Alternative Measures of U.S. Fiscal Deficits

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The most widely quoted financial statistic about the U.S. government is its annual budget deficit. This measure, usually interpreted as an indicator of the extent to which the government is shifting costs incurred in the current period to the future, can be incomplete and misleading. At the very least, informed citizens with an interest in future tax burdens or intergenerational equity need to supplement the current deficit measure with broader, more comprehensive statistics that are currently available, but which also have their own limitations. In this article, we describe some of the major omissions of the U.S. federal budget deficit and consider the additional information provided by three broader measures of fiscal shortfall: the increase in outstanding gross federal debt; the change in the government's net financial position; and the change in the fiscal gap.

Effectively, we offer an evaluation of one element of the budget—the deficit—by the single criteria of its comprehensiveness as a measure of the burden of today's policies on future taxpayers and other stakeholders. Additional budget elements that could be evaluated using other criteria include budget outlays as a measure of the size of government or the effectiveness of the budget process in achieving the goals of efficiency, stability, and equity. These topics, however, are beyond the scope of this paper[1].

Budget Accounting and the Budget Deficit

The U.S. federal budget primarily uses a cash-basis of accounting with accrual-basis treatment of some deferred payments and collections, including unpaid but accrued interest on the public debt, expected pay-outs for loan guarantees, and expected repayments of federal direct loans made to non-federal entities. Under cash-basis accounting, revenues and expenditures are recognized in the budget only when cash is received or paid, rather than at some other point in the "transaction" such as at when taxable income is earned, a purchase order is issued, or a beneficiary qualifies for a payment. All receipts, whether from taxes, fees, or employee contributions toward a benefit to be paid in the future, are counted when received and reduce the deficit in the period received. Similarly, outlays for most purposes, including purchases of goods and services, pensions, insurance claims and emergencies are recorded only when checks are issued to the public. The deficit/surplus is the difference between receipts in the budget period and outlays in the same period[2].

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[1] Accordingly, we do not consider measures of program performance, cyclically adjusted budget outcomes, or the effects of policies on the cross sectional distribution of wealth and income.

[2] Some governmental collections, notably those of a commercial nature, including sales of electric power and insurance premiums, are scored as offsets to spending (negative outlays) rather than revenues, but the effect on the current period deficit is the same as if they were treated as revenues from taxes.

A minor complication arises in the calculation of the deficit by the legislatively-mandated classification of Social Security and the Postal Service as "off-budget." However, the U. S. budget offices—the executive Office of Management and Budget and the Congressional Budget Office both compute a unified budget deficit by combining the on-budget and off-budget deficits (Table 1). The unified budget deficit is treated in the public media as the federal deficit.

Table 1: Federal Deficit:2006-2013 (billions of dollars)

	Actual					Projected		
	2006	2007	2008	2009	2010	2011	2012	2013
Total Revenue	2407	2568	2524	2104	2162	2228	2555	3090
Total Outlays	2655	2729	2983	3517	3456	3708	3655	3794
Total Deficit	**-248**	**-161**	**-459**	**-1413**	**-1294**	**-1480**	**-1100**	**-704**
On-budget	-435	-342	-642	-1550	-1371	-1548	-1186	-792
Off budget	187	181	183	137	77	68	86	88

Source: Source: CBO, The Budget and Economic Outlook: FY2011 to FY2021: Table E1, p133
UUUhttp://www.cbo.gov/ftpdocs/120xx/doc12039/HistoricalTables[1].pdf

Omissions from the Unified Budget Deficit

The comprehensiveness of the unified federal budget deficit is compromised as a measure of current costs shifted to the future by a number of budgetary accounting practices, including the treatment of:

- earmarked collections;
- accrued post-employment benefits owed to civilian and military employees;
- social insurance, financial insurance, and other long-term obligations, and
- most federal assets.

Earmarked collections. The federal government finances a number of spending programs including social insurance, federal retirement, and long-term insurance, at least in part, with taxes and other collections that are earmarked for spending on the designated purpose. Those earmarks signal to voters and taxpayers the government's commitment to allocate the collected funds (or their future value, including interest) to the agreed use.

The government tracks and enforces revenue earmarks by crediting those collections to trust funds and other on-budget expenditure accounts where they earn interest from Treasury until paid out for the intended purpose. However, those collections are recorded, first as cash inflows to the government and, second, as spendable balances for the earmarked account. The net effect is to increase collections without increasing outlays in the current period and thereby to reduce the deficit. In accounting terms, the government recognizes an inflow of resources that it is simultaneously obligated to spend on the earmarked purpose. This budget treatment records the inflow but ignores the obligation.

This result has caused many observers to conclude that this practice has the effect of "masking the deficit." (Schick. 2007, p. 44) That conclusion also caused the Congress to mandate that Social Security be treated as off-budget. As noted, the significance of this requirement has been weakened by the current practice of combining the on- and off-budget deficits into a unified budget deficit.

At year-end fiscal 2010, federal expenditure accounts had "invested balances" (cumulative collections in excess of cumulative outlays plus interest) of more than $4.5 trillion, an increase of about $180 billion over the 2009 level. Thus, the current treatment of earmarked collections (and interest on earmarked balances) reduced the unified deficit by about $180 billion. (Financial Report of the U.S. Government 2010)

Accrued, post employment benefits. The government collects contributions from current employees to pay future retiree defined benefits and counts those collections as reducing the deficit. Further, those collections generally fall short of the cost of benefits earned each year. The shortfall is a cost of operating the government in the current year. The offset to outlays and the deficit could be avoided and the government's cost recognized in the budget deficit if the retirement funds were held outside of government and if the government contributed the shortfall to those retirement accounts[3]. Instead, the government makes a partial payment for this cost to an on-budget trust fund. Such an intra-governmental payment increases both gross federal outlays and offsetting collections and leaves net outlays and the deficit unchanged[4]. In 2010, the increase in accrued post-employment benefits totaled an estimated $437 billion.

Table 2: Federal Employee and Veteran Benefits Accrued, 2009-2010 (billions of dollars)

	Civilian		Military		Total	
	2009	2010	2009	2010	2009	2010
Pension and accrued benefits	1529	1632	1177	1263	2706	2895
Post-retirement health and accrued benefits	352	356	826	905	1178	1261
Veteran compensation and burial benefits	N/A	N/A	1318	1475	1318	1475
Other	58	66	24	24	82	90
Total	**1939**	**2054**	**3345**	**3667**	**5284**	**5721**

Source: 2010 Financial Report of the United States Government, Note 15, p.91
www.fms.treas.gov/fr/index.html

Safety net policies. Much, if not most, U.S. federal government policy aims to protect people from adverse future events such as an impoverished old age, the catastrophic cost of sickness and disability, unemployment, financial and economic instability, and man-made and natural disasters. Government creates these insurance programs in law and prescribes benefits to all who meet specified eligibility requirements now and--because it is insurance--in the future. (Jackson, 2006).

In providing this assistance, government is taking on the obligation to pay for costly events that are almost sure to occur but whose timing and the amount of payment are uncertain. In expectation, those programs all have costs. While government could charge fair market premiums (with subsidies for those with low-income) for this coverage, past practice has been

[3] Indeed, that is the accounting now in use for federal defined contribution retirement pension plans.
[4] This accounting has been compared with saving for retirement by putting one's own IOUs in a cookie jar.

for government to subsidize nearly all coverage and fund the difference from taxes. The federal budget does not recognize federal costs for those subsidies, however, until cash payments are made.

Government could signal the anticipated cost of these safety net programs and possibly increase saving now by including the expected annual cost of these mandatory, or entitlement, programs in outlays and the deficit before those events occur.

Federal assets. Not all omissions from the budget's measure of the fiscal shortfall reduce the figure below a more comprehensively measured value. An example is the practice of excluding the value of many financial and non-financial assets from the budget. Cash-basis accounting requires that the cost of acquiring assets be recognized as an expense. Thus, the service or resale value of real plant and equipment and other investments is ignored as an offset to the expense in the budget. This exclusion tends to exaggerate the size of the deficit relative to the net burden shifted to the future.

Alternative Measures

Users of budget information, especially those whose primary interest is the annual deficit may benefit from consulting some of the broader measures of the fiscal shortfall. Here we focus on additional information provided by changes in the gross debt, net financial position, and the fiscal gap.

Change in Gross Debt

This measure augments the budget deficit by disclosing the net change in debt held by the public and by governmental accounts. The government borrows from the public (individuals, financial institutions, state and local and foreign governments) to finance its deficits. It also uses surpluses--when they occur--to reduce the debt held by the public. Debt held by the public therefore is the total amount that the Federal government has borrowed from the public over the years and refinanced but not repaid.

Nonetheless, the increase or decrease in the debt held by the public is not equal to the deficit (Table 3). There are two reasons for this. One is that the government is making use of accrual rather than cash-basis accounting for some activities. For example, when the government accrues interest on the public debt, this increases reported outlays and the deficit but does not increase borrowing from the public until interest is actually paid. Similarly, when the government makes a direct loan, it recognizes only the expected loss as an outlay and the deficit, but it must borrow the full amount of the loan from the public. Second, the government uses the proceeds of borrowing for purposes other than financing a deficit such as building up its cash balances.

Table 3: Change in Debt Held by the Public and Deficit: 2006-2010 (billions of dollars)

	2006	2007	2008	2009	2010
Change in Debt Held by the Public	242	206	760	1743	1471
Deficit	248	161	459	1413	1294

Sources: U.S. Treasury www.treasurydirect.gov/NP/BPDLogin?application=np and Congressional Budget Office, *Budget and Economic Outlook: FY2011 to FY2021* , January 2011 (Table Appendix E-1)

Note: Small differences in reported debt held by the public by source are observed in these data, and may be due to differences in the accrual of interest and to data revisions.

Usually, borrowing from the public is larger than the deficit. In FY2010 for example, the debt held by the public increased by $1471 billion while the deficit was 1294 billion dollars. (Table 3)

As noted, the gross debt includes the public debt and Treasury debt held by federal accounts. Account balances arise primarily from credits of earmarked funds (and Treasury interest) to those accounts in excess of spending. As indicated by the difference in the increase in gross and public debt, expenditure balances increased about $180 billion in 2010. (Table 4).The gross debt is also a close approximation of the debt subject to limit, specified in law, and which must be periodically raised to accommodate the increase in outstanding Treasury debt.

Change in Net Financial Position

The U.S. Treasury produces an annual financial report for the U.S. Government which differs significantly from the budget. Specifically, that report uses an accrual basis of accounting for federal retirement benefits, environmental liabilities, and some insurance claims. It also recognizes the value of cash and some financial claims, inventories and property, plant and equipment as assets. Rather than expensing the acquisition of durable assets, it recognizes their cost over their useful lives as depreciation. A balance sheet showing assets, liabilities and the net position of the government is one of the statements included in this report. (Table 5)

Table 4: Change in Debt Held by the Public and Change in Gross Debt: 2006-2010 (billions of dollars)

	2006	2007	2008	2009	2010
Change in Debt Held by the Public	242	206	760	1743	1471
Change in Gross Debt	574	501	1017	1885	1652

Source: U.S. Treasury www.treasurydirect.gov/NP/BPDLogin?application=np

Table 5：2010 Federal Balance Sheet（billions of dollars）

	2009	**2010**	**Change**
Assets			
Cash	393	429	35
Loans and financial investments	843	943	99
Inventory	285	286	2
Property, Plant & Equipment	784	829	45
Other	363	398	35
Total Assets	2668	2885	216
Liabilities			
Federal debt held by the public	7583	9060	1477
Federal Employee & Veteran Benefits	5284	5720	437
Other	1257	1576	319
Total liabilities	14124	16356	2233
Net Position	-11456	-13473	-2017

Source: 2005-2010 Financial Report of the United States Government, *www.fms.treas.gov/fr/index.html*
Note: discrepancies exist in reported public debt numbers: Financial Report for 2010 ($9060 billion) versus Treasury direct ($9023 billion) and CBO ($9018).

The financial accounting system thus recognizes a much wider range of liabilities and assets than does the budget. This broader coverage gives the year-to-year change in the net position of the government a claim to a more comprehensive measure of the annual fiscal shortfall. In fiscal 2010, the net position of the federal government declined $2 trillion. This compares with a budget deficit of $1.3 trillion and an increase in gross debt of $1.7 trillion.

The change in net position is typically greater than the budget deficit because of the accrual of post-retirement benefits in the financial statements. (Table 6) In 2009, however, the decline in the net position was smaller than the deficit primarily because of an actuarial re-estimate of the cost of veterans' compensation and lower cost of projected military and civilian retirement benefits..

Table 6: Change in Net Position and Deficit: 2006-2010 (billions of dollars)

	2006	2007	2008	2009	2010
Change in Net Position	449	290	998	1252	2017
Deficit	248	161	459	1413	1294

Sources: 2006-2010 Financial Report of the United States Government and Congressional Budget Office

The balance sheet and net position, however, is also an incomplete measure of federal financial claims and current law obligations. For example, it excludes all future obligations for social insurance including benefits to be paid to those who are already receiving benefits and those who are now eligible but have elected to defer. Instead, social insurance obligations are disclosed separately in a statement of social insurance. The only liability recognized for social insurance programs on the balance sheet ("what we owe" in the words of the Citizens Guide to the Financial Report) are those amounts due and payable as of the reporting date—essentially unissued and uncollected checks.

This treatment of social insurance programs in the financial statements has been the subject of heated disputes among members of the Federal Financial Accounting Standards Advisory Board. The current treatment appears to be consistent with a view of social insurance as a gratuity paid only at the convenience of the government. The courts have upheld such characterizations of Social Security, for example, in denying claimants the right to sue for scheduled benefits. While social insurance benefits are not legally enforceable, the ability of the government to withdraw benefits for those receiving benefits or close to retirement is severely constrained by their "political enforceability."

The balance sheet and the change in net position also exclude from liabilities those statutory commitments to provide financial assistance to individuals, firms, political sub-divisions, and other sovereign governments in the event of a severe economic contraction, natural or man-made disaster, or economic emergency. Those obligations are not recognized until they are due to be paid.

Similarly, the balance sheet does not recognize as an asset the present value of tax revenues and other federal income expected under current law. The justification for this exclusion is closely related to the argument for non-recognition of an annual cost for highly likely contingent adverse events: the taxable event, earning income, has not yet occurred.

<u>Changes in the Fiscal Gap</u>

The fiscal gap is the most comprehensive, currently available measure of the fiscal shortfall. In concept, the gap is the difference between the present value of expected outlays from all current spending programs (liabilities) and the present value of expected cash inflows from current taxes and fees (assets) over a specified period, usually 25, 50, or 75 years. For convenience, the gap is usually expressed as a fraction of gross domestic product or GDP. As a measure of fiscal stability, it is usually described as the extent that the government would need to immediately and permanently either raise taxes or cut spending (or some of both) to keep the ratio of debt/GDP at the end of the period equal to its current value.

As implied by an early contributor (Buiter, 1983), the fiscal gap is effectively the net position of a balance sheet consisting of assets and liabilities where the recognition event is the enactment of law and adoption of spending and tax policies. Given current law governing taxes and spending and a projection of economic activity that produces revenues or calls forth spending, an analyst can estimate the long-term assets, liabilities and fiscal position of a government for the planning horizon.

The fiscal gap is comprehensive of all government spending and collections expected under current policy. It also includes obligations whose liquidation is deferred or contingent on future events or merely implied.

The Congressional Budget Office (CBO) produces estimates of the fiscal gap for up to 75 years as a part of its reports on the long-term budget outlook (CBO, June 2010). CBO usually prepares estimates based on both an assumption that current law is maintained throughout the projection period and an alternative fiscal scenario. The alternative adjusts current law for changes that are widely expected to occur, such as the continuation of “temporary” tax cuts and continued relief from onerous, legislated tax increases or spending cuts. CBO uses current interest rates on U.S. Treasury debt to discount future year cash flows to present values.

CBO’s latest estimates of the fiscal gap (June 2010) are shown in Table 7:

Table 7: Fiscal Gap 2010 (Percent of GDP)

Extended Current Law Baseline	
25 years	1.2
50 years	0.8
75 years	0.7
Alternative Scenario	
25 years	4.8
50 years	6.9
75 years	8.7

Source: Congressional Budget Office, Long-Term Budget Outlook, 2010

Despite its comprehensiveness over spending and revenue policies and time, the fiscal gap also has its weaknesses and disadvantages. One of these is that estimates of the gap are highly sensitive to the assumed rates of growth of the economy, the growth in benefit populations, changes in the cost of specific policies, interest rates, and the interpretation of current policy or “likely” policy. One illustration of this characteristic is the U.S. Treasury’s estimate of the 75-year fiscal gap reported in the Financial Report of the U. S. Government for 2010. Treasury’s estimate is 2.4 percent[5]. That estimate, though higher than CBO's current law estimate, is well below CBO's more likely alternative baseline estimate. Treasury's lower value is primarily the result of more optimistic assumptions about the effectiveness of the Affordable Care Act in restraining the growth of health care costs. If health care costs rise 1 or 2 percent more per year than assumed by Treasury, their 75-year fiscal gap estimate increases to 4.3 percent and 11 percent, respectively.

The fiscal gap is a measure of government's current policy long-term fiscal shortfall, expressed as a share of annual GDP. The gap measure that is equivalent to the deficit (the change in debt outstanding), therefore, is the change in the fiscal gap. Between June 2009 and June 2010 CBO's estimate of the 75-year fiscal gap of the U.S. (alternative baseline) increased from 8.1 percent to 8.7 percent of GDP. That 0.6 percent increase translates into immediate and permanent annual increase in taxes or cut in spending of \$80 - \$90 billion (using a GDP value of \$14.7 trillion). By this measure, policy actions taken during 2009-2010 contributed only modestly to the long-term budget shortfall. In fact, CBO's estimates for the 25 and 50 year fiscal gap under the alternative policy path and for all horizons for the baseline projection suggest modest declines or no change in the fiscal gap over this period (Table 8).

Table 8: Fiscal Gap 2009 (Percent of GDP)

Extended Current Law Baseline	
25 years	2.1
50 years	2.6
75 years	3.2
Alternative Scenario	
25 years	5.4
50 years	6.9
75 years	8.1

Source: Congressional Budget Office, Long-Term Budget Outlook, 2009

Closing Comment

It may not be possible or desirable to wean the media and the public from an excess reliance on a single number to assess the fiscal performance of governments. But to the extent that informed observers are concerned about the current tendency to shift a significant portion of the cost of government to the future, they should appreciate that there are a number of measures more suitable to this assessment than *the* budget deficit. Here we have focused on three of those alternatives. Each, of course, has its own limitations and weaknesses, but taken together they provide a more nuanced picture of the current period's contribution to the future tax burden.

[5] The Federal Accounting Standards Advisory Board's SSFAS 36 requires the government to include an estimate of the Fiscal Gap in the Federal Financial Report as required supplementary information (RSI). Effective with fiscal year 2013 the estimate will become a part of the audited statements of the Report.

References

Buiter, Willem H. 1983 “Measurement of the Public Sector Deficit and Its Implications for Policy Evaluation and Design” *Staff Papers*, International Monetary Fund, Washington, D.C.. www.jstor.org/pss/3867002.

Jackson, Howell E, 2006 “Counting the ways- The Structure of Federal Spending”, *Fiscal Challenges- An Interdisciplinary Approach to Budget Policy,* Garrett, Graddy and Jackson (eds.) Cambridge University Press, New York

Office of Management and Budget. *Analytical Perspectives*, Budget of the U.S. Government, Washington, DC

Schick, Allen. 2007. *The Federal Budget: Politics, Policy, Process*, Brookings Institution Press, 3rd Edition.

U.S. Congressional Budget Office. *Budget and Economic Outlook: Fiscal Year 2011-202,* http://www.cbo.gov/doc.cfm?index=12039

U.S. Congressional Budget Office. T*he Long-Term Budget Outlook* June 2010 (also 2009). http://www.cbo.gov/doc.cfm?index=11579

U.S. Treasury. Financial Report of the United States Government, 2005- 2010. www.fms.treas.gov/fr/index.html