

Fiscal Sustainability in a New Keynesian Model

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- The paper is a very good theoretical contribution to the analysis of the welfare effects of monetary and fiscal policies.
- Standard DSGE model with endogenous choice of monetary and fiscal instruments.
- Clear policy implications about the appropriate policy mix in alternative environments: commitment vs discretion, high vs low debt/GDP ratios, high vs low price inertia.
- More relevant for "normal" times but provides a useful benchmark to think about the most appropriate policy mix in the way out to the current recession.

- Optimal monetary and fiscal policies in flex price models.
 - Under the Ramsey policy, the government uses unanticipated inflation as a lump-sum tax on financial wealth assuming that there are nominal, non-state-contingent liabilities outstanding.
 - Costless inflation volatility (surprises) reduce the real value of debt at time $t = 0$ and make further adjustments of distortionary taxes or public spending unnecessary.
- Optimal monetary policy in sticky price models with lump-sum taxation: inflation should be stable to minimize the costs associated with wage and price inertia.

- Monetary policy and fiscal policies in sticky price models.
 - If the monetary authority fails to stabilize debt through inflation then distortionary taxes will have to increase.
 - If, on the contrary, the monetary authority stabilizes real debt through inflation surprises it induces substantial welfare losses on those agents who cannot change prices.
- The natural solution: study the optimal interaction between these policy instruments in sticky price models.
- The main result (time-inconsistent policy, commitment): price stability is the predominant goal (unless price adjustment costs are very very small) and the use of unanticipated inflation to deflate debt at $t = 0$ is not optimal. After a shock it is optimal to let steady-state debt to increase and adjust distortionary taxation. Debt and taxes follow a random walk, regardless of the dynamics of exogenous shocks.

What the paper does...

- Public spending as a policy instrument.
- The inflationary bias due to an inefficiently low level of steady state output is eliminated using a lump-sum tax financed subsidy.
- The nature of the *time inconsistency* problem.
- Optimal choice of instruments under discretion at different values of the debt/GDP ratio.

Results: The nature of the time-inconsistency problem

- The level of debt follows a *random walk* under the optimal time-inconsistent policy.
- The nature of the *time-inconsistency problem*:
 - $t > 0$: $\Delta B, \Delta \tau, \nabla G, \pi = 0$.
 - Monetary policy tightening to maintain zero inflation in presence of higher taxes (higher marginal cost).
 - The costs of inflation are outweighed those of higher distortionary taxation (?).
 - $t = 0$. $\Delta B, \Delta \tau, \nabla G, \pi > 0$. Inflation exploiting the fact that expectations are given. This reduces debt at $t = 0$ compared with the case above. The random walk results still holds but at lower level of debt than in the *timeless policy*
 - From then on the authorities adjust the level of both fiscal instruments accordingly.
 - Inflation is again zero from $t = 1$ on.

- The incentive to deviate from commitment is eliminated if debt returns to its pre-shock level. Optimal policy under *discretion removes the random walk result* for debt; the optimal policy uses an appropriate policy mix (inflation and transitory adjustments of taxes and spending) to stabilize real debt on impact:
 - Fiscal variables return quickly to the steady state.
 - How this is achieved depends on some key parameters, in particular the debt/GDP ratio.
- *Low debt/GDP ratio:*
 - Taxes increase and public spending is reduced to stabilize the level of debt.
 - The increase in taxes generates inflation will rise and the monetary authority rises the interest rate.
- *When the debt/GDP ratio is high:*
 - Government spending falls.
 - The interest rate falls (to alleviate the cost of the debt service) and the *inflation (tax)* is used to deflate debt.

Taxes are inflationary and the steady state subsidy

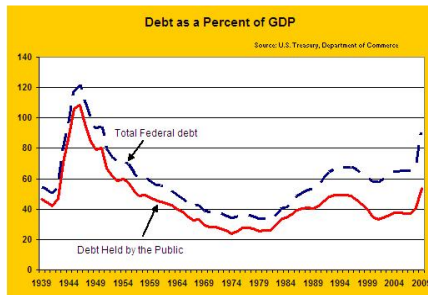
- Income (labor) taxes are inflationary. The supply side effect of taxes (the marginal cost increases) dominates the demand side effect. I am not convinced that in a more realistic setup with unemployment and constrained consumers increases in labor income taxes would produce such an effect.
- P.9 "Whether or notneed not concern us".
 - It is this subsidy also adjusted when taxes change permanently? Are you eliminating all long run consequences of the increase in taxes?
 - Otherwise it is quite amazing that the cost of price inertia could be higher than the permanent cost of higher distortionary taxes that should cause a permanent (first order) output loss.

- Does the model account for the dynamics of debt in the past?
- The dynamics of debt suggests a non stationary pattern in the 70s, 80s (high interest rates) and has only stabilized recently since the mid 90s under the Stability and Growth Pact in the EMU and when the economy has been favored by positive shocks (with no fiscal consequences).
- Three possible explanations:
 - Monetary policy was primarily concerned with price stability in the 70s and 80s.
 - Governments followed credible time inconsistent fiscal and monetary policies avoiding debt deflations.
 - Fiscal policies anything but optimal.

Other factors that affect the optimal policy mix.

Aizenman and Marion (2009) study the dynamics of the US debt/GDP ratio. They identify periods in which inflation has been a very efficient mechanism to reduce the US debt/GDP ratio.

Figure 1. Debt as a share of GDP



- They find (empirically) that: the foreign share of the nominal debt (5% in 1965 and 45% in 2009) is an important determinant of the optimal inflation rate. So is the **size of the debt/GDP ratio**, the share of debt indexed to inflation, and the **cost of collecting taxes**.

- Is the (spirit of) the SGP optimal? Apparently fiscal rules are meant to maintain (or reduce) the level of debt. This would mimic the optimal behavior under discretion (?), wouldn't it be better to target the time-inconsistent policy given that the ECB is likely to contribute with low inflation?
- In fact the ECB can be seen as contributing to make time-inconsistent policies credible.
- In the EMU most countries have *high(er than 60%) debt/GDP ratios*. If *commitment by fiscal authorities is not credible*, should the ECB allow for positive inflation in response to debt shocks?

- Shocks in the current recessions have a strong fiscal impact, but:
 - Little doubt that all instruments had to be used due to the magnitude of the recession
 - Very little action on the inflation front.
 - Banks and households willing to absorb an enormous amount of debt at low interest rates.
- More relevant for way out strategies. assuming that the world will return to a more normal quasi-Ricardian situation.

- Perfect fiscal and monetary policy coordination is not realistic. Perhaps we should go back to the old (lack of) coordination problem in a model with the ingredients of this.
- Optimal policy mix in a monetary union and/or open economies and global imbalances (low interest rates, low inflation). Is it still optimal to reduce the level of debt very quickly?
- Deflation and the zero bound.
- Financial restrictions and borrowing constraints.
 - Other welfare relevant gaps (Andrés, Arce, Thomas 2009).
 - Price stability might not be the predominant goal in this case.