Fiscal lectures

Last lecture: the federal budget and its impact

This lecture: the impact of government debt on economic growth
Economics of Government Debt

Debt: history and accounting
Burden of the debt
The economics impacts of a surplus?

General warning:
Always look behind dollar flows to real consequences
Debt-GDP Ratio, 1800-2000

- Civil War
- WW II
- Supply-side econ

Federal Debt/GDP

Year: 1800, 1850, 1900, 1950, 2000

Debt in hands of public/GDP (percent)
# Debt accounting, FY 2001 (billions)

Federal Debt (beginning of period)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (gross debt)</td>
<td>$5,629</td>
</tr>
<tr>
<td>Less govt and Fed</td>
<td>2,942</td>
</tr>
<tr>
<td>Net debt*</td>
<td>$2,933</td>
</tr>
</tbody>
</table>

[*Note: "net debt" is total debt less government and Federal Reserve holdings]*

## Budget

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts</td>
<td>1,990</td>
</tr>
<tr>
<td>Expenditures</td>
<td>1,863</td>
</tr>
<tr>
<td>Surplus</td>
<td>127</td>
</tr>
</tbody>
</table>

## Financing

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minus change in monetary base</td>
<td>-32</td>
</tr>
<tr>
<td>Misc</td>
<td>27</td>
</tr>
<tr>
<td>Increase in net debt</td>
<td>-122</td>
</tr>
</tbody>
</table>

Net debt (end of period) 2,811
Why Should Governments Borrow?

- Analysis concerns full-employment economy; otherwise may encounter the “paradox of thrift”
- Debt useful for “generational burden sharing” for societal investments (e.g., wars, roads,...)
  - Routinely done for state and local governments.
  - If don’t borrow, current generation has large reduction in consumption
- Think: student loans or work?
Economic Impact of Debt

1. In one sense, no economic burden of domestic debt:
   - “We owe it to ourselves.”
   - Not true of foreign debt

2. Losses from taxation
   - “deadweight loss” from taxes to pay interest
   - May work and save less or may uneconomic decisions

3. Capital displacement
   - Higher debt displaces capital from portfolios
   - This lowers K and Q, and growth of K and Q
Mechanism of Capital Displacement

• Assume closed economy; govt. borrows for consumption purposes
• Wealth accounting: \( W = K + GD \)
  – Wealth is owned in form of private assets (equities etc.) and government debt
• Firms demand \( K \) for production.
  – Demand for \( K \) is downward-sloping function of real interest rate, \( r \)
• Households accumulate wealth for life cycle and other purposes
  – For simplicity, assume wealth interest-inelastic.
  – Households supply wealth in \( K \) and \( GD \).
• Increased government debt then “displaces” equities/capital from portfolio
  – i.e., higher \( GD \) with constant \( W \) reduced \( K \)
• This lowers private capital stock (\( K \)), potential output, and long-run growth
$Q, r$

$K = W - GD$

$K = W$

$Q = f(K)$

$r = f'(K)$

Graphics of Capital Displacement
Impact of Surplus/Debt Reduction on Economic Growth

Assume lower government deficit
… leads to lower trend in debt
… leads to substitution of K for debt in portfolios
… leads to more rapid growth in potential output.

What is impact on consumption?
First lower, then higher!
An aside on the open economy

• In open economy:
  \[ W = K + GD + NFA \] (NFA = net foreign assets)

• Higher GD reduces K+NFA

• In open economy, govt. debt may displace foreign investment or lead to foreign indebtedness
  – This is what occurred when US ran a large deficit in 1980-95 period.
  – Ditto for Germany after reunification
Why CBO’s Projections of the Surplus Have Declined Since May (By fiscal year)

Source: Congressional Budget Office, August 2001.
Alternative Budgetary Policies

What are the impacts of different budgetary policies?

For these analyses, assume that the Fed targets potential output (classical economy)

Then analyze the impact on the composition of output
Graphics in class roughly as follows:

- E': 
- E: 
- E'': 
- C'+I(r'')+G 
- C+I+G 
- C'+I+G 

Spending vs. Real Output
## How Quickly the Budget Picture Can Change

Cumulative 10-year surplus:

<table>
<thead>
<tr>
<th>Date</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 1997</td>
<td>$0.8 trillion</td>
</tr>
<tr>
<td>January 1999</td>
<td>$2.3</td>
</tr>
<tr>
<td>January 2001</td>
<td>$5.6</td>
</tr>
<tr>
<td>August 2001</td>
<td>$3.4</td>
</tr>
<tr>
<td>Today (Private forecasters)</td>
<td>$1.6</td>
</tr>
</tbody>
</table>

Sources: Congressional Budget Office and Macroeconomic Advisers
Budget choices

1. Large personal tax cuts
   - increases C; Fed raises r; reduces I and NX; reduces growth in Q and future C.
   - distribution of C changes depends upon details

2. Increase government C
   - Reagan defense 1981, Bush II homeland security
   - increases G; Fed raises r; reduces I and NX; reduces growth in Q.
   - no change in current C; decrease in future C
3. Increase government I
   - Education, oil reserve, roads
   - increases G; Fed raises r; reduces private I and NX
   - impact on Q depends on productivity of govt v. private investment

4. Higher surplus
   - Clinton through higher T and lower G
   - lower C and G; Fed lowers r; raises I and NX; raises growth in Q; raises future C.
Sobering Budgetary Thoughts

1. Major uncertainties in projections
   - business cycle
   - growth in potential output
   - stock market and tax revenues
   - wars and terrorist attacks

2. Can blow through the surplus pretty quickly
   - Tax cut and recession reduced 10-year surplus by two-thirds.
   - Prescription drug plan: give Grandma $500 per year drug benefit (½ of current spending) eats $400 billion of surplus over next decade

3. Asymmetry in budget surplus: hard come, easy go....