
Low inflation, low interest rates, low unemployment, big deficits?!

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A challenge to our theories

- The US, Japan, and Europe have had persistent very low or negative interest rates, persistent inflation below central bank targets, and steadily increasing ratios of public debt to GDP.
- We don't have a consensus theory of how these facts can coexist.
- This is important for policy. We need to answer questions like,
 - “Why not finance socially valuable government spending by pure debt finance?”
 - “How can policy limit damage from the next recession, if the usual response of lowering interest rates 200 basis points or so is not available?”

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Is the growth of debt a side effect of central bank independence?

- Volcker's success in ending accelerating inflation convinced people that central banks can control inflation.
- The idea of central bank independence rests on a firm separation between monetary and fiscal policy:
 - Monetary policy is to control inflation, via open market operations, not fiscal actions (like “helicopter drops”).
 - Fiscal policy is left to the legislature, who are not to interfere with monetary policy decisions.

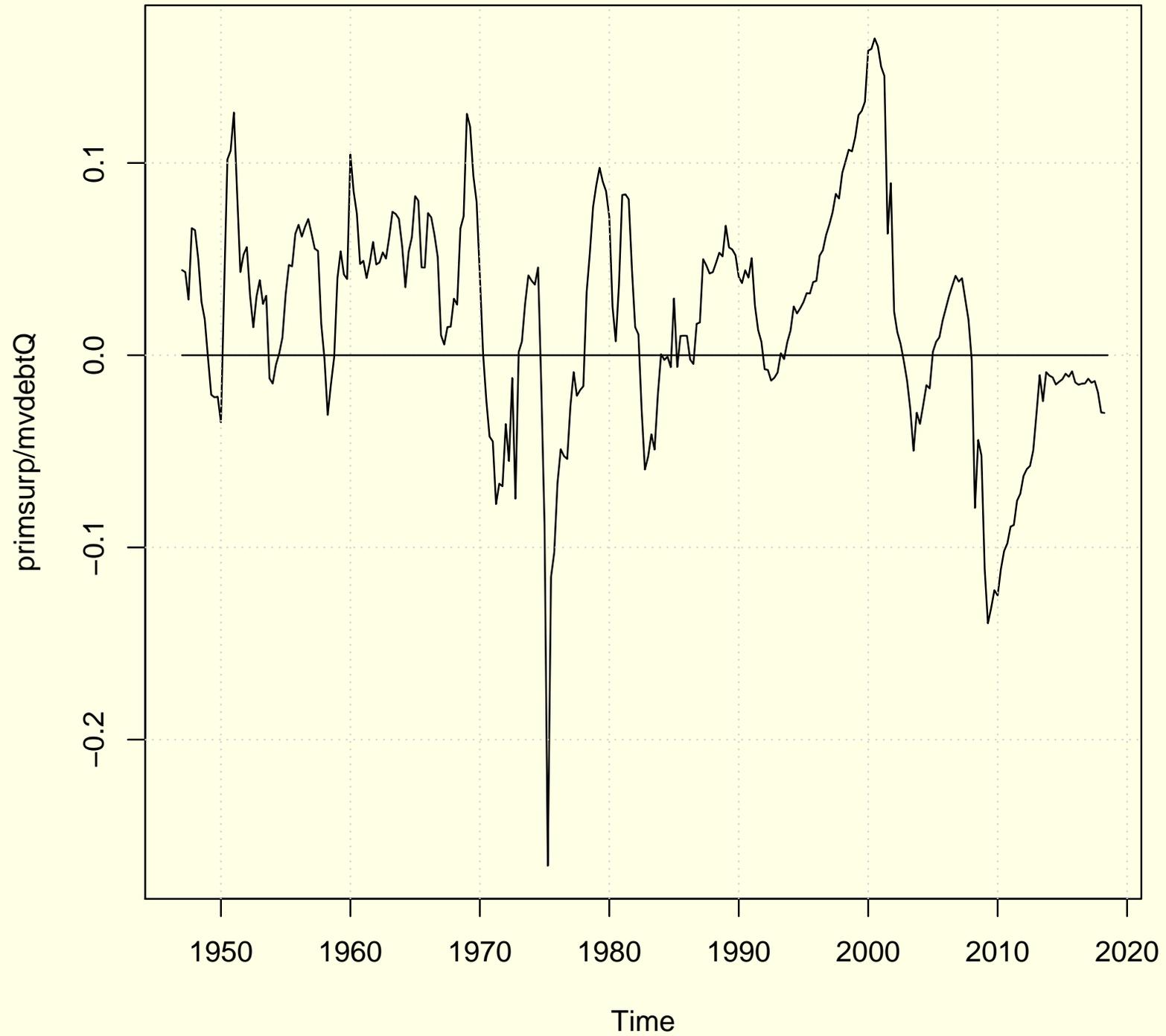
But then exactly why is it that fiscal policy-makers should worry about deficits?

- An ordinary borrower who attempts to roll over debt indefinitely will eventually find that no one will lend to him, for fear he will not be able to pay them back.
- In the countries we are discussing, government debt is almost entirely nominal, promising to pay only more government-printed paper.
- There is no danger that the government is unable to print the required paper.
- There is, of course, the danger that the paper dwindles in value because of inflation — but the central bank will prevent that, no matter what fiscal policy does. (Right?!)

Government balance sheet accounting (FTPL)

- The price level is the rate of exchange between all government nominal liabilities, not just currency, and real goods.
- If the government issues more nominal liabilities while the stream of future primary surpluses remains constant, the real value of government liabilities will not increase — prices increase instead.
- In Japan, and in the US for the last few years, primary surpluses have been steadily negative, so debt has steadily grown.
- Why hasn't this led to inflation?

US federal primary surplus as fraction of market value of debt



Possible Explanations

1. Forward-looking, Ricardian or hyper-Ricardian agents who believe that inflationary finance will never be used. (Finn yesterday.)
2. Many people don't work through the dynamic implications of sustained primary deficits, but instead have backward-looking expectations based on decades of experience with extremely low inflation. (But then why not demand-driven growth?)
3. Value of liquidity services of government debt has risen. (Since 2008, this is plausible. But since 1980?)
4. Risk due to possible sudden appearance of high inflation is down.
5. Real rate of return in the economy is low generally. (Rachel/Summers)

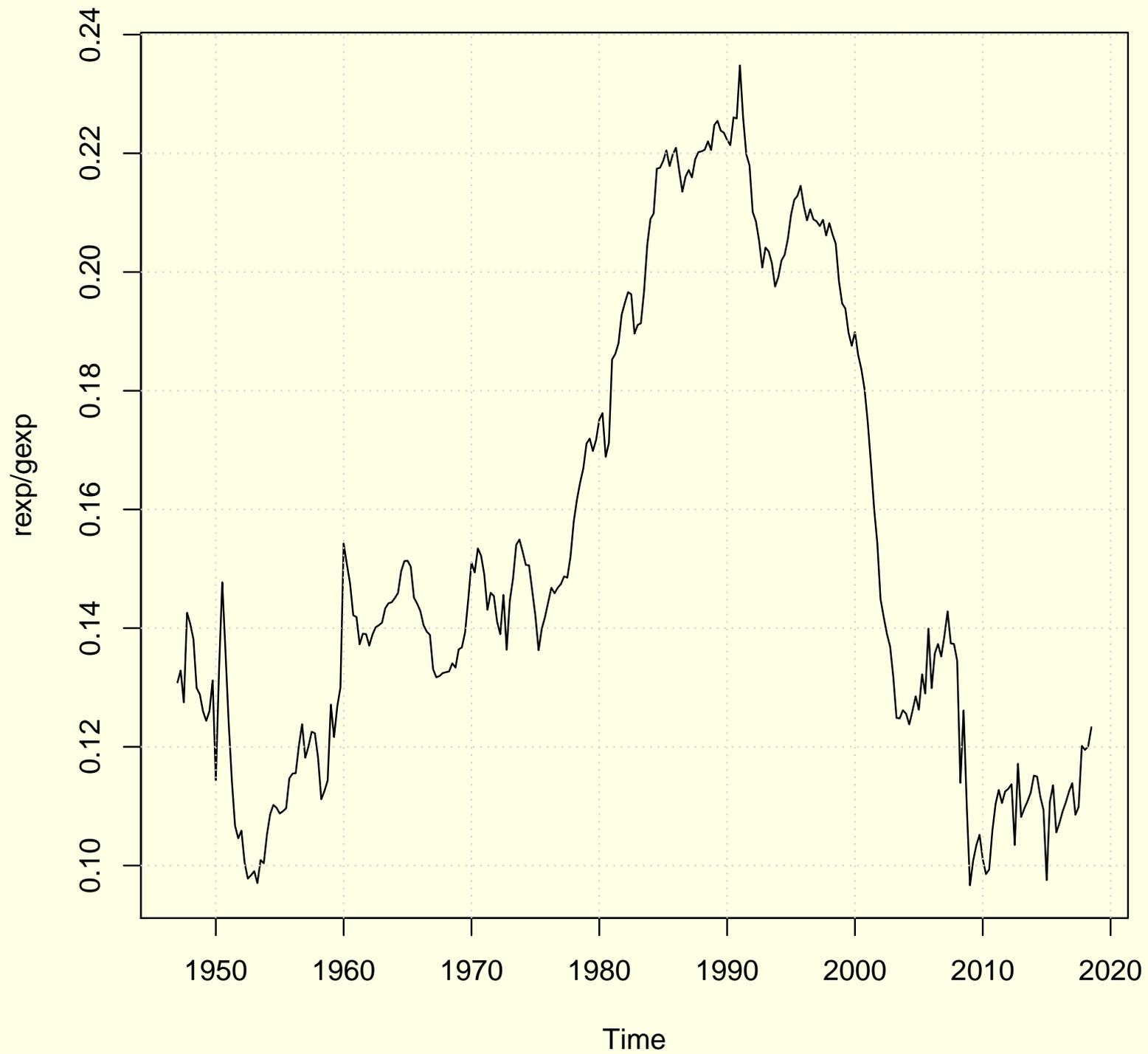
Policy responses

- If it's 1, there would be a case for explicit planning, and education of the public about, how future fiscal stress will be resolved. This could limit the bad effects of “hyper-Ricardian” beliefs.
- If it's 2, there would be a case for making the public and policy-makers aware of the connection between deficits and inflation risk. This is a job for central banks, though they are reluctant to take it on.
- If it's 3 or 4, we can relax, even run high deficits, until inflation actually starts to appear.
- If it's 5, ZLB issues will be with us for a long time. There are intergenerational equity issues. Policy makers need to recognize monetary policy limits at the ZLB.

A lesson in the political economy of fiscal responsibility?

- A previous period of frequent primary deficits, beginning in 1975, did come to a close.
- One possible explanation is in the time path of the interest expense component of the federal budget.
- When interest expense went to 20% of the budget, double its historical level, Congress implemented reforms in the budget process. Primary deficits came down and eventually turned to steady primary surpluses.
- If this is the mechanism, it requires a rise in inflation and interest rates as a trigger.
- But with our current levels of debt, the rise in inflation and interest rates required to produce the same budget effect would be smaller.

US federal interest expense as fraction of total expenses



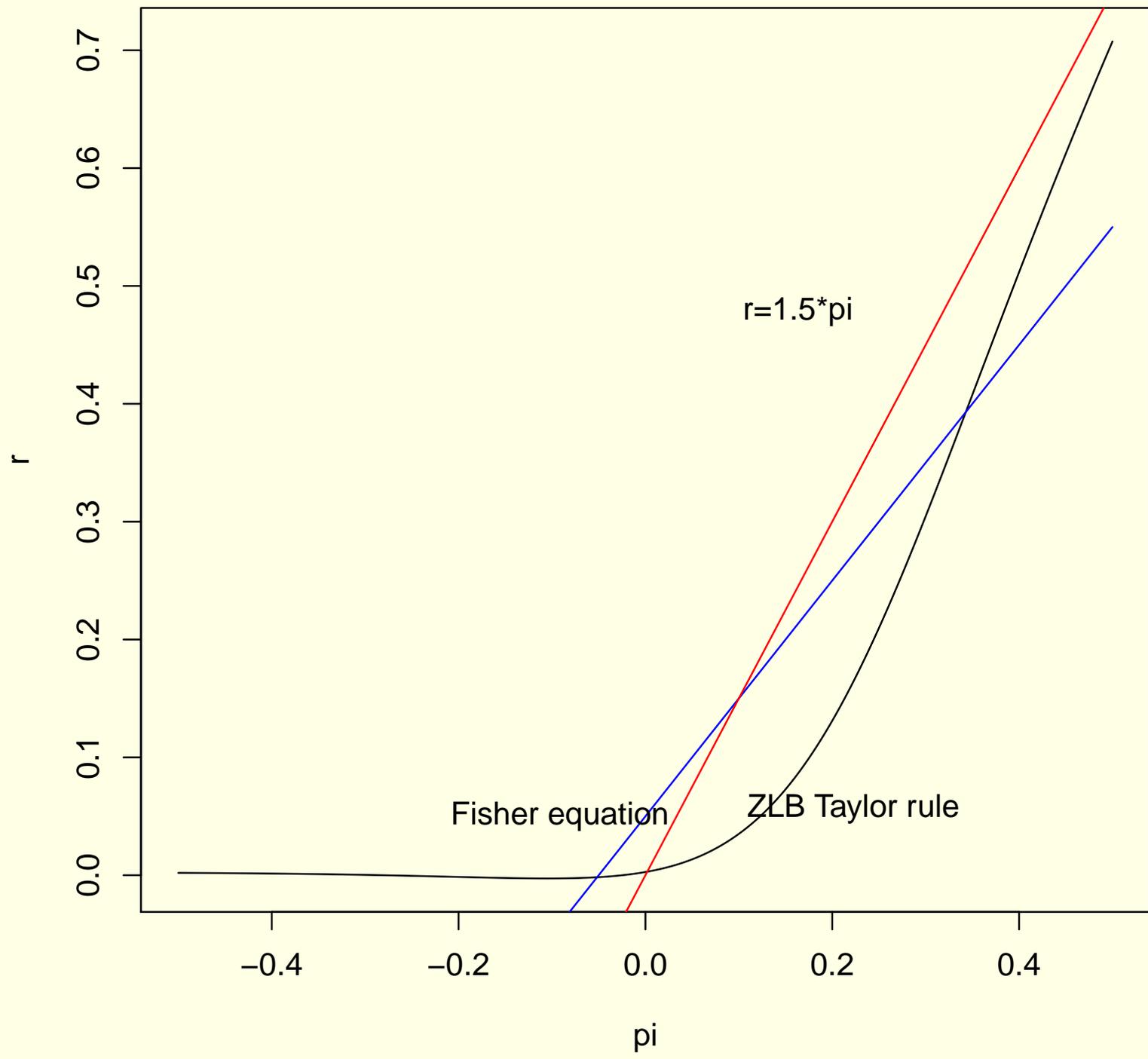
Models

1. BSU
2. Original Leeper
3. Leeper + transversality (Cochrane)
4. OLG

BSU

$$\begin{aligned} \text{Taylor rule :} & \quad \dot{r} = \gamma(\theta\pi - r + \beta) \\ \text{Taylor with ZLB :} & \quad \dot{r} = \gamma(f(\pi) - r + \beta) \\ \text{Fisher :} & \quad r = \beta + \pi \end{aligned}$$

$$\begin{aligned} f'(\pi) & \xrightarrow{\pi \rightarrow \infty} \theta \\ f(\pi) & \xrightarrow{\pi \rightarrow -\infty} r_0 \end{aligned}$$



Leeper

Taylor rule : $\dot{r} = \gamma(\theta\pi - r + \beta)$

Fisher : $r = \beta + \pi$

$\Rightarrow \dot{\pi} = \gamma(\theta - 1)\pi$

GBC : $\dot{b} = \beta b - \tau$

Fiscal rule : $\tau = \phi_0 + \phi_1 b$

$\Rightarrow \dot{b} = (\beta - \phi_1)b + \phi_0$