Public debt and secular stagnation

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19th FMM Conference
Berlin 22 October – 24 October 2015
Main points

• Aggregate demand policy may be needed in the long run
• With a sensible fiscal policy, the long-run debt ratio depends
  – inversely on the rate of growth
  – inversely on government consumption
  – directly on the degree of inequality
• Misguided policy debates and misguided austerity policies
Outline

• Some simple algebra
• Theory
  – Mainstream
  – ‘Functional finance’
• Secular stagnation
  – Japan
  – Summers, Krugman and others

Throughout:
  – Closed, mature economy
SOME SIMPLE ALGEBRA
• Goods market equilibrium
\[ \frac{Y}{K} = \frac{C}{K} + \frac{I}{K} + \frac{G}{K} \]

• Government consumption
\[ \frac{G}{K} = \gamma \]

• Steady growth with full employment
\[ \frac{I}{K} = n + \delta \]

• Choice of technique
\[ \sigma = \frac{Y}{K} = f(r) \]
Required consumption

\[ \frac{C}{K} = \sigma - \gamma - (n + \delta) \]

- Is this condition satisfied ‘automatically’?
- Will the capital intensity be optimal?
- What determines \( \frac{C}{K} \)?
Kaleckian objections

• Endogenous utilization rates?
• Endogenous ‘natural growth rate’?
• Interest rates, choice of technique, and the capital controversy?
DSGE MODELS
Ramsey optimization

• Unique ‘natural rate of interest’
• Optimal capital intensity
• Saving rate adjusts

→ - no need for fiscal policy
  - ineffectual fiscal policy (Ricardian equivalence)
  - tax smoothing
Robustness?

- Finite lives / finite horizon (ex: OLG)
  - Optimal capital intensity not ensured, even with perfect optimization and FE
  - If \( r = r^* \), \( \frac{Y}{K} = (\frac{Y}{K})^* \) and \( T = G \) then
    \[
    \frac{C}{K} \geq (\frac{Y}{K})^* - \gamma - (n + \delta) \]
  - No Ricardian equivalence
FUNCTIONAL FINANCE
• Set interest rate to get ‘optimal’ capital intensity
• Use fiscal policy to maintain full employment
  – What paths of taxes and public debt are consistent with full employment and the optimal capital intensity?
• Intrinsically debt is neither good nor bad
Example

• Consumption

\[ C = c(Y + rB - T) + \mu(K + B) \]

• Government budget constraint

\[ \dot{B} = rB + G - T \]

• Adjust \( T \) to maintain full employment growth
Implications

• Stable differential equation for $B/K$

• Why stable? An increase in public debt
  • raises private disposable income for given $T$
  • raises private wealth
Comparative statics

\[ \frac{B}{K} \rightarrow \left( \frac{B}{K} \right)^* = \frac{(1-c)((Y/K)^*-\gamma)-\mu-(n+\delta)}{cn+\mu} \]

• Debt ratio depends
  – inversely on the natural growth rate
  – inversely on government consumption
    • Austerity policies
  – directly on the saving rate
    • Income distribution
  – directly the output capital ratio
    • Real interest rate
Intuition

• Equilibrium condition
  \[ \frac{C}{K} = \sigma - \gamma - (n + \delta) \]

• With higher \( n \) or \( \gamma \), consumption needs to get squeezed
  \[ \rightarrow \text{raise taxes} \]

• With higher inequality the saving rate rises
  \[ \rightarrow \text{reduce taxes} \]

• With a higher output-capital ratio, consumption needs to rise
  \[ \rightarrow \text{reduce taxes} \]
DISCUSSION
Reinhart and Rogoff

• Debt to GDP ratios over 90 percent “mean levels of growth almost 4 percent lower” (2010)
  – Herndon et al. (2014): no threshold but still negative correlation

• Key question: Causation?
  – … and what happened to the Lucas critique?
Robustness and extensions

- Traditional Keynesian models (Schlicht 2006, MECA)
- Neoclassical and Keynesian OLG models (Skott and Ryoo 2014, BEPressMacro, 2015 WP)
- ‘Stock-flow consistent’ models of a ‘corporate economy’ (Ryoo and Skott 2013 JPKE)
- Beyond steady growth
  - Short-run stabilization (Ryoo and Skott 2015 WP, Franke 2015 WP)
Empirical relevance

• Does fiscal policy follow ‘functional finance’?
• Has high debt been associated with crowding out and high interest rates?
3-Month Treasury Bill: Secondary Market Rate-Consumer Price Index for All Urban Consumers: All Items (left), Gross Federal Debt Held by the Public as Percent of Gross Domestic Product (bottom), 1939 2014
JAPANESE GROWTH AND STAGNATION
Growth rates (GDP per cap)

- 1945-1970: 8.2%
- 1970-1990: 3.6%
- 1990-2014: 0.8%
Keynesian framework

- Pre-1970: hidden unemployment and catch-up potential
- Post-1970: “maturity”, end of catch-up and low population growth
- Structural demand problems associated with low natural growth and high saving
• Japanese stagnation

  – "can be explained by a combination of high saving rates and slow population growth. ... the proximate problem of the Japanese economy in the 1990s may be one of aggregate demand, but the demand deficiency is structural.”

Nakatani and Skott (2007)
OECD Economic Survey (April 2015)

• ‘Bold structural reforms’
  – labor market reform
  – pension, long-term care, health reforms
  – ...

• Reduce public debt (primary surplus by 2020)
SECULAR STAGNATION
Good stuff

• Summers, 2015, AERP&P
  – “the zero bound on nominal interest rates” implies that “there is no guarantee that the real rate will be low enough for full employment” (p. 61)
  – “equilibrium interest rates may be lower on a sustained basis” (p. 62)
  – “finding ways to increase demand to spend … is likely to be an important part of the way forward” (p. 65)
But then:

- **Summers**
  - “fiscal policy may not be possible, given that the government cannot indefinitely expand its debt” (response to Bernanke, blog 2015/04/01)

- **Krugman**
  - “Yes, the United States has a long-run budget problem” (NYT, 07,21,2010)

- **Obstfeld**
  - Japan’s case “illustrates how dangerous it can be to tolerate large public debt buildups” (CEPR 2013, p.2)
Where’s the theory?
  – Irrelevant DSGE models
‘Equilibrium interest rates’

• The ‘equilibrium rate’ associated with full employment is policy dependent

\[ r^{FE} = \phi(\gamma, \frac{B}{K}, n; z) \]

• Is Summers assuming \( B/K=0 \)?
• Is the ‘equilibrium rate’ with \( B/K=0 \) socially optimal?
• Is ‘functional finance’ unsustainable?
Structural liquidity traps / secular stagnation

- Don’t ignore long-run aggregate demand problems

- Full-employment growth may require fiscal policy and public debt
Functional finance

• Don’t ask “is this exogenous path of primary deficits sustainable”?

• Instead: “what paths of taxes and debt can maintain full employment at the optimal capital intensity?”
Debt implications

- Low growth $\rightarrow$ high debt
- Austerity policies (lower G) $\rightarrow$ high debt
- Increasing inequality $\rightarrow$ high debt
The rediscovery of secular stagnation

• Great!!!

• But blindness to (post-) Keynesian contributions
  – … and they could learn from us!
THANKS!