Thinking About Fiscal Sustainability

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Fiscal sustainability confuses economists & policy makers alike

- unsustainable policy is a bit like pornography... 
- we recognize it when we see it, but don’t ask us to define it
- unfortunately, this is not a very useful guide to policy

This talk has two aims:

1. Provide a conceptual framework—a country’s fiscal limit—to think about fiscal sustainability
2. Discuss how monetary & fiscal impacts change as a country approaches its fiscal limit
An Economy’s Fiscal Limit

- Every economy has a *fiscal limit*
  - point at which surpluses can no longer adjust to stabilize government debt
  - economic limits: Laffer curves, minimum size of government
  - political limits: electorate’s tolerance for taxes & demand for government services
The Fiscal Limit & Sustainability

- Delivers maximum expected present value of all future primary surpluses (or “cash flows”)
  - government debt derives its value from future surpluses
  - fiscal limit implies maximum sustainable debt-GDP ratio without appreciable risk of devaluation via default or inflation

- Fiscal limit is
  1. uncertain: a probability distribution—not a point
  2. forward-looking: hinges on expected policies & their credibility
  3. state-dependent: varies with private & government behavior; shocks hitting economy
  4. country- & time-specific: no “one-size-fits-all” limit
Real vs. Nominal Government Debt

What happens at the fiscal limit depends on whether debt is real or nominal

- real debt: a claim to “goods,” which government may not have available
- nominal debt: a claim to “currency,” which government can always create... if it controls its currency

Euro area countries issue debt in euros

- creation of euros not controlled by individual member nations
- at the fiscal limit, outright default is only option

Countries that control the currency in which they issue debt...

- have available another option: inflation
Default is ultimately a *political* decision

- about a government’s *willingness*, rather than its *ability*, to honor debt obligations
- natural to treat default as a random draw from the fiscal limit distribution
- yields “effective fiscal limit”: when debt exceeds this threshold, default occurs

As debt approaches fiscal limit, probability rises that

1. government defaults outright ⇒ raises risk premia
2. debt-stabilizing policies occur ⇒ reduces risk premia
Greece’s Fiscal Limit

- Quantifying Greece’s fiscal limit
  - use formal non-monetary economic model
  - peak of Laffer curve for labor taxes
  - transfers regime varies between stable & growing
  - fiscal reform: move from growing to stable transfers
  - connect model’s parameters & policy specification to Greek data

- Use framework to ask:
  - How do changes in economic conditions & policies shift fiscal limit and alter risk premia?
Greece’s Fiscal Limit: Shocks & Policies

Fiscal limit computed using peak of labor Laffer curve, constant government purchases, current transfers regime, no seigniorage revenues. Vertical line at 170%.

- Low (High) Productivity Can Reduce (Raise) Country’s Sustainable Debt Level
- Unstable (Stable) Growth in Transfers Can Reduce (Raise) Country’s Sustainable Debt Level
Fiscal limit computed using peak of labor Laffer curve, constant government purchases, current transfers regime, no seigniorage revenues. Vertical line at 170%.

▶ Unstable (Stable) Growth in Transfers & Incredible (Credible) Fiscal Reforms Can Reduce (Raise) Country’s Sustainable Debt Level
Fiscal Limit is Forward-Looking

1. Focus on current debt *relative* to country’s willingness to support debt
   - statements like, “countries run into problems when debt exceeds $X\%$ of GDP” ignore fiscal limits

2. Consolidations that seek to reduce debt-GDP require *less* fiscal backing in long run
   - permanently lower debt requires permanently lower surpluses
   - austerity plans focus on short run, neglecting this long-run point

3. Risk premia can change with no change in debt
   - shocks & policies—both fiscal & monetary—can shift fiscal limit
   - persistent changes in real interest rates change discounted surpluses & shift fiscal limit a lot
   - emphasizes *future*, rather than current, policies
Nominal Debt Changes Things

- Moving beyond the Euro area...

- When government issues bonds denominated in the currency it controls
  - outright default is not most likely outcome
  - need to bring monetary policy into the analysis

- Use U.S. situation as illustration
  - points apply with equal force to Japan, U.K., and any country outside the Euro area
This Time *Is* Different for United States

- Past debt run-ups were temporary, largely due to wars
  - national consensus to retire debt
  - willingness to accept shared sacrifice
- Going forward, debt driven by aging populations & medical costs
  - persistent & worsening in coming decades
  - spending cuts have substantial distributional effects on an ever-growing segment of population
- Opposition to taxes is strong and deeply ingrained
  - at a time when tax rates & revenues unusually low
- Political polarization at all-time high
Political Polarization at All-Time High

U.S. Political Party Polarization: 1879-2011

Voting Distance Between the Parties

Source: Howard Rosenthal and Keith Poole, http://voteview.com/about.asp
These facts suggest the U.S. fiscal limit may be lower than in past:

- expected present value of surpluses may not be consistent with higher projected debt-GDP ratios

There is no reason to believe outright default is around the corner.

A country whose debt is denominated in home currency permits other outcomes.
Misperceptions of Fiscal Inflation

- General perception: at the fiscal limit, monetization of debt is sole source of fiscal inflation
  - a central bank, committed to low & stable inflation, can always prevent fiscal inflations
  - the perception implies fiscal inflations due to insufficient central bank resolve

“...the proposition is of little current relevance to the major industrial countries. This is for two reasons. First, seigniorage—financing the deficit by issuing currency rather than bonds—is very small relative to other sources of revenues. Second, over the past decade or so, governments have become increasingly committed to price stability... This sea change in the conventional wisdom about price stability leaves no room for inflation to bail out fiscal policy.”

—Mervyn King (1995)
Misperceptions of Fiscal Inflation

- I agree with King: seigniorage is no big deal

- Belief that seigniorage is the only source of fiscal inflation is a common *misperception*

- Leads to a general *misperception* about how fiscal policy can affect aggregate demand & inflation

- When government debt is nominal, inflation serves to revalue debt

- At the fiscal limit, it may be impossible for monetary policy to prevent fiscal inflation
Let’s take outright default off the table…

Three things determine value of outstanding nominal debt

1. expected future real surpluses (as with real debt)
2. expected future real discount rates (as with real debt)
3. current & expected future price levels (different from real debt)
Government sells nominal bonds, $B_{Mt}$, with average maturity $\rho$; abstract from “money”; faces budget constraint

$$\frac{P_{Mt}B_{Mt}}{P_{t}} + s_{t} = \frac{(1 + \rho P_{Mt})B_{Mt-1}}{P_{t}}$$

{$s_{t}$} obeys some (known) stochastic process

Asset-pricing relations ($q$: real discount factor)

$$P_{St} = E_{t} \left( \frac{P_{t}}{P_{t+1}} q_{t,t+1} \right)$$  \hspace{1cm} \text{(Fisher Relation)}

$$P_{Mt} = P_{St} E_{t} (1 + \rho P_{Mt+1})$$  \hspace{1cm} \text{(Term Structure)}

Bond valuation equation

$$\frac{(1 + \rho P_{Mt})B_{Mt-1}}{P_{t}} = E_{t} \sum_{T=t}^{\infty} q_{t,T} S_{T}$$
Pricing Nominal Bonds

\[
\frac{(1 + \rho P_{Mt})B_{Mt-1}}{P_t} = E_t \sum_{T=t}^{\infty} q_{t,T} s_T
\]

- Note that \(B_{Mt-1}\) is fixed, inherited from past.
- At fiscal limit: surpluses, \(\{s_t\}\), determined by politics—not economics—indepenent of debt.
- Lower \(E_tPV(s)\) \(\Rightarrow\) mix of higher \(P_t\) & lower \(P_{Mt}\) (higher future \(P\)).
- Higher real interest rates—lower \(q_{t,T}\)—reduce \(E_tPV(s)\).
  - \(\Rightarrow\) mix of higher \(P_t\) & lower \(P_{Mt}\) (higher future \(P\)).
1. Fiscal policy & aggregate demand

- debt increases not backed by expectation of higher surpluses must be expansionary

- expectations of lower surpluses not matched by current debt reduction must be expansionary
2. What *must* monetary policy do at the fiscal limit?

- monetary policy prevents debt service from exploding by ensuring that fiscal expansions do *not* raise real interest rates
- Fed did this in the pre-Treasury Accord era
- major central banks are doing this now, but for different reasons
3. What *can* monetary policy do at the fiscal limit?

- can shift fiscal limit by changing real discount rates
  - higher real interest rates, shift fiscal limit distribution down to center on lower debt-GDP ratios
  - raises probability of hitting limit, given current debt

- can make things worse: higher interest rates cannot prevent fiscal inflation and *are likely to exacerbate* it
Prepare for More Uncertainty

- Fiscal limits are subversive to conventional monetary policy
  - at the limit, monetary policy loses its ability to affect the economy in the usual ways
- Little is known about how economies operate as they approach the fiscal limit
  - ECB functioning in an unstudied world
  - looming fiscal stress presents another relatively unstudied world
Our monetary-fiscal policy arrangements assign

- monetary policy the task of inflation control & short-run stabilization
- fiscal policy the task of ensuring solvency
- the assignment is based, in part, on the belief that it maximizes welfare

This consensus assignment *presumes* fiscal policy will always keep economies far from fiscal limit
Rethinking Policy Institutions

- Will democratic outcomes conform to the consensus assignment?
  - populations are aging & aged have high propensity to vote
  - will populations vote to reduce old-age benefits?
  - if not, then we are staring at fiscal limits & this assignment reduces welfare

- Recent research shows that reversing the assignment of tasks . . .
  - gives maturity structure of government debt a role
  - can generate nearly equivalent welfare as consensus assignment

- Should be a hot topic for research among policy-oriented economists