Princeton Webinar



Fiscal & Monetary Policy after Covid

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Inflation Scenarios

Inflation above-below-normal Temporary inflation hike Price



Price

 Accelerating inflation Permanent inflation increase Price Price



Monetary/Inflation Theories

New Keynesian Theory rigidity

- $\pi_t = \beta \mathbb{E}_t [\pi_{t+1}] \kappa (u_t u_t^n) + \nu_t$ Phillips curve
- Quantity Theory/Monetarism medium of exchange

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$$P_t Q_t = v_t M_t$$

store of value role/safe asset Fiscal Theory of Price Level

 $= \frac{B_t + M_t}{P_t} = \mathbb{E}_t \left[\sum_{\tau = t+1} SDF_{t,\tau}(primary \ surplus_{\tau}) \right] + \dots$ service flow time varying Real value financial frictions (I Theory) of Gov. debt (debt deflation, redistribution, ...)





US Gov. Debt/GDP





CBO Projections: May 2021



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US Gov. Debt/GDP

Percentage of Gross Domestic Product



CBO Projections: May 2021



r < q

- OLG setting - Samuelson, Diamond, Blanchard
 - Low income during retirement pushes down r
- Incomplete Markets Bewley, Aiyagari, BruSan
 - Precautionary savings/self-insurance pushes down r



Service flow **Convenience** yield

on money/ reserves

Welfare: Inefficiency

OLG setting

- Dynamic inefficiency
- Excessive capital accumulation
- Transfer from young to old
 - PE term:
 - GE terms (wage/rental rate change) :
 - Absent risk: If no risk $E[r^K] = r^f$

Incomplete Markets

- If uninsurable idiosyncratic risk is
 - Low: too little
- precautionary self-insurance
- High: excessive
- 2 opposing pecuniary externalities
 - Take level of returns as given, tilt portfolio towards K, higher growth
 - Take return different (capital vs. bond) as given, tilt portfolio towards B, better self-insurance

 $\begin{array}{l} r^f < g \\ E[r^K] < g \end{array}$



Poll

- 1. Will r < g remain for many years to come?
 - a. Yes
 - b. No
- 2. In the light of r < g, is the US economy dynamically inefficient?
 - a. Yes
 - b. No
- 3. Once Covid is behind us, it will be essential to decrease debt?
 - a. Yes
 - b. No



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Fiscal policy under low rates. Taking stock

Markus Academy, June 2021.

Olivier Blanchard

For a few decades now (first in Japan, then in the US and Europe), advanced economies have faced low nominal and real interest rates.

Two relevant and separate dimensions:

- "Secular stagnation": Define safe neutral rate r* as the rate which is consistent with output at potential. Then secular stagnation: r*<g (not sure this is the best word, but established tradition)
- "The zero lower bound," defined as i>=0, or r>=-π. Either actually binding, or potentially binding (insufficient room to counteract adverse shocks)

These have dramatic implications about the way we think about fiscal and monetary policy.

Good time to take stock, with focus on fiscal policy.

I want to take up three issues:

What will happen to interest rates in the future? Shall we face both issues in the future?

How do we assess debt sustainability in the current environment?

How should we conduct fiscal policy in the current environment?

In each case, reviewing both theory and the mapping to practical implications.

1. Interest rates now and in the future

Start with three graphs:

- Real safe interest rates in US, Euro, and Japan since 1985.
- Real safe interest rates in the US since 1952 (end of Treasury-Fed Accord)
- Real safe interest rates since 1300 (with thanks to Schmelzing)

My interpretation:

Post 1985 graph is misleading

What is unusual is more the 1970s and the early 1980s

The long downward trend is striking. Suggests fundamental factors at work:

Saving as income goes up within countries/across countries and longevity increases Liquidity as financial markets deepen.

Bottom line: My working hypotheses:

- Might be bumps (for example as result of Biden stimulus) and limited r*>g episodes.
 But r*<g likely to dominate for a long time. Although not with probability 1.
 We do not understand underlying causes well enough that we can fully exclude a reversal.
- Unless there is a dramatic change in inflation targets, and thus sustained actual inflation ZLB will bind, sometimes actually, in general potentially.

Table: The opinion of investors. Implied probabilities of i>x, from option prices







		0%	1%	2%	3%	4%
Currency	Expiry	<0	<1	<2	3	<4
USD	5y	12%	29%	60%	81%	90%
EUR	5у	54%	81%	92%	96%	98%
GBP	5у	24%	53%	78%	90%	95%
USD	10y	15%	25%	44%	65%	80%
EUR	10y	37%	61%	78%	88%	93%
GBP	10y	26%	44%	66%	81%	89%

As of May 19, 2021. Probability that the short-term safe nominal rate is lower than a particular threshold (0,1,2,3,4%), 5 or 10 years ahead.

If we think of 4% as likely nominal growth, the probability that investors put on the interest rate exceeding it is only 2-10% in 5 years, 7-20% in 10 years.

2. Debt sustainability.

What is clear is that there is no magic number, no general debt threshold. Japan as THE example (177% net, 260% gross) Sustainable debt is very different if safe rate is 10% or 1%.

Start with the basic dynamics of the debt to GDP ratio:

d = (1+r)/(1+g) d(-1) - sDebt to GDP ratio stabilization implies: d=d(-1) => s = (r-g)/(1+g) d <0 if r-g <0

Three ways of stating the implications of sustained r<g:

- Can run primary deficit and keep debt ratio constant
- Can run any primary deficit, and debt will increase, but not explode.
- Can issue additional debt once, and never raise taxes to pay for it.

So no debt sustainability issue? No: Two reasons.

Uncertainty. Prob that r>g is small but positive.

Note: This is why focusing on debt service is dangerous.

If d is large, (r-g) d can move a lot for a given $\sigma(r-g)$

Effect of debt itself on r* through crowding out.

Debt sustainability (continued). So how to proceed?

Suggested answer: Debt sustainability is a probabilistic statement:

What is the probability that, over the next 5-10 years, the country cannot generate a primary surplus, s, sufficient to cover interest payments, (r-g) d ? If the probability is small, debt is sustainable.

Can think of it in two steps.

Under existing policies:

- Distribution of r-g, first but also second moments
- Implicit liabilities,
- Path of the primary deficit, first and second moment

If an adjustment is needed, can it be done? (for government to suggest, for investors to assess)

- Initial tax rate
- Nature of government (relevant if large adjustment is needed), coalition/single party, etc...
- Maturity of the debt (reduces σ(r), gives time to adjust if needed)

Right analytical tool: Stochastic debt sustainability analysis (SDSA) Right institutional structure: An independent fiscal council.

Debt sustainability (continued). Multiple equilibria and the role of the central bank.

Sovereign bond markets are prone to multiple equilibria.

If investors start anticipating positive probability of default, they ask for a higher spread,

These worries can be self fulfilling

There can be a large range of equilibria. (current research)

Starting at very low debt levels. Going from 100% to 90% will not do.

Can these multiple equilibria be eliminated? A warning (and a puzzle).

- If it is a pure self-fulfilling run (no change in fundamentals): yes
 Central bank, with deep pockets, plays the role of a large stable investor.
- If it partly reflects risk of default (change in fundamentals), much less obvious.
 Central bank is not an outside investor, but part of the consolidated government.
 A swap of government bonds for bank reserves does not decrease overall risk.
 If bank reserves are seen as safe, then the risk premium will increase on bonds still held by private investors

What should be done?

Have recourse to an outside investor (liquidity provision by ECB for a member country, by IMF for EMs) What about a country like Japan? Less of an issue because domestic investors are more stable, but still...

3. Optimal fiscal (debt) policy?

The big question: Are low rates the sign of dynamic inefficiency ("too much capital")?

Diamond's overlapping generation model.

If r<g, then sign of overaccumulation of capital.

More debt is good. All generations better off if issue debt up to r=g.

Why? Current generation benefits directly.

Future generations have less capital, but it is a good thing.

Long seen as an important theoretical insight, but a highly unlikely situation. Could it be relevant?

The next question: What rate should we look at? Safe rate, or say, average MPK?

Empirically: Safe r < g < Average MPK.

Which rate is the relevant one?

Tentative answer (AEA lecture): a weighted average of the two.

The relevance of other distortions, leading r to be a wrong indicator. Equity premium puzzle. If too large, will lead to too low a real safe rate. Financial repression: Not explicit, but in the form of liquidity retirements?

Bottom line:

Debt crowds capital But the cost may be low in terms of welfare. So if there are good uses for it, use it.

Practical implications for fiscal policy?

First, ignoring the ZLB (i.e assuming that monetary policy can choose r=r* and thus maintain output at potential) A slow decrease in the debt ratio,

To increase sustainability (but the effect will be very slow)

To improve the welfare of future generations

(unless we invest to improve their future. Global warming)

Limits on monetary policy room from ZLB are likely to be relevant however for a long time.

Then, the case for running fiscal deficits to maintain output at potential is very strong.

If ZLB strictly binding, then need to run the required size deficits.

Trade-off: A reduced output gap. A slightly higher future cost and lower sustainability. Definitely worth it.

If ZLB potentially binding, i.e. limited room for monetary policy, develop automatic stabilizers.

Practical policy implications.

Covid related spending: "Whatever it takes" (for protection and maintain aggregate demand.)

Public investment. Do it if social rate of return> r.

Finance by debt or taxes depending on the need to sustain demand

What if ZLB keeps binding and the required fiscal deficits lead to a steady increase in debt ratios? Need to think of other ways to stimulate demand. Need to be creative. Reduce precautionary saving. Tax saving in some way? Increase public investment to stimulate private investment.

Additional slides



