18. 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 2002 with the current services estimates shown in the 2002 Budget published in April 2001.

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 actuals 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 differences between estimates and the eventual actual results grow as the estimates extend further into the future.

PART I: COMPARISON OF ACTUAL TO ESTIMATED TOTALS FOR 2002

This part of the chapter compares the actual receipts, outlays, and deficit for 2002 with the current services estimates[2] shown in the 2002 Budget published in April 2001. 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 2002 previously published by the Department of the Treasury.

Receipts

Receipts in 2002 were $1,853 billion, which is $368 billion less than the current services estimate of $2,221 billion in the 2002 Budget. As shown in Table 18–1, 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 18–1. COMPARISON OF ACTUAL 2002 RECEIPTS WITH THE INITIAL CURRENT SERVICES ESTIMATES

(In billions of dollars)

	April 2001 estimate	Enacted legislation/ administrative actions	Different economic conditions	Technical factors	Net change	Actual
Individual income taxes	1,103	–64	–125	–55	–245	858
Corporation income taxes	220	–15	–50	–7	–72	148
Social insurance and retirement receipts	726	–*	–25	*	–25	701
Excise taxes	74	*	–3	–4	–7	67
Estate and gift taxes	32	–2	–1	–2	–6	27
Customs duties	23	–*	–4	–1	–5	19
Miscellaneous receipts	43	–1	–7	–*	–9	34
Total	**2,221**	**–83**	**–215**	**–70**	**–368**	**1,853**

* $500 million or less.

Policy differences. The Economic Growth and Tax Relief Reconciliation Act, which was signed by President Bush on June 7, 2001, reduced 2002 receipts by $32 billion. Enactment of the Job Creation and Worker Assistance Act in March 2002 reduced 2002 receipts by an additional $53 billion (see Chapter 4: "Federal Receipts" for a description of this Act). These reductions were partially offset by other legislative and administrative changes, which increased 2002 receipts relative to the April 2001 current services estimate by a net $3 billion.

Economic differences. Differences between the economic assumptions upon which the current services estimates were made and actual economic performance

[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 15: "Current Services Estimates." For mandatory programs and receipts the April 2001 current services estimate is based on laws then in place. For discretionary programs the current services estimate is based on the prior year estimates adjusted for inflation.

accounted for a reduction in 2002 receipts of $215 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 $125 billion and $25 billion, respectively. A shortfall in corporation income taxes, attributable to lower-than-expected corporate profits, reduced 2002 receipts by an additional $50 billion relative to the April 2001 estimate. Lower-than-estimated levels of gross domestic product (GDP), which affect excise taxes, and lower-than-expected interest rates, which affect deposits of earnings by the Federal Reserve (miscellaneous receipts), reduced receipts below the budget estimates by an additional $3 billion and $7 billion, respectively. Customs duties were $4 billion below the budget estimate, reflecting lower-than-expected imports.

Technical reestimates. Technical factors reduced 2002 receipts a net $70 billion below the April 2001 current services estimate. This net reduction was primarily attributable to lower-than-anticipated collections of individual and corporation income taxes of $55 billion, and $7 billion, respectively. Lower effective tax rates on personal income than estimated in April 2001, and the effect of the stock market on capital gains, were primarily responsible for the net reduction in individual income tax receipts. Different collection patterns and effective tax rates than assumed in April 2001 and the effect of the stock market on capital gains, were primarily responsible for the lower-than-anticipated collections of corporation income taxes.

Outlays

Outlays for 2002 were $2,011 billion, $73 billion more than the $1,938 billion current services estimate in the 2002 Budget (April 2001).

Table 18–2 distributes the $73 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 or changes in authorizing legislation. For 2002, policy changes increased outlays an estimated $73 billion relative to the initial current services estimates.

Policy changes increased discretionary outlays by $51 billion. Defense discretionary outlays increased by $35 billion and nondefense discretionary outlays increased by $16 billion, largely due to emergency supplemental appropriations pursuant to the September 11, 2001 terrorist attacks. Policy changes increased mandatory outlays by $17 billion above current law. Most significantly, the Job Creation and Worker Assistance Act increased unemployment compensation outlays by $8 billion and the Economic Growth and Tax Relief Reconciliation Act increased outlays for refundable tax credits by $4 billion. Other legislative changes increased 2002 outlays by a net $5 billion, including $2 billion for airline grants pursuant to September 11th and another $2 billion for farm income subsidies. Debt service costs increased by $4 billion due to policy changes.

Economic conditions that differed from those forecast in April 2001 resulted in a net decrease in outlays of $15 billion. Outlays for mandatory programs increased an estimated $13 billion, largely due to a higher-than-expected unemployment rate, which contributed to higher outlays for unemployment compensation and Food Stamps. The increased outlays for mandatory programs were more than offset by a decrease of $28 billion in net interest due to lower-than-expected interest rates.

[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 18–2. COMPARISON OF ACTUAL 2002 OUTLAYS WITH THE INITIAL CURRENT SERVICES ESTIMATES

(In billions of dollars)

	Current Services (April 2001)	Changes				Actual
		Policy	Economic	Technical	Total changes	
Discretionary:						
Defense	312	35	....	2	37	349
Nondefense.	372	16	....	–3	13	385
Subtotal, discretionary	684	51	....	–1	50	734
Mandatory:.						
Social Security.	452	....	*	1	1	452
Other programs	616	17	13	7	37	653
Subtotal, mandatory	1,067	17	13	8	38	1,106
Net interest	186	4	–28	8	–16	171
Total outlays	**1,938**	**73**	**–15**	**15**	**73**	**2,011**

* $500 million or less.

Technical estimating differences and other changes resulted in a net increase in outlays of $15 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 $1 billion. Outlays for mandatory programs increased an estimated $8 billion, largely due to higher-than-anticipated outlays for unemployment compensation and lower-than-anticipated offsetting receipts for spectrum auctions. Net interest outlays also increased by $8 billion largely due to the lower surplus in 2001 and higher deficit in 2002 stemming from technical factors compared to the April 2001 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 2002. This section combines these effects to show the net impact of these differences.

As shown in Table 18–3, the initial 2002 current services estimate was a surplus of $283 billion. The actual result was a deficit of $158 billion, which yields an estimating difference of $441. Receipts were $368 billion less than the initial estimate and outlays were $73 billion more. The table shows the distribution of the changes according to the categories in the preceding two sections.

Table 18–3. COMPARISON OF THE ACTUAL 2002 SURPLUS WITH THE INITIAL CURRENT SERVICES SURPLUS ESTIMATE

(In billions of dollars)

	Current Services (April 2001)	Changes				Actual
		Policy	Economic	Technical	Total changes	
Receipts	2,221	–83	–215	–70	–368	1,853
Outlays	1,938	73	–15	15	73	2,011
Surplus	**283**	**–156**	**–201**	**–84**	**–441**	**–158**

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 $156 billion. Economic conditions that differed from the initial assumptions in April 2001 accounted for an estimated $201 billion decrease in the surplus. Technical factors further reduced the surplus by an estimated $84 billion.

Comparison of the Actual and Estimated Outlays for Mandatory and Related Programs for 2002

This section compares the original 2002 outlay estimates for mandatory and related programs under current law in the 2002 Budget (April 2001) 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 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 18–4 shows the differences between the actual outlays for these programs in 2002 and the amounts originally estimated in the 2002 Budget, based on laws in effect at that time. Actual outlays for mandatory spending and net interest in 2002 were $1,277 billion, which was $23 billion more than the initial estimate of $1,254 billion, based on existing law in April 2001.

Table 18–4. COMPARISON OF ACTUAL AND ESTIMATED OUTLAYS FOR MANDATORY AND RELATED PROGRAMS UNDER CURRENT LAW

(In billions of dollars)

	2002		
	April 2001 estimate [1]	Actual	Change
Mandatory outlays:			
Human resources programs:.			
Education, training, employment, and social services	8	8	–*
Health:			
Medicaid	143	148	4
Other	9	10	*
Total health	152	157	5
Medicare	226	228	1
Income security:			
Retirement and disability	89	89	–*
Unemployment compensation	28	51	22
Food and nutrition assistance	32	33	1
Other	87	92	6
Total, income security	235	265	29
Social security	452	452	1
Veterans benefits and services:			
Income security for veterans	26	27	1
Other	2	*	–2
Total veterans benefits and services	28	27	–1
Total mandatory human resources programs	1,102	1,137	35
Other functions:			
Agriculture	13	17	4
Mortgage credit	–1	–5	–4
Deposit insurance	–1	–1	–*
Other functions	6	6	–*
Total, other functions	18	17	–1
Undistributed offsetting receipts:			
Employer share, employee retirement	–42	–43	–1
Rents and royalties on the outer continental shelf	–6	–5	1
Other undistributed offsetting receipts	–4	–*	4
Total undistributed offsetting receipts	–52	–48	4
Total, mandatory	1,067	1,106	38
Net interest:			
Interest on Treasury debt securities (gross)	349	333	–17
Interest received by trust funds	–152	–153	–1
Other interest	–10	–8	2
Total net interest	186	171	–16
Total outlays for mandatory and net interest	1,254	1,277	23

* $500 million or less

[1] Estimates reflect the function shift for foster care and adoption assistance in the 2003 Budget.

Note: Estimates may not add due to rounding.

Actual outlays for mandatory human resources programs were $1,137 billion, $35 billion more than originally estimated. This increase was largely due to outlays for unemployment compensation, mostly due to the extended unemployment benefits enacted in the Job Creation and Worker Assistance Act and higher unemployment and average recipiency rates than initially assumed.

Outlays for other functions were $1 billion less than originally estimated. Undistributed offsetting receipts were $4 billion less than expected, largely due to lower spectrum auction receipts.

Outlays for net interest were $171 billion or $16 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 2002

Table 18–5 provides a reconciliation of the receipts, outlays, and surplus totals published by the Department of the Treasury in the September 2002 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 increased receipts by $8 million and reduced outlays by $846 million. Additional adjustments for this budget reduced receipts by $123 million and increased outlays by $13 million. The major changes were reclassification of certain U.S. Trustees System receipts and inclusion of the transactions of the United Mine Workers of America benefit funds.

Table 18–5. RECONCILIATION OF FINAL AMOUNTS FOR 2002

(In millions of dollars)

	Receipts	Outlays	Surplus
Totals published by Treasury (September 30 MTS)	1,853,288	2,011,808	–158,520
Federal family education loans	....	–751	751
Other	8	–95	103
Totals published by Treasury in Combined Statement	1,853,296	2,010,962	–157,666
United Mine Workers of America benefit funds	124	124	....
U.S. Trustees System receipts	–180	–180	....
Other	–67	69	–136
Total adjustments, net	–123	13	–136
Totals in the budget	1,853,173	2,010,975	–157,802
MEMORANDUM:			
Total change since year-end statement	–115	–833	718

Part II: HISTORICAL COMPARISON OF ACTUAL TO ESTIMATED SURPLUSES

This part of the chapter compares actual surpluses to estimated surpluses over the last two decades. The first section compares the estimate for the budget year of each budget with the subsequent actual surplus. The second section extends the comparison to the estimated surpluses 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 surplus estimates versus the subsequent actual surpluses.

Historical Comparison of Actual to Estimated Surpluses for the Budget Year

Table 18–6 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 estimated surplus for 2002 differs from that shown in table 18–3, which is on a current services basis. Earlier comparisons of actual and estimated surpluses were on a policy basis, so for consistency the figures in Table 18–6 are on this basis.

On average, the estimates for the budget year overestimated actual surpluses (or underestimated actual deficits) by $14 billion over the 21-year period. Policy outcomes that differed from the original proposals reduced the surplus by an average of $21 billion. Differences between economic assumptions and actual economic performance reduced the surplus an average of $11 billion. Differences due to these two factors were partly offset by technical revisions, which increased the surplus an average of $18 billion.

The relatively small average difference between actual and estimated surpluses conceals a wide variation in the differences from budget to budget. The differences ranged from a $389 billion overestimate to a $190 billion underestimate. The $389 billion overestimate, 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 overestimate 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 underestimate of the surplus, 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 surplus 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 $90 billion.

Table 18–6. COMPARISON OF ACTUAL AND ESTIMATED SURPLUSES 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
Average	....	–21	–11	18	–14	....
Absolute average [2]	....	25	43	53	90	....
Standard deviation	....	35	62	70	128	....

[1] Surplus or deficit estimate includes the effect of the budget's policy proposals.
[2] Absolute average is the average without regard to sign.

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 surplus differences since 1982 is $128 billion. Like the average absolute difference, this measure illustrates the high degree of variation in the difference between estimates and actual surpluses.

The large variability in estimates of the surplus 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 Congressional 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 are discussed further in Chapter 2 of this volume, "Economic Assumptions."

Five-Year Comparison of Actual to Estimated Surpluses

The substantial differences between actual surpluses 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 18–7 shows summary statistics for the surplus 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 understated the surplus in the current year by $16 billion, but overestimated the surplus in the budget year by $14 billion. The budget estimates overstated the surplus in the years following, by amounts growing from $21 billion for BY+1 to $35 billion for BY+4. While these results suggest a slight tendency to overestimate surpluses 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 surpluses grows dramatically over the six years from CY through BY+4, from $47 billion in the current year to $90 billion for the budget year, to $203 billion for BY+4. While under- and overestimates of the surplus 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 surplus differences shows the same pattern. The standard deviation grows from $61 billion for current year estimates to $128 billion for the budget year estimates and continues to increase steadily as the estimates extend further out, reaching $236 billion for BY+4.

The estimates of variability in the difference between estimated and actual surpluses can be used to construct a range of uncertainty around a given set of surplus estimates. Statistically, if these differences are normally distributed, the actual surplus will be within a range of two standard deviations above or below the estimate about 90% of the time. Chart 18–1 shows this range of uncertainty applied to the surplus estimates in this budget. This chart illustrates that unforeseen economic developments, policy outcomes, or other factors could give rise to large swings in the surplus estimates.

Table 18–7. DIFFERENCES BETWEEN ESTIMATED AND ACTUAL SURPLUSES 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]	16	–14	–21	–30	–41	–35
Average absolute difference [2]	47	90	121	158	183	203
Standard deviation	61	128	158	189	207	236

[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.