively small average difference between actual and estimated deficits conceals a wide variation in the differences from budget to budget. The differences ranged from a $389 billion underestimate of the deficit to a $190 billion overestimate. The $389 billion underestimate, in the 2002 Budget, was due largely to receipt shortfalls associated with the 2001 recession and associated weak stock market performance. About a quarter of the underestimate was due to increased spending for recovery from the September 11, 2001 terrorist attacks, homeland security measures, and the war against terror, along with lower receipts due to the March 2002 economic stimulus act. The $190 billion overestimate of the deficit in the 1998 Budget stemmed largely from stronger-than-expected economic growth and a surge in individual income tax collections beyond that accounted for by economic factors.

Because the average deficit difference obscures the degree of under- and overestimation in the historical data, a more appropriate statistic to measure the magnitude of the differences is the average absolute difference. This statistic measures the difference without regard to whether it was an under- or overestimate. Since 1982, the average absolute difference has been $100 billion.

Another measure of variability is the standard deviation. This statistic measures the dispersion of the data around the average value. The standard deviation of the deficit differences since 1982 is $139 billion. Like the average absolute difference, this measure illustrates the high degree of variation in the difference between estimates and actual deficits.

The large variability in errors in estimates of the surplus or deficit for the budget year underscores the inherent uncertainties in estimating the future path of the Federal budget. Some estimating errors are unavoidable, because of differences between the President's original budget proposals and the legislation that Congress actually enacts. Occasionally such differences are huge, such as additional appropriations for disaster recovery, homeland security, and war efforts in response to the terrorist attacks of September 11, 2001, which were obviously not envisioned in the President's budget submitted the previous February. Even aside from differences in policy outcomes, errors in budget estimates can arise from new economic developments, unexpected changes in program costs, shifts in taxpayer behavior, and other factors. The budget impact of changes in economic assumptions is discussed further in Chapter 11 of this volume, "Economic Assumptions."

Five-Year Comparison of Actual to Estimated Surpluses or Deficits

The substantial differences between actual surpluses or deficits and the budget year estimates made less than two years earlier raises questions about the degree of variability for estimates of years beyond the budget year. Table 19–7 shows the summary statistics for the differences for the current year (CY), budget year (BY), and the four succeeding years (BY+1 through BY+4). These are the years that are required to be estimated in the budget by the Budget Enforcement Act of 1990.

On average, the budget estimates since 1982 overstated the deficit in the current year by $13 billion, but underestimated the deficit in the budget year by $26 billion. The budget estimates understated the deficit in the years following, by amounts growing from $50 billion for BY+1 to $60 billion for BY+4. While these results suggest a tendency to underestimate deficits toward the end of the budget horizon, the averages are not statistically different from zero in light of the high variation in the data.

The average absolute difference between estimated and actual deficits grows dramatically over the six years from CY through BY+4, from $48 billion in the

Table 19–6. COMPARISON OF ACTUAL AND ESTIMATED SURPLUSES OR DEFICITS SINCE 1982

(In billions of dollars)

Budget	Surplus or deficit (–) estimated for budget year [1]	Differences due to			Total difference	Actual surplus or deficit(–)
		Enacted legislation	Economic factors	Technical factors		
1982	–62	15	–70	–11	–66	–128
1983	–107	–12	–67	–22	–101	–208
1984	–203	–21	38	–	17	–185
1985	–195	–12	–17	12	–17	–212
1986	–180	–8	–27	–7	–41	–221
1987	–144	2	–16	8	–6	–150
1988	–111	–9	–19	–16	–44	–155
1989	–130	–22	10	–11	–23	–152
1990	–91	–21	–31	–79	–131	–221
1991	–63	21	–85	–143	–206	–269
1992	–281	–36	–21	48	–10	–290
1993	–350	–8	–13	115	95	–255
1994	–264	–8	16	52	61	–203
1995	–165	–18	1	18	1	–164
1996	–197	6	53	30	89	–107
1997	–140	1	–4	121	118	–22
1998	–121	–9	48	151	190	69
1999	10	–22	56	82	116	126
2000	117	–42	88	74	119	236
2001	184	–129	32	40	–57	127
2002	231	–103	–201	–85	–389	–158
2003	–80	–86	–34	–175	–295	–375
Average	....	–24	–12	9	–26	....
Absolute average [2]	....	28	43	59	100	....
Standard deviation	....	37	61	80	139	....

[1] Surplus or deficit estimate includes the effect of the budget's policy proposals.

[2] Absolute average is the average without regard to sign.

current year to $100 billion for the budget year, to $218 billion for BY+4. While under- and overestimates of the deficit have historically tended to average out, the absolute size of the under- or overestimates grows as the estimates extend further into the future. The standard deviation of the deficit differences shows the same pattern. The standard deviation grows from $62 billion for current year estimates to $139 billion for the budget year estimates and continues to increase steadily as the estimates extend further out, reaching $250 billion for BY+4.

The estimates of variability in the difference between estimated and actual deficits can be used to construct a range of uncertainty around a given set of estimates. Statistically, if these differences are normally distributed, the actual deficit will be within a range of two standard deviations above or below the estimate about 90% of the time. Chart 19–1 shows this range of uncertainty applied to the deficit estimates in this budget. This chart illustrates that unforeseen economic developments, policy outcomes, or other factors could give rise to large swings in the deficit estimates.

Table 19–7. DIFFERENCES BETWEEN ESTIMATED AND ACTUAL SURPLUSES OR DEFICITS FOR FIVE-YEAR BUDGET ESTIMATES SINCE 1982

(In billions of dollars)

Measure	Current year estimate	Budget year estimate	Estimate for budget year plus: One year (BY+1)	Two years (BY+2)	Three years (BY+3)	Four years (BY+4)
Average difference [1]	13	–26	–50	–56	–68	–60
Average absolute difference [2]	48	100	145	178	203	218
Standard deviation	62	139	201	219	234	250

[1] A positive figure represents an underestimate of the surplus or an overestimate of the deficit.
[2] Average absolute difference is the average difference without regard to sign.

Chart 19-1. Illustrative Range of Budget Outcomes