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# Frontiers of monetary policy research

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# Fiscal theory of the price level and the research challenges it raises

## Outline

1. FTPL in a nutshell.
2. Relevance to recent US economic history and current prospects.
3. Relevance to recent EU economic history and current prospects.
4. Research challenges: What we don't know; what more we might learn; and how to proceed without knowing everything we'd like to.

## In a nutshell

What it's not: simply replacing

$$\frac{\dot{M}}{M} \doteq \frac{\dot{P}}{P}$$

with

$$\frac{\dot{B}}{B} \doteq \frac{\dot{P}}{P}.$$

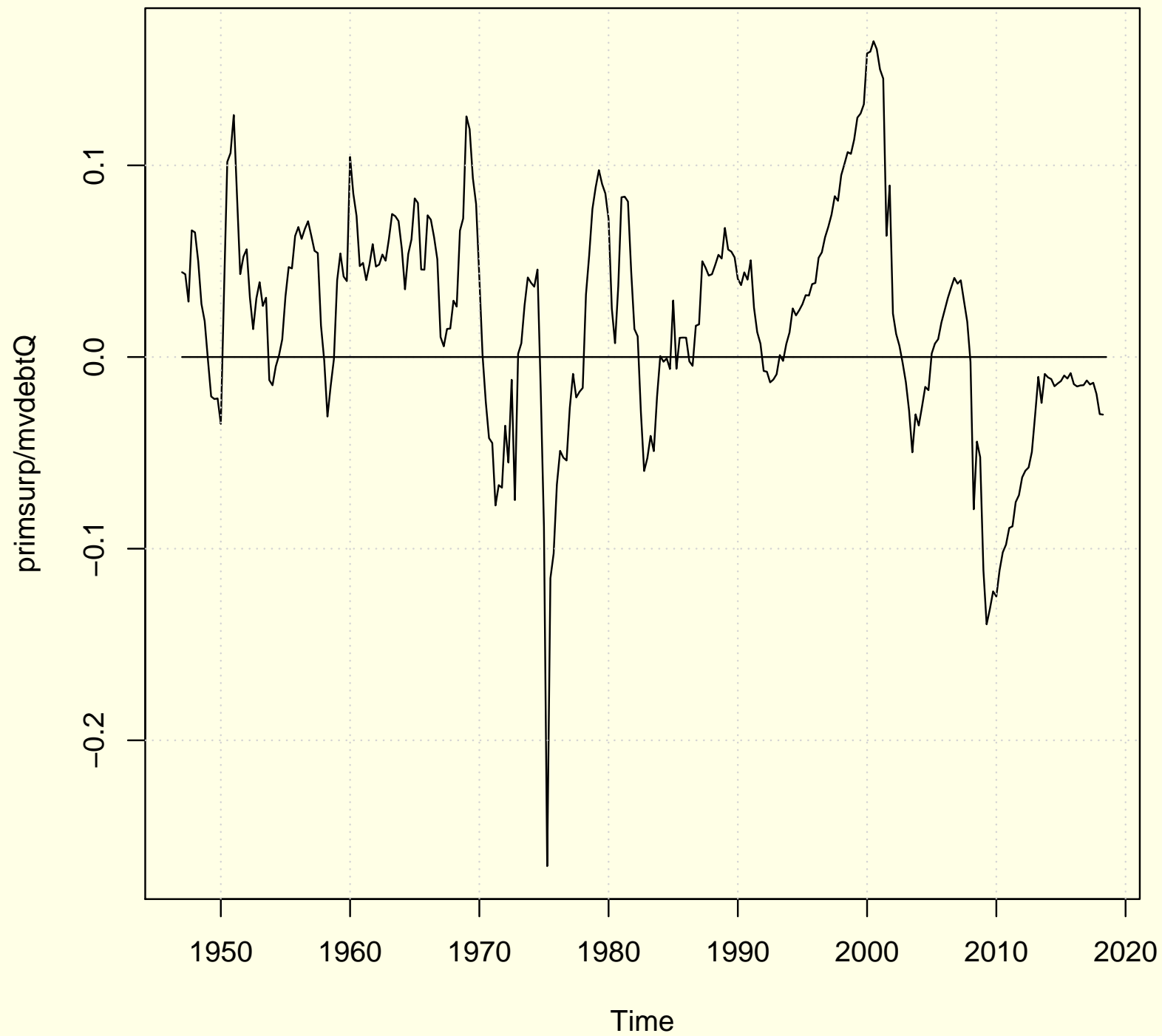
## What it is

1. Recognizing that  $P$  is the rate at which all government nominal paper trades for goods;
2. Recognizing that nowadays in most countries most of that paper is valued more for the claim it provides on future taxes than for its liquidity services;
3. Recognizing that therefore the price level depends both on the rate at which paper is being issued and on the government's perceived commitment to back it with future taxes, both of which are influenced by fiscal policy and monetary policy.

## US recent history through a FTPL lens

- Here is a plot of the history since 1947 of the US federal primary surplus divided by outstanding market value of the federal debt.
- Until around 1970, it was mostly positive, going negative just in recessions, averaging around 2.5-3%.
- In the mid 70's there was a period of sustained negative primary surpluses, with the extreme reached with the "Ford tax cut", which hit just as a previous recession was ending.
- Before the most recent period, every primary deficit episode was v-shaped, with both ends of the v positive.

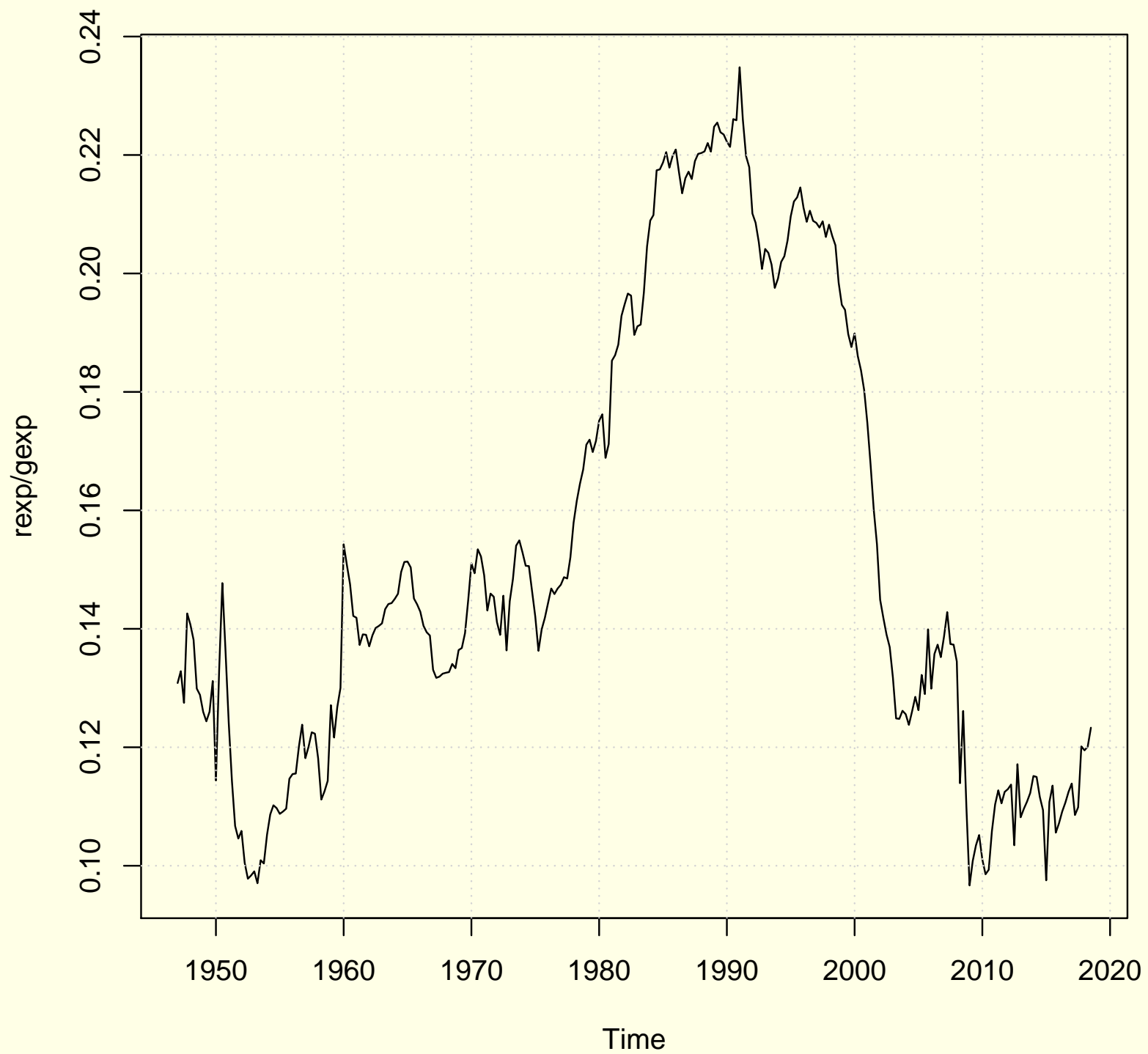
# US federal primary surplus as fraction of market value of debt



## What ended the deficits?

- The next chart shows interest expense as a fraction of total expenditures in the US federal budget.
- It rose rapidly in the early 80's during the Reagan (conventional) deficits and Volcker's persistent high interest rates.
- Is this what is required to gain legislator's attention and produce fiscal adjustment?
- Note: If this mechanism were completely reliable, it would never have to be invoked.

# US federal interest expense as fraction of total expenses





## Current fiscal/monetary prospects in the US

- By the surplus/debt measure, recent primary deficits in the US have not yet reached the level of the peak primary deficit in the Ford tax cuts, but averaged over the past 1- years, they are comparable.
- Furthermore, the pattern of every “v” returning to a point above zero seems to have been broken.
- There seems to be no precedent for primary deficits starting to increase again after a recession, while economic activity is strong.
- There is as yet no noticeable impact on interest expense of these deficits, because of the slow rise in interest rates and the positive duration of the debt.

## Application to the Eurozone

- There is of course no single, central, bond-issuing budget authority to feel the pressure of rising interest expense.
- Could rising interest expense lead to fiscal adjustment in Italy?
- It might, but in the US the concern about possible lack of fiscal response translates to a concern about inflation: So long as there is a prospect of some primary surplus, there is a price level at which debt can be sold.
- When the driver of high interest rates is default fear rather than inflation fear, debt can become unsaleable even when positive primary surpluses are available.
- The consequences of default — failure to meet explicit contract terms in the debt — are much more unpredictable to individual bond-holders.

## Policy challenges

- Will the US Federal Reserve face the same problem faced by the central bank of Brazil during a period of fiscal dysfunction and high inflation? That is, could interest rate rises fail to restrain inflation, indeed accelerate it instead?
- Will the Eurozone be forced at last to recognize that a common currency inherently enforces fiscal risk-sharing, and therefore be forced to construct, or at least improvise, institutions that manage this?

## Research Challenges: Measuring expectations

- Fiscal expectations are central. How do expected future taxes, social security payments, medical care, respond to policy?
- These are in fact as important as inflation expectations. It's just that conventional NK models push these expectations into the background, assuming we know how they adjust.
- The NY Fed has developed a sophisticated system for measuring the development of inflation expectations. Apparently nothing similar exists for fiscal expectations.
- The US Gallup poll does ask about expectations about social security, and these show interesting fluctuations. But they are only about one part of fiscal expectations.

## Gallup

Do you think the Social Security system will be able to pay you a benefit when you retire? ( Based on nonretirees)

	Yes	No
2015 Jul-Aug	45	51
2010 Jul 8-11	36	60
2005 Jan 7-9	45	50
2001 Mar 26-28	52	41
2000 Aug 11-12	49	42
1994 Jan	47	52
1992 Mar	49	49
1991 Mar	49	48
1991 Mar	51	42
1990 Mar	48	47
1989 Dec	49	47

## Modeling with weak identification, influential priors

- Leeper and Traum have shown that estimation of a model with explicit fiscal and monetary policy reaction functions is possible.
- They emphasize that the AF/PM, AM/PF configuration matters a great deal for the effects of fiscal policy, but implicitly this is true also for the effects of monetary policy.
- The data do not give sharp information about what the policy configuration is. (AF/PM fits best for the full sample, AM/PF fits best for subsamples.) Policy implications therefore depend on priors, not just the data.

## What would a model usable for policy analysis look like?

- It would have to have a less stylized treatment of policy reaction functions than Leeper/Traum's. Policy regimes, particularly fiscal probably change over time.
- It would, obviously, have to model wealth effects on private sector expenditures — this is the channel through which current and expected future fiscal policy influence inflation.
- It would have to model monetary and fiscal policy reactions, despite the fact that data will not give sharp answers on their form.
- It might give clearer policy guidance if it could be combined with better direct measurements of fiscal policy expectations.

## Conclusion

- Fiscal policy and expectations of future fiscal policy are important for the determination of inflation. Central banks should be talking about this, not ignoring it.
- A model usable for policy that addresses these issues probably requires confronting heterogeneous wealth effects, jointly modeling monetary and fiscal policy despite weak identification. This suggests a research agenda.
- Better understanding of these fiscal/monetary interactions might have led to earlier exit from the zero lower bound, and may be necessary if recent political economy shifts in the US and Europe make recognition of these interactions unavoidable.