

Government Spending and Finance

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Great Recession

Government Finance

Optimal financing of G: Taxes or Deficits?

Hold G fixed. Then

- Taxes up today → less debt in the future
- Taxes down today → more debt and higher future taxes

Taxes can be

- Explicit – i.e. the rate on your 1040
- Implicit – Inflation taxes holdings of cash / nominal bonds

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Government Spending

NIPA Accounting:

$$GDP = C + I + G + NX$$

We need some G. At a minimum: Courts, jails, defense.

Marginal spending: If G goes up, does GDP go up?

- Takes labor and capital to make output
- If labor and capital do not go up, GDP does not change. This means private spending falls ... “crowding out”

Multiplier: For every extra \$ spent on G, how much does GDP rise?
No consensus; hard to measure; not clear there is “an” answer.

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What do economists know?

- “Richardian equivalence” – debt vs. taxes does not matter
Debate about whether Ricardian equivalence holds in the data
- Since Debt = future taxes, economists study optimal mix of capital and labor taxes to finance given level of spending.
Most models: optimal not to tax capital.
- The optimal stock of government debt is probably not zero.
Households want risk free assets, and the government can provide that. (Might help explain securitization boom in the late 90s).

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Accounting

$$\text{Debt}_t = \text{Debt}_{t-1} + \text{Deficit}_{t-1}$$

$$\frac{\text{Debt}_t}{\text{GDP}_{t-1}} = \frac{\text{Debt}_{t-1}}{\text{GDP}_{t-1}} + \frac{\text{Deficit}_{t-1}}{\text{GDP}_{t-1}}$$

$$\left(\frac{\text{Debt}_t}{\text{GDP}_t}\right) \left(\frac{\text{GDP}_t}{\text{GDP}_{t-1}}\right) = \left(\frac{\text{Debt}_{t-1}}{\text{GDP}_{t-1}}\right) + \frac{\text{Deficit}_{t-1}}{\text{GDP}_{t-1}}$$

$$\mathcal{D}_t(1 + g_t) = \mathcal{D}_{t-1} + d_{t-1}$$

\mathcal{D}^* is steady state Debt/GDP

$$\mathcal{D}^* = \frac{d^*}{g^*}$$

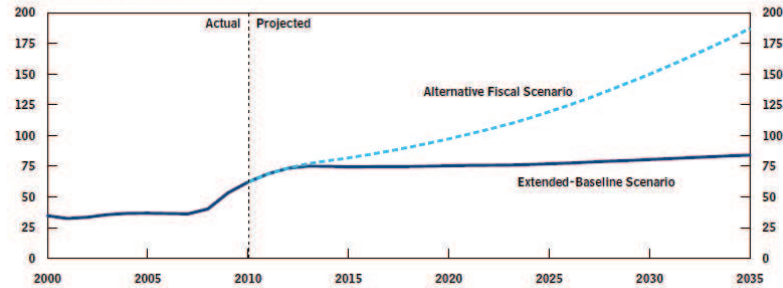
d^* is steady state deficit/GDP

g is steady state **nominal** growth in GDP

Summary Figure 1.

Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios

(Percentage of gross domestic product)

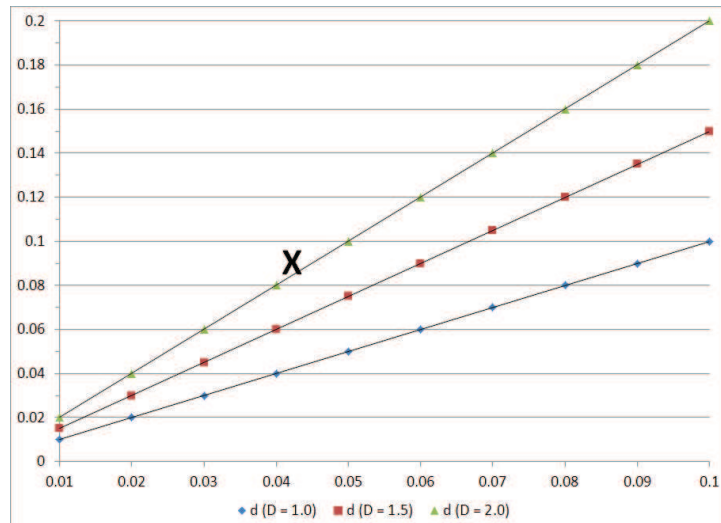


Source: Congressional Budget Office.

Our fiscal situation is terrible and perhaps unsustainable

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Year	d	g	D*
2010	8.8%	4.2%	2.1
2011	7.8%	3.9%	2.0
2012	6.9%	4.0%	1.7

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Some Debt-GDP ratios as of 2010, IMF

Japan	2.26
Greece*	1.30
Italy*	1.18
Iceland	1.16
Belgium	1.00
Ireland*	0.94
France	0.84
Portugal*	0.83
Canada	0.82
UK	0.77
Germany	0.74
Spain*	0.65
US	0.62 ^a

^a Does not include state debt.

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- For GDP and inflation, if we have
 - 3% inflation
 - + 3.0% real GDP growth
 - = 6.0% nominal GDP growth

And if we can reduce budget deficits to 6% of GDP or less

Then Debt/GDP ratio will stay below 1.0

- However, if we cannot reduce the deficit/GDP ratio, and real GDP growth is 3% per year, to keep Debt-GDP ratio below 1.0 requires 4% or more annual inflation.