








5. The Budget Deficit



Cristina Echevarria





- ### Outline
- Definitions
 - Why the Debt and/or the Deficit Burden may be Overstated (problems with accounting)
 - How to measure
 - (True) Costs of the deficit
 - What should be the aim
 - Cutting the deficit
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- ### Definitions
- **(Official) Budget deficit** = amount by which government's expenditure exceeds its revenue in a given year
 $G - T + iB$
where B = outstanding debt.
G = program spending
T = tax revenue
 - Sum of **Primary deficit**, G-T, plus interest payments on the debt, iB
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- ### Definitions
- National debt = government total indebtedness at a moment in time = accumulation of previous deficits.
 - Deficit = flow.
 - Debt = stock.
 - Official deficit = change in nominal debt.
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- ### Definitions
- Taxes and benefits are "automatic stabilizers": smooth or alleviate the cycle. In a good year taxes increase and benefits decrease, therefore the deficit decreases (opposite in a bad year).
 - One of the reasons why it is unlikely to be another depression like the 1929 one
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- ### Definitions
- "Zero deficit at full employment" rule (until 1980?) = there should be a deficit in a contraction, a surplus in a boom, and a balanced budget at full employment.
 - Difficult to know when the economy is at FE.
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Problems measuring the deficit

1. Inflation
2. Capital assets
3. Uncounted liabilities
4. The business cycle

Problems with accounting

1. **Inflation** makes real interest payments smaller: need to correct the deficit for the effects of inflation

Problems with accounting

2. **Capital Assets.**
 - In economic models
 G = public (government) consumption;
 - In Ntal Accounts, G includes investment.
 - Net debt = debt minus assets that can be sold (roads, public schools, etc., excluded)

Problems with accounting

3. **Unaccounted liabilities** understate the debt.
 - unfunded portion of pension plans
 - contingent liabilities (student loans)
4. **Debt owned by the government itself:** B of C held 7.2% of federal debt; another 8.3% held by provincial governments. (2001)

How to measure the deficit

1. **Cyclically adjusted.**
 1. Structural deficit = deficit that would exist were the economy at FE
 2. Cyclical deficit = portion of the deficit attributable to the business cycle.
 3. Deficit = structural deficit + cyclical deficit.

How to measure the deficit?

In a recession, the deficit increases. Two reasons:

- GDP falls → less tax revenue.
- G increases

Cyclical deficits help to stabilize the business cycle.

How to measure deficit?

2. **Deficit/GDP ratio** = more accurate measure of the "true" size of the deficit = related to ability to pay

How to measure deficit?

3. **Real deficit** = change in the real value of the outstanding government debt.

$$G - T + iB =$$

$$G - T + (i - \pi)B =$$

$$G - T + rB$$

How to measure debt?

1. **Debt/GDP ratio** = more accurate measure of the "true" size of the debt
2. **Real debt** = real value of the outstanding public (national) debt = calculated by deflating the nominal value of the debt (problem 10 in the problem set).

Country	Gov Debt (% of GDP)	Country	Gov Debt (% of GDP)
Japan	173	U.K.	59
Italy	113	Netherlands	55
Greece	101	Norway	46
Belgium	92	Sweden	45
U.S.A.	73	Spain	44
France	73	Finland	40
Portugal	71	Ireland	33
Germany	65	Korea	33
Canada	63	Denmark	28
Austria	63	Australia	14

(True) Costs of the deficit

Gov. finance an Δ in spending by Δ taxes or Δ deficit; it finance an Δ deficit by

1. Creating money
2. Creating debt.

Costs of the deficit

Problems of debt financing:

1. **Crowding out:** increases in public debt increase interest rates (sometimes more serious than others)
2. Persistent large deficits are inflationary

Costs of the deficit

3. Current deficits make future deficits more likely
4. Net burden to future generations: need to pay the interest → future gov. need to raise taxes. Who receives the interest? Somebody in the same generation. Net burden not likely to be large unless:

Costs of the deficit

1. Income redistribution from taxpayers to bondholders (usually, both middle class)

Costs of the deficit

2. Proportion of foreign-owned debt.
Problem: In 1993 debt represented 68% of Canadian GDP and 27% of this debt was in foreign hands. The interest was, approximately, 7%. Calculate which percentage of the GDP went to foreign hands.

What should be the aim

1. Balanced-budget every year: bad economics
Balancing the primary (or program) deficit does not guarantee that the debt, as proportion of GDP, will not increase.

What should be the aim

In nominal terms

$$\Delta B = D = G - T + i \cdot B$$

where D = nominal deficit. As proportion of GDP

$$d = g - t + i \cdot b,$$

where $d = D/(PY)$, $g = G/(PY)$, $t = T/(PY)$, and $b = B/(PY)$.

What should be the aim

Using the quotient rule,

$$\Delta b = ((\Delta B)/(PY)) - (B/Y) \cdot ((\Delta PY)/(PY)) = d - n \cdot b,$$

where n = nominal GDP growth.

What should be the aim

If $g = t$,

$$\Delta b = i \cdot b - n \cdot b = (i - n) b > 0$$

if $i > n$

($r \approx 5\%$ and real GDP growth $\approx 3\%$)

To keep a constant b , a gov. cannot consistently roll the interest (borrow to pay the interest).

What should be the aim

2. Cyclically adjusted balanced budget. Theoretically sound, practically difficult.
3. Match revenues to spending on current services: gov. to maintain its net worth (assets minus liabilities). Practical problems.

What should be the aim

4. Most common aim: Maintain a constant debt-to-GDP ratio.

Since

$$\Delta b = d - n \cdot b,$$

keeping a constant deficit-to-GDP ratio can decrease the outstanding debt in % (i.e., if $d = 0$, $\Delta b = -n \cdot b$).

What should be the aim

To maintain same ratio, $d = n \cdot b$.

Problem: economy expected to increase by 4% in nominal terms and the outstanding debt represents 80% of GDP, what should the deficit be?

What is a good debt-to-GDP ratio?
Country specific

What to do with a surplus?

Surplus every year, not good economics.

1. Pay past debt.
2. Finance exceptional spending (should not commit to future spending)

What to do with a surplus?

- Surplus not enough reason to cut taxes or increase programs.

What to do with a surplus?

- It will take Canadians 8 generations to pay the debt.

So what?

- No virtue in a debt free government: CBs use gov. securities for OMOs.



Summary

1. Standard figures on the deficit are imperfect measures of fiscal policy because they:
 - are not corrected for inflation
 - do not account for changes in govt assets
 - omit some liabilities
 - do not account for effects of business cycles



Summary

2. Most economists oppose a strict balanced budget rule,
3. Government debt may lead to inflation

