Fiscal Policy in a Depressed Interest-Rate Environment

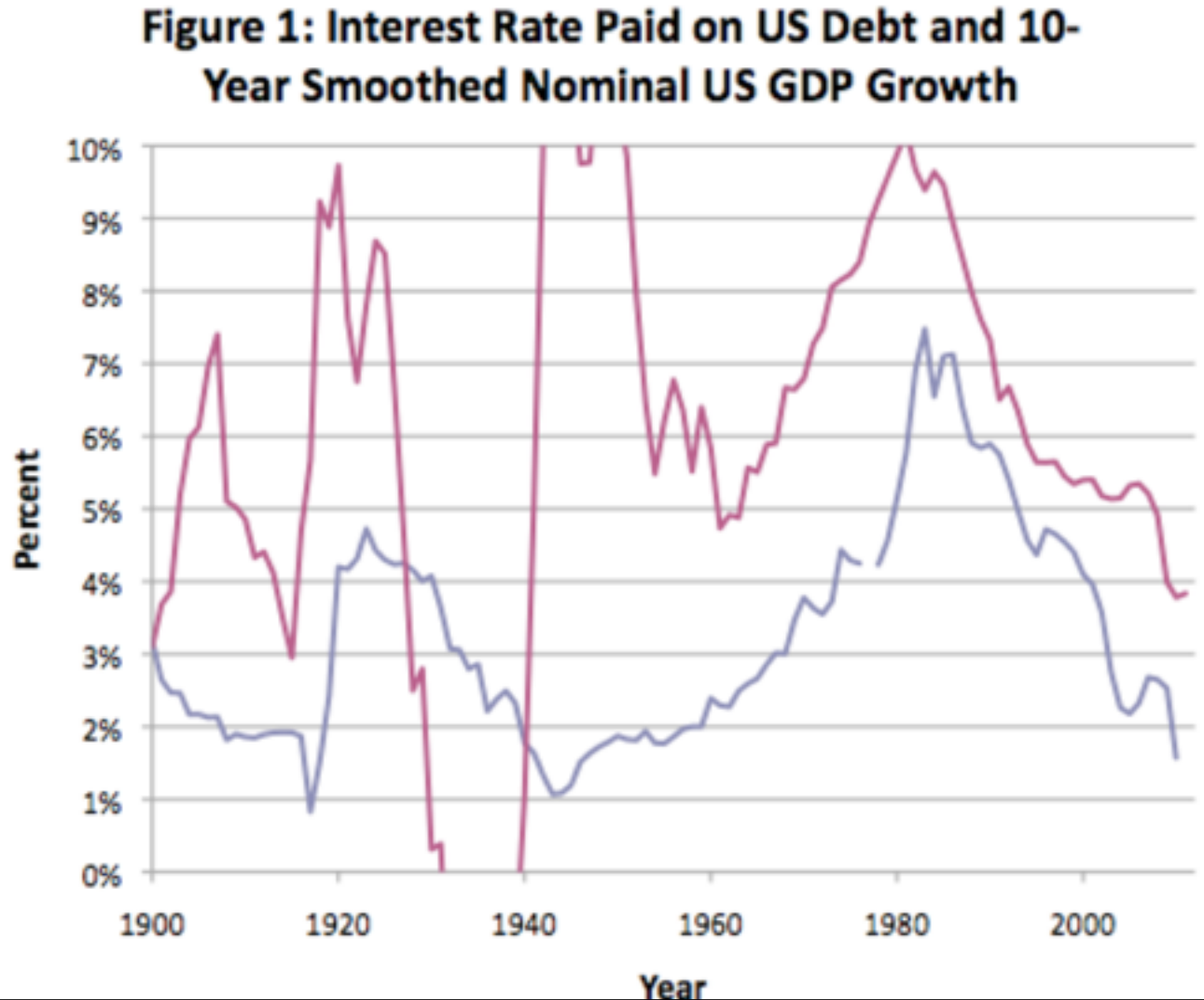
J. Bradford DeLong

January 2014

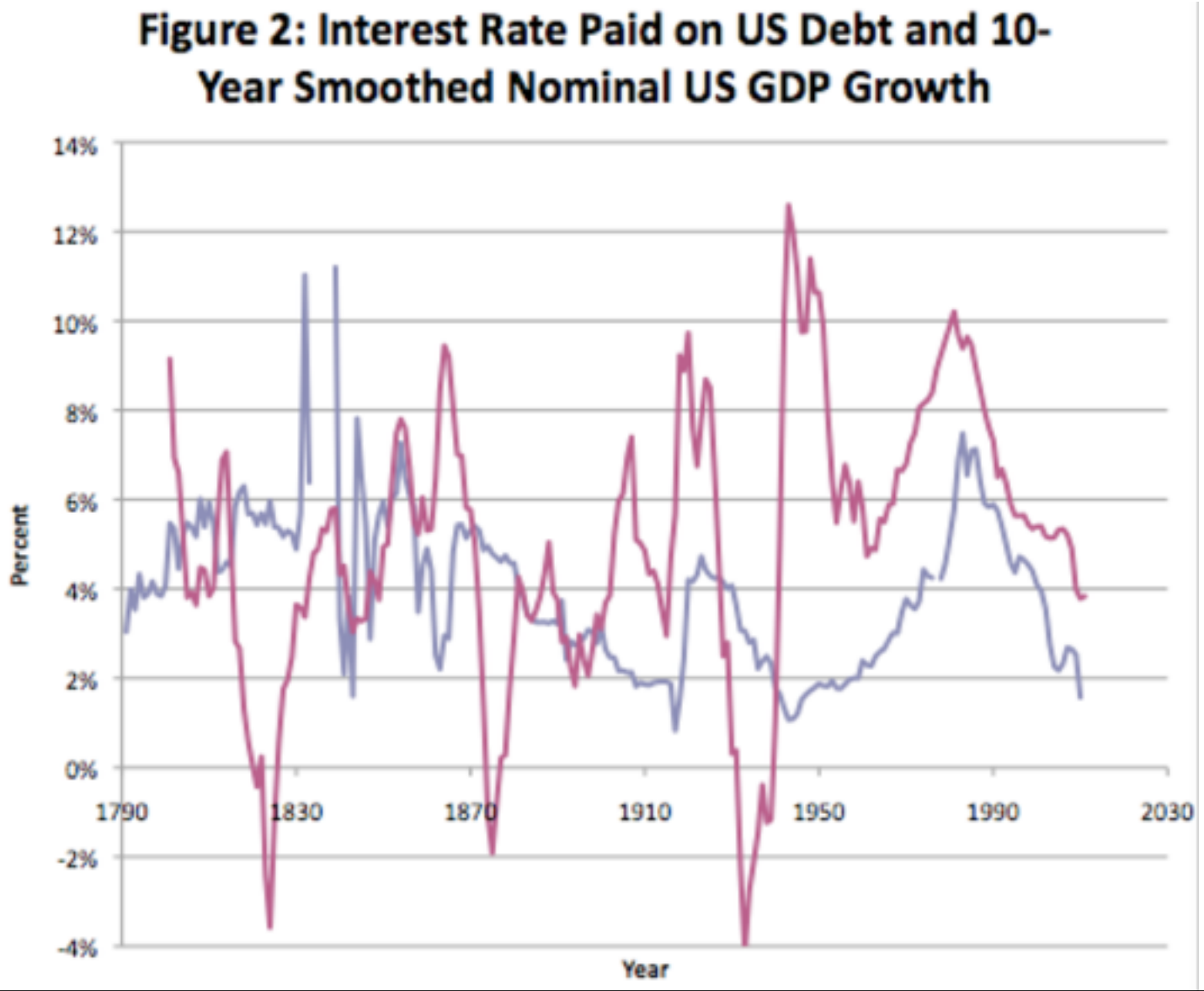
Fiscal Policy in a Depressed Interest-Rate Environment…

- I promised Larry Summers that I would think about "secular stagnation" issues…
- I committed to giving this talk as a way of forcing myself to do so…
  - Fear of embarrassment a big motivator…
- The good parts of this (plus other goods parts) will (should?) someday show up as DeLong and Summers (2015)…
- The bad parts of this will be consigned to the gnawing criticism of the mice…
- You are here to help me figure out which are the good and which are the bad parts…

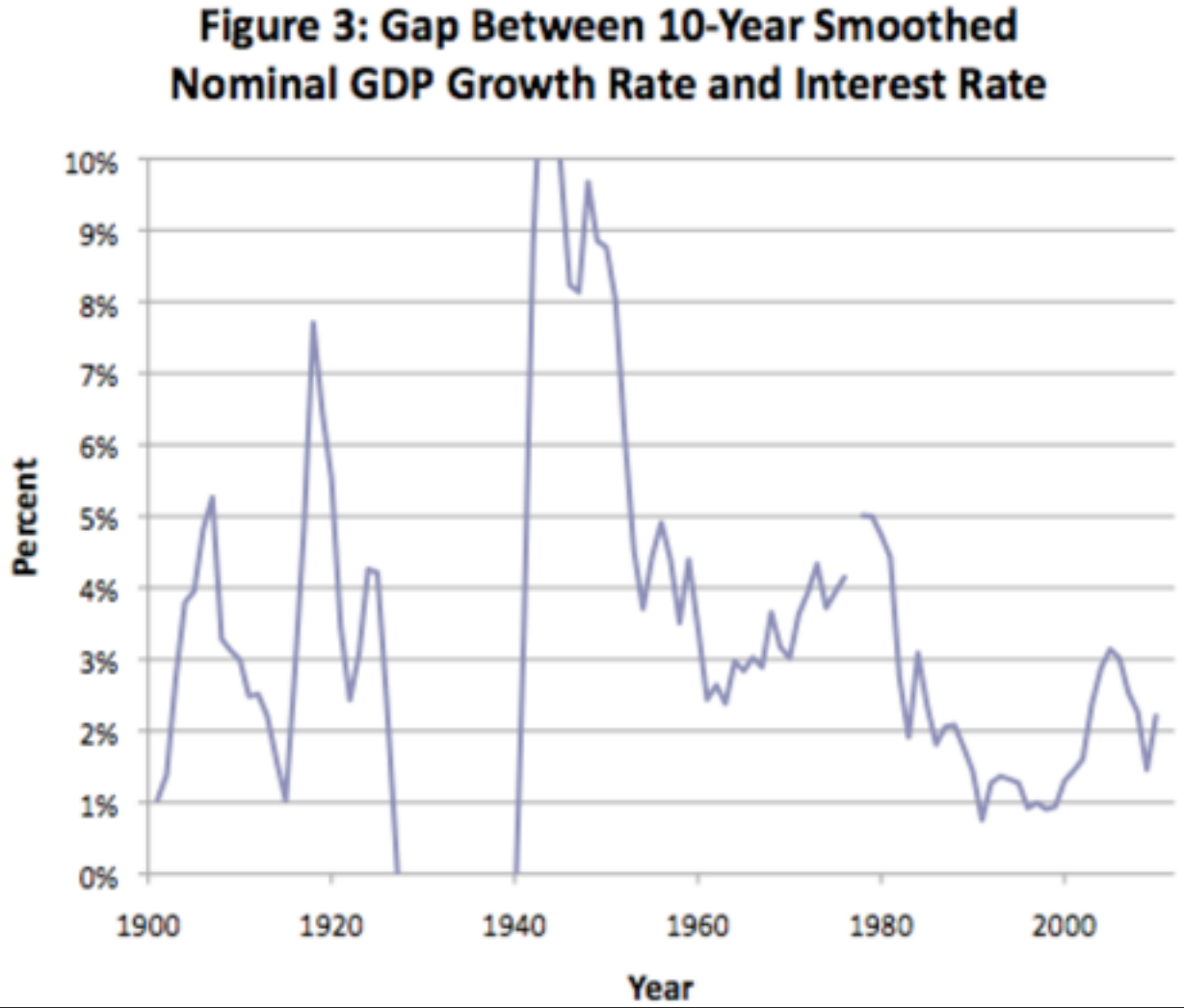
Not since the Great Depression Has GDP Growth Been Lower than Treasury Rates



This Is a Twentieth Century Fact Only



Belief a Decade Ago That Equity Premium, and Hence $g > r_{safe}$, Was Going Away



Things Have Changed…

- Not easy to believe in a sensible equity premium in the future
- Hence not so easy to believe that $g > r_{safe}$ is going away
- Consequences for whether fiscal policy has a stabilization policy role
- Consequences for government debt management—and the level of government debt

Countercyclical Fiscal Policy at the Zero Nominal Lower Bound

- The Taylor (2000) near consensus: fiscal policy has no proper stabilization policy role:
  - Political economy
  - Distortionary costs
  - Monetary policy inside the decision loop
- This changes in a low interest-rate environment in which the chances of hitting the ZLB are high
  - Commercial banks and the ZLB
  - Bubbles, Ponzi schemes, and the ZLB

A Simple Framework

$$(1) \qquad \Delta W = \mu \Delta G + \frac{\eta \mu \Delta G}{\phi + (r - g)} - \xi [1 - \mu \tau] \Delta G$$

- μ ΔG being the current-period boost to production
- η μ ΔG/(ϕ+(r-g)) being the present value of the future boost to aggregate supply from higher potential output
- [1-μ τ] ΔG being the extra government debt that must be financed
- ξ[1-μ τ] ΔG being the present value of the deadweight loss that must be financed

Away from the ZLB μ=0

$$\Delta W = -\xi[1-\mu\tau]\Delta G \qquad (2)$$

At the ZLB Expansionary Fiscal Policy Passes a Benefit-Cost Test as Long as…

$$\left(\frac{\mu}{1-\mu\tau}\right)\left(1+\frac{\eta}{\phi+(r-g)}\right)>\xi \tag{3}$$

Guessing at Parameters

- Parameters:
  - $\mu=1$
  - $\tau=1/3$
  - $r=g$
  - $\eta=5\%$
  - ϕ of 5%
- Then: (3) is positive as long as $\xi < 3$.
  - Back-of-the-cuff estimates of ξ typically range from 0.25 to 1…
  - But the public-economics frame is not adequate

Why Might $r_{safe} < g$ for an Extended Period of Time?

- Strong demand for safe (or perhaps "safe") assets and lack of private safe-asset providers
  - Irrationally-large equity premium
- Immigration: government debt as an immigration tax
- Population growth: is there diminishing social welfare in number of children, or is GDP from higher N different in quality than GDP from higher Y/N, which is subject to diminishing returns?
  - Matters for moral philosophers…

More Speculative Points: Government as Unique Provider of Safe Nominal Assets?

- $R = (g - r)(D/Y)$
- $G = T - (r-g)(D/Y)$
- $G = T + (g-r)(D/Y) = T + R$
- This is a form of seigniorage derived not from the fact that the government has a monopoly or an edge in providing liquidity services, but rather that the government has an edge in providing the service of promising to safely transfer purchasing power from the present to the future…

Dynamic Efficiency Issues

- $r_{safe} < g$
- $F_k > g$, and by a wide margin
- Creates a powerful arbitrage opportunity for any long-lived agent able to borrow at or near the safe interest rate and then commit to rolling it over indefinitely
- Conclusion: we need to break the existence of long-lived agents
- Going to have to have risks to all individual investors that are not risks to society as a whole

Uncertainty About Future Patience…

- A once-and-for-all decision among "patience" to "impatience"
  - Chance 1-μ of a $g > r_p$ régime, and chance μ of a $g < r_i$ régime
  - You will know tomorrow
  - But must borrow and spend *now*
  - $U > \mu(1+\xi)D$
- Shakiest step: interpreting μ as a simple *probability.* It is not even clear how to begin thinking about whether one is neutral to or in some sense averse to risks as to whether one might turn out to be impatient...

Sketching Out the OLG Model

- Two-period lives
- Inelastic production when young
- Each generation born patient or impatient
  - $U_i = C_y + C_0/(1+ r_i-g) + P$
  - $U_p = C_y + C_0/(1+ r_p-g) + P$
  - $r_i > g > r_p$
- Linear utility gets us interest rate of $r_p-g < 0$ for patient generations…
- Similarly, interest rate of $r_i-g > 0$ for impatient generations…
- Agents derive no consumer surplus from their borrowing and lending operations.
- The only sources of social welfare will be the government's tax and public-good spending policies.

Government Decisions in Each Period

- Pay off its old bonds D_{t-1} with either $(1+r_i-g)D_{t-1}$ or $(1+r_p-g)D_{t-1}$,
- Sell its new bonds D_t
- Use any surplus from its debt management to purchase units of the public good
- Cover any deficit from its debt management by levy distortionary taxes that yield an amount τ at a price of reducing the consumption of the young by $\tau(1+\xi)$.

Impatient Young

- Suppose that the initial young are impatient, that there is a probability μ each generation that the new young are of a different type, and that patience is an absorbing state:
  - As long as the young remain impatient, there is nothing for the government to do. The young work, produce, and consume.
  - When, however, the economy flips and the new generation born is patient, the government then issues 1 unit of debt, which it spends on the public good. And in each generation thereafter issues an extra $g - r_p$ of debt to top off the real debt stock, so that each new generation of young can push all of their consumption to when they are old, and spends the proceeds buying more of its public good.

Patient Young

- Suppose that the initial young are patient, that there is a probability μ each generation that the new young are of a different type, and that impatience is an absorbing state:
- Once the young turn impatient, there is absolutely no reason to postpone repaying the debt.
- If this generation's young are patient, but next generation's young are guaranteed to be impatient—then the government has to decide on whether to issue.
- If the government were to issue one unit of debt, spends it on the public good, and then tax the next generation's young $(1+r_p-g)$ to pay off the debt, there would be an expected net addition to social welfare…

Patient Young II

- This net addition to social welfare would be:
  - $1 - (1+\xi)(1+r_p-g)$
- Which would be positive if:
  - $(g-r_p) > \xi/(1+\xi)$
- And for n generations:
  - $1 + n(g-r_p) - (1+\xi)(1+r_p-g)$

Patient Young III

- Independent probabilities of switch to patience of μ each generation produces a net benefit to debt of:
  - $1 + (g-r_p)(1/\mu-1) - (1+\xi)(1+r_p-g)$
- which will be positive as long as
  - $(g-r_p) > \xi/(\xi + 1/\mu)$
- Or a net-benefits formula:
  - $NB = (g-r_p)(1/\mu + \xi) - \xi$

Expansive View of Benefits and Costs

- Benefits:
  - Government debt provides the economy with the safe savings vehicles that the financial system so desperately needs if it is to satisfy patient households'
  - Also: increase in resource utilization in a depressed economy
  - Also: surplus from public investment
- Costs:
  - Burden of distortionary broad-based taxation to retire the debt when households become impatient
  - Risks of "fiscal dominance" and inflation
  - Risks of "financial repression" with according distortions

Conclusions?

- There are no conclusions, save that we need to think about these issues, and think hard…
- Olivier Blanchard thinks that we should dodge the whole mishegoss by changing π=2%/year to π=4%/year
  - Volcker and Greenspan think π=4%/year unsustainable…
  - Coibion, Gorodnichenko, and Wieland (2012) thinks Blanchard is simply wrong: menu costs are too high to make π=4%/year sensible policy
- Government infrastructure, government-owned private-sector capital, loan guarantees?
- Connection to Ricardo Caballero/Richard Koo?