

# How Much Red Ink?

## Comparing economic and accounting approaches to measuring government deficit and debt

*James L. Chan and Yunxiao Xu*

### Introduction

Deficit and debt are two common fiscal indicators used by economists and accountants alike in measuring government fiscal health. Kotlikoff (2010) recently warned that the United States faced a ‘hidden fiscal crisis’. We argue that the fiscal crisis is ‘hidden’ to those who only consult the budget of the US government, because the budget projects cash deficits and Treasury debt securities held by the public. The severity of the US government’s fiscal problems is on display in the year-end Consolidated Financial Statements in its Financial Reports prepared under the accrual basis (Chan 1999) as required by Generally Accepted Accounting Principles promulgated by the Federal Accounting Standards Advisory Board (FASAB) (Chan 2009).

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**James L. Chan** is Distinguished Overseas Professor at Peking University and at Shandong University of Finance and Economics, China.



**Yunxiao Xu** is Associate Professor of Public Finance at Peking University, China.

data from the budgets and year-end consolidated financial statements of the US government over the past decade, we present three comparisons: (1) government debt in the form of Treasury securities vs total liabilities; (2) projected cash deficit announced ahead of a fiscal year vs the actual cash deficit found at the end of the same fiscal year; and (3) the actual cash deficit and actual accrual deficit for the same fiscal year.

The fiscal year (FY) of the US government begins on 1 October and ends on 30 September of the following calendar year. By convention, the ending date is used to refer to a fiscal year; thus fiscal year 2011 ended on 30 September 2011.

### **Comparison 1: bonded debt vs total liabilities**

Bonded debt (ABDt in Table 1 and Figure 1) refers to federal debt securities held by the public, to which accrued interest payable is combined in the Consolidated Financial Statements of the US government. Excluded from this measure are the Treasury debts issued to other federal government accounts, such as the Social Security Trust Fund for the amounts borrowed by the General Fund. The ‘public’ here refers to all creditors other than the federal government, including foreign governments.

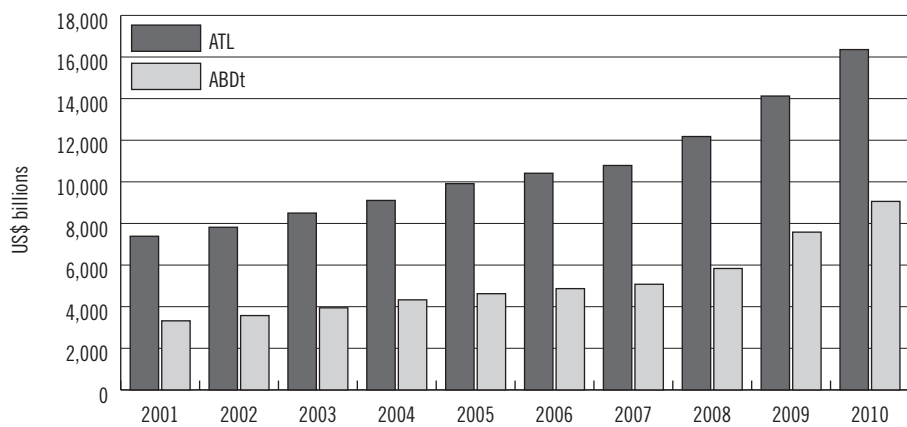
The US government’s total liabilities (ATL) include bonded debt and other financial obligations that arise from past transactions and events, and require future cash payments. The largest category, other than bonded debt, is retirement and other benefits payable to federal employees, including current and past civilian and military employees: \$5.7 trillion in comparison to the \$9.1 trillion in bonded debt on 30 September 2010. On that date, the US government also was liable for a total of approximately \$602 billion as a consequence of actions taken during the recent financial crisis to rescue failing financial institutions and stabilise the markets. These liabilities were offset by \$1,062 billion in financial assets acquired for the same reasons. A unique item is environmental and disposal liabilities for legally mandated costs of cleaning up nuclear and chemical wastes, a legacy cost of the Cold War.

The US has a number of ‘entitlement’ programmes that provide payments to the aged, survivors and disabled (‘Social Security’) as well as health and medical services for the elderly (‘Medicare’). The benefits and their dedicated revenues are both stipulated in laws. Only a relatively

**Table 1: Actual bonded debt vs actual total liabilities, US government (amounts in billions of US dollars)**

FY end	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ATL	7,385	7,817	8,499	9,107	9,915	10,413	10,787	12,178	14,124	16,357
ABDt	3,320	3,573	3,945	4,329	4,624	4,868	5,078	5,836	7,583	9,060
Diff1	4,065	4,244	4,554	4,778	5,291	5,545	5,709	6,342	6,541	7,297

Notes: ABDt = actual federal debt securities held by the public and interest payable; ATL = actual total liabilities; Diff 1 = ATL – ABDt

**Figure 1: Actual bonded debt vs actual total liabilities, US government**

small amount currently due and payable under these programmes (\$164 billion as of end of FY 2010) is recognised by accounting standards as liabilities reportable on the US government's balance sheet. In 2010 the present value of future entitlement expenditures in excess of related future revenues over the next 75 years was estimated to total \$31 *trillion* for all social insurance programmes for current and future participants. This amount is instead reported in the Statement of Social Insurance, one of the Consolidated Financial Statements. Economists and accountants alike rely on government actuaries to project what is widely perceived as an unsustainable financial burden on future generations.

In conclusion, the American federal government has numerous financial obligations other than the much publicised 'national debt'. These liabilities, which have attracted much less professional and public attention,

have nevertheless doubled to \$7.3 trillion during the past decade. They are not much smaller than the bonded debt, which has almost tripled to \$9.1 trillion during the same period. Both look small relative to the social insurance benefits promised in laws: a present value of \$93 trillion.

## **Comparison 2: actual cash deficit vs projected cash deficit**

The projected cash deficit (PCaDf) for the budget year, FY(1), and the following nine fiscal years are contained in the Budget of the United States presented by the President to Congress on the first Monday of February of FY(0). The actual cash deficit (ACaDf) number for FY(1) is available almost immediately at the end of FY(1). That is, eight months separate the submission of the President's budget for FY(1) and the start of FY(1); twenty months separate the submission of the President's budget for FY(1) and the end of FY(1).

Even in relatively stable economic times, one would expect some differences between projected and actual cash deficits for the same fiscal year. During the past decade, actual cash deficit was less than projected cash deficit in FY 2005, 2006 and 2007. During periods of economic instability and especially financial crises, the unfavourable difference could be very substantial. For FY 2002, the projected cash surplus of \$231 billion turned into an actual cash deficit of \$158 billion, a swing of \$389 billion. For FY 2009, the first full year of the recent financial crisis in the US, the projected cash deficit, made in early February 2008, was \$407 billion; the actual cash deficit turned out to be 2.5 times more: \$1,010 billion.

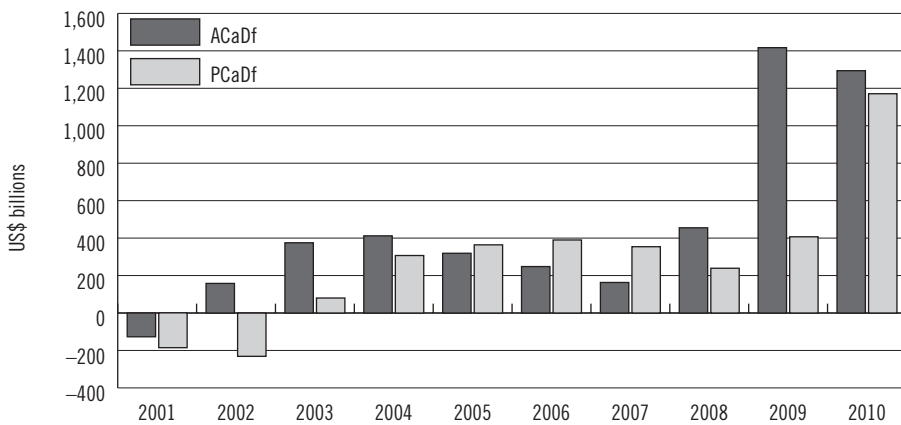
In conclusion, the budget deficit bang triggered by the release of the President's budget faded to an accounting whimper 20 months later, even when the actual deficit could be much larger. Budget announcements receive considerable media attention; in contrast, closing the books at the end of the fiscal year is a technocratic non-event. Accountants are not entitled to congratulate themselves on the accuracy of their numbers. Being fiscal historians, they have the luxury of waiting until the end of a fiscal year to report their actual numbers. Economists, on the other hand, have to stick their necks out and venture educated guesses at future deficits. Thus this comparison, in a sense, is unfair to economists charged with making projections.

**Table 2: Actual cash deficit vs projected cash deficit, US government (amounts in billions of US dollars)**

FY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ACaDf	-127	158	375	412	319	248	163	455	1,417	1,294
PCaDf	-184	-231	80	307	364	390	354	239	407	1,171
Diff2	57	389	295	105	-45	-142	-191	216	1,010	123

Sources: Consolidated financial statements and budget of the US government, various years.

Notes: ACaDf = actual cash deficit; PCaDf = projected cash deficit; Diff 2 = ACaDf - PCaDf

**Figure 2: Actual cash deficit vs projected cash deficit, US government**

### Comparison 3: actual accrual deficit vs actual cash deficit

The federal government operates a budget accounting system and a financial accounting system. An important function of the budget accounting is to keep track of actual cash outlays and actual cash receipts, and the resulting actual cash deficit (ACaDf). Actual cash deficit is financed by issuing government bonds.

Required to use the accrual basis, the federal government's financial accounting system recognises, measures and reports the current and future financial consequences of actual transactions and events. Financial consequences are expressed in terms of increases or decreases in the government's assets and liabilities. As economic resources, assets include both financial resources and capital resources owned and controlled by

the government. Liabilities include financial obligations that will require future cash flows, encompassing but not limited to Treasury securities held by the public. Net position or net assets result from subtracting total liabilities from total assets.

The government’s financial performance in a fiscal year is gauged by whether its net assets increased or decreased between the beginning and

**The power of accrual accounting is revealed by the size of discrepancy between cash deficit and accrual deficit.**

the end of the fiscal year. Revenue increases net assets because revenue brings in assets, or liabilities are reduced. Conversely, expense decreases net assets because more liabilities are incurred or assets are consumed. Actual accrual deficit (AArDf) occurs when actual expenses exceed actual revenues.

Because of the different conceptual structures and measurement rules, budget accounting and financial accounting present the government’s financial performance and financial position through two different sets of numbers. Table 3 gives a sense of the similarities and differences between the key budget accounting and financial accounting numbers for FY 2010.

**Table 3: Key budget and financial measures for FY 2010, US government (amounts in billions of US dollars)**

<b>Budget [accounting] measures</b>		<b>Financial [accounting] measures</b>	
<i>Financial performance for the year:</i>		<i>Financial performance for the year:</i>	
[Actual] receipts	2,163	[Actual] revenues	2,216
[Actual] outlays	3,456	[Actual] expenses	4,296
[Actual cash] deficit	(1,293)	Net operating cost [actual accrual deficit]	(2,080)
<i>Financial position at year-end:</i>		<i>Financial position at year-end:</i>	
Debt held by the public	9,019	Assets	2,884
		Liabilities	16,357
		Net position [net assets]	(13,473)

Source: US Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2010*, Analytical Perspectives, Technical Budget Analysis, 31 Budget and Financial Reporting, Table 31-1, p. 476. Amounts may not add up due to rounding off to the nearest billion. Annotations and subheadings were added by the authors.

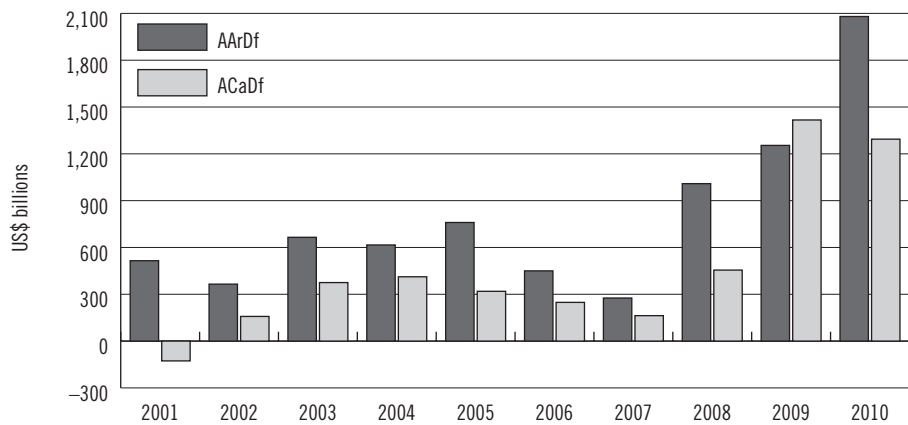
The power of accrual accounting is revealed by the size of discrepancy between cash deficit and accrual deficit (Table 4 and Figure 3). For reasons to be explained shortly, in most years accrual deficit was greater than the cash deficit, and the size of discrepancy could be quite large. In FY

**Table 4: Actual accrual deficit vs actual cash deficit, US government (amounts in billions of US dollars)**

FY	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AARdF	515	365	665	616	760	450	276	1,009	1,254	2,080
ACaDf	-127	158	375	412	319	248	163	455	1,417	1,294
Diff3	642	207	290	204	441	202	113	554	-163	786

Notes: AARdF = actual accrual deficit; ACaDf = actual cash deficit; Diff 3 = AARdF – ACaDf

**Figure 3: Actual accrual deficit vs actual cash deficit, US government**



2001, the use of accrual method turned a cash surplus of \$127 billion into a \$515 billion deficit. In FY 2010, the accrual deficit was \$786 billion more than cash deficit.

However, in FY 2009, a cash deficit of \$1,417 billion was \$163 billion more than the accrual deficit. Why? In order to answer this question, one would have to see how the US purchases of ‘toxic assets’ and equity shares of failing big banks and companies during FY 2009 were accounted for. Accrual basis permitted, indeed required, the US government to record its cash purchases of financial instruments as resulting in increased assets: \$539 billion in loans receivable and mortgage-backed securities, \$240 billion in TARP (Troubled Assets Relief Program) loans and equity investments, and \$465 billion in investments in the Fannie Mae and Freddie Mac, the mortgage giants, as of the end of FY 2009. However, under the

cash basis, the acquired non-cash assets were ignored, the cash outlay led directly to an increase in cash deficit, so much so that the cash deficit *exceeded* the accrual deficit by \$163 billion.

Table 4 and Figure 3 show that FY 2009 was an exception in terms of the relationship between cash deficit and accrual deficit. In all other years during the past decade, accrual deficits were larger than cash deficit. The reason can be found in financial statement entitled ‘Reconciliation of Net Operating Cost and Unified Budget Deficit’ for the years ending 30 September 2009 and 2010. This title is likely to be undecipherable to economists and even most accountants, except for specialists in federal accounting. ‘Net operating cost’ is actual accrual deficit (AArDf), while ‘unified budget deficit’ is actual cash deficit (ACaDf) for the same year. This schedule explains the discrepancy that results from the use of different bases of accounting.

The discrepancy is attributable almost entirely to the difference between ‘expenses’ and ‘outlays’. That is because Consolidated Financial Statements and the unified budget have similar coverage, and virtually all federal revenues are accounted for on a near-cash basis, similar to budget accounting.

Consider FY 2010, for which actual cash deficit was \$1,294 billion, and actual accrual deficit was \$786 billion larger, at \$2,080 billion (see Table 4). Much of the discrepancy is accounted for by the \$503 billion increase in deferred payments to veterans and employees (both civilian and military):

- \$224 billion in increase in liabilities for veteran’s compensation to veterans, survivors and burial benefits
- \$164 billion in increase in liabilities for military employee benefits
- \$115 billion in increase in liabilities for civilian benefits.

In other words, close to \$400 billion represents unpaid personnel costs of wars and national defence. These and other costs are detailed in Bilmes and Stiglitz (2008), who argue that, by taking them into account, the total cost of the decade-long wars in Iraq and Afghanistan could reach \$3 trillion. Another significant reconciling item was a \$268 billion increase in liabilities for mortgage companies taken over by the US government during the financial crisis.



## Conclusion

During the past decade accounting measures tended to make the American federal government look worse fiscally than economic measures did because of two factors: (1) economic realities often turned out to be less favourable than economists had projected; and (2) accrual basis took into account the future financial burdens of current activities in carrying fiscal policies.

Budgets and budget accounting focus on cash deficit and deficit financing by means of bond issues. In contrast, accrual accounting is designed for a credit economy, especially contractual arrangements that allow delayed payments for services already received, such as the case of employees of the American federal government. Accrual accounting also recognises the creation and assumption of financial liabilities other than bonded debt, such as insurance and guarantees. In so doing, accrual numbers become early warning signals of future cash deficits.

## Acknowledgements

The authors thank the Managing Editor for his encouragement and editorial guidance. An earlier version of this paper was presented in November 2011 as part of the Inaugural Lecture of the first author as Distinguished Overseas Professor at Peking University and at Shandong University of Finance and Economics. He wishes to thank the Ministry of Education of the People's Republic of China for funding the professorship and these universities for nominating him for the honour. The authors appreciate the assistance of Shi Miao and Yuqing Tao, Jessamine Chan, Janet Chan, and are solely responsible for the content.

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