

# **Fiscal policy under low rates.**

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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, interacting but 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 best word; “deficient private demand”?)
- **“The zero/effective lower bound,”** defined as  $i \geq -\varepsilon$ , or  $r \geq -\pi - \varepsilon$ .  
Strictly binding ( $=$ ), or potentially binding ( $>$ ) (insufficient room to counteract adverse shocks)

Together, 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:

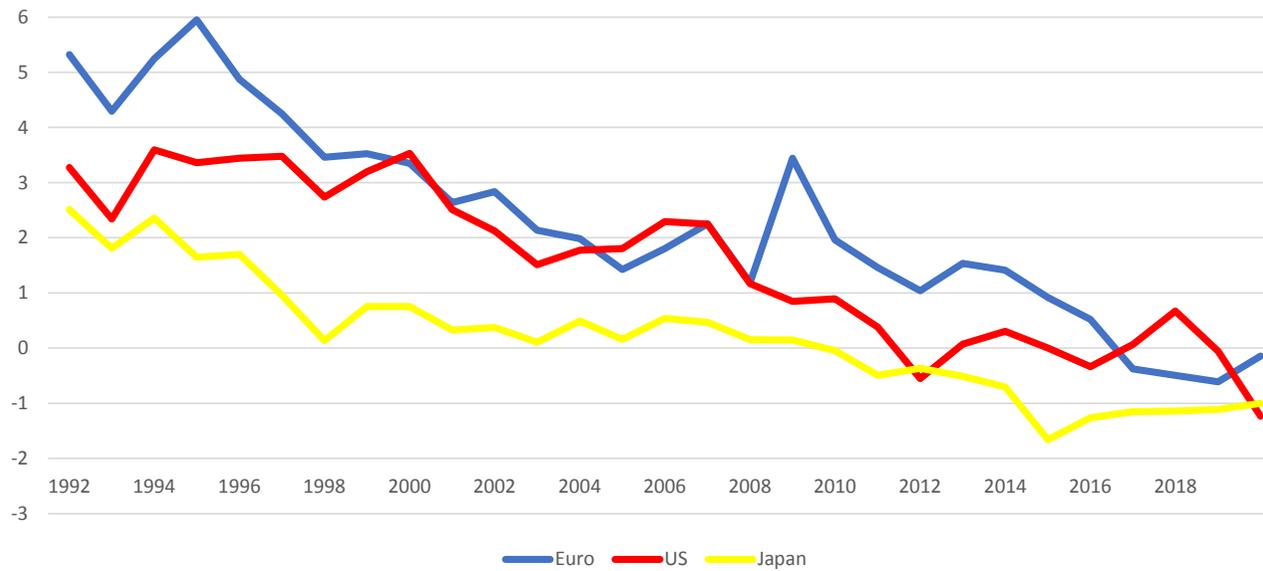
What will happen to interest rates in the future? Shall we face both issues in the future?

How do we assess debt sustainability in the current environment?

How should we conduct fiscal policy in the current environment?

## **Interest rates now and in the future**

US, Euro, Japan, 10-year real rates

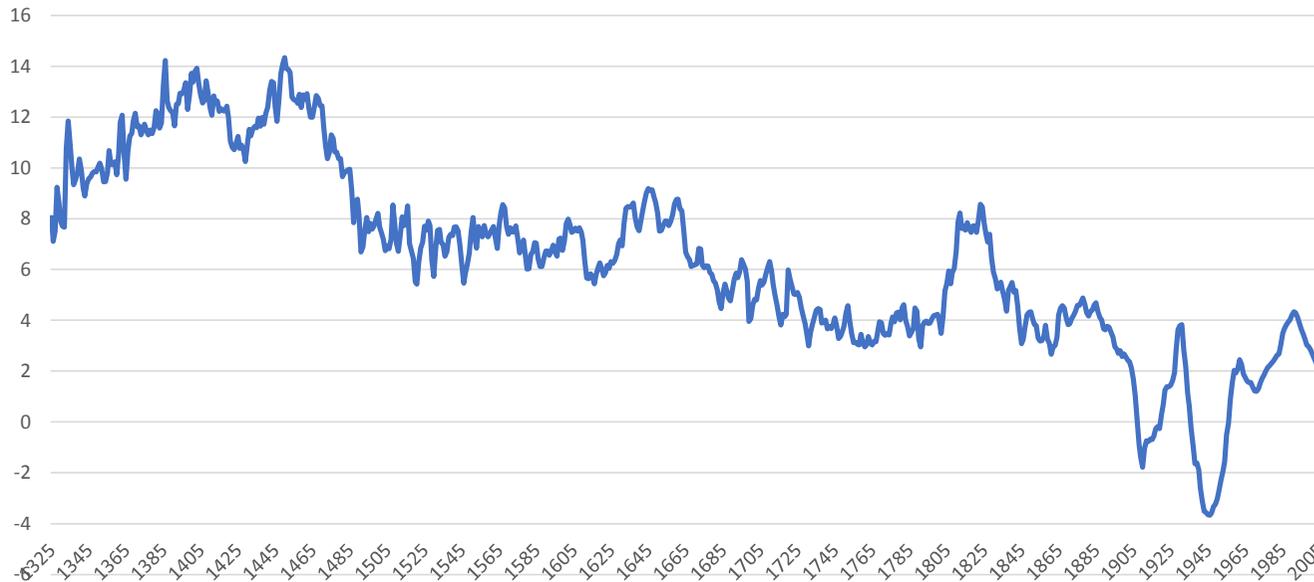


Constructed as 10-year nominal rates minus 10-year forecasts of inflation

More visually striking, but misleading to start in 1985

Bottom line: Trend decline, not due to GFC, nor to Covid. Started earlier in Japan.

The long view: Safe real rate since 1325 (Schmelzing)  
centered moving average (20 years)



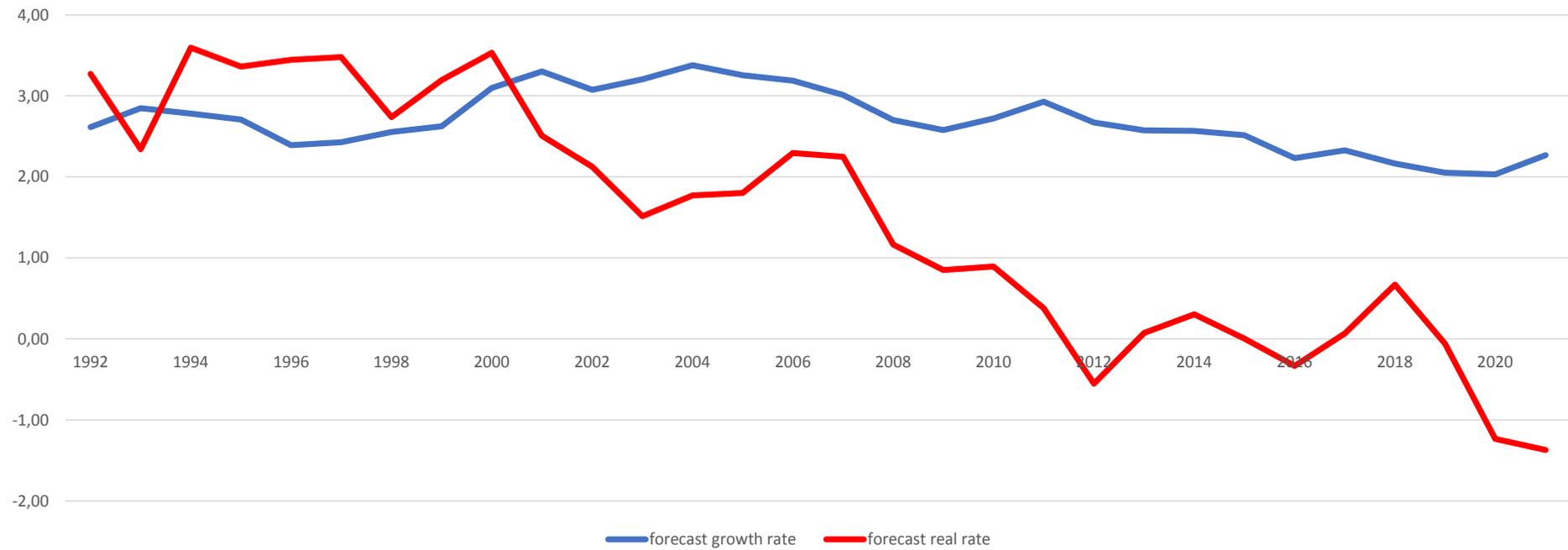
The long downward trend since the 1300s is striking.

Suggests fundamental factors at work:

Saving as income goes up within countries/across countries and longevity increases

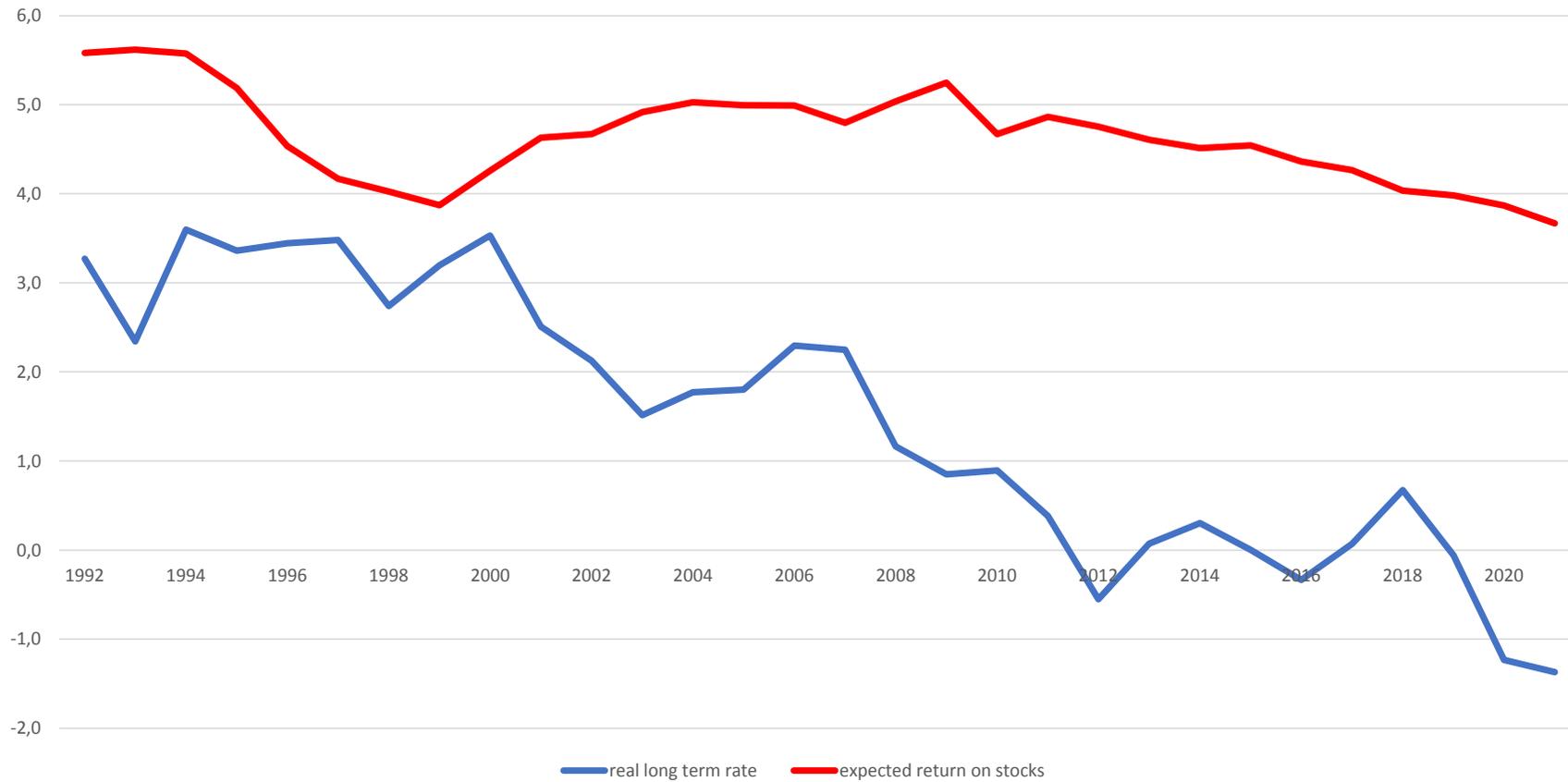
Liquidity as financial markets deepen.

$(r-g)$ : 10-year forecast US real rate versus 10-year forecast US real growth



Growth not at the source of the interest decline.

Safe and risky rates of return: S&P500 d/p +g versus 10-year r



Expected rate of return on stocks (Gordon's formula) has barely decreased, relative to safe rate  
So: Not just saving/investment, but risk aversion and perceived risk.

What investors expect.

			0%	1%	2%	3%	4%
Currency	Expiry		<0	<1	<2	<3	<4
USD	5y		14%	40%	72%	87%	93%
EUR	5y		64%	88%	95%	97%	99%
GBP	5y		29%	63%	84%	93%	96%
USD	10y		17%	33%	56%	75%	86%
EUR	10y		42%	67%	82%	91%	95%
GBP	10y		34%	56%	75%	86%	92%

(As of September 1<sup>st</sup>, 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 1-7% in 5 years, 5-14% in 10 years.

My interpretation:

The long downward trend since the 1300s is striking.

Suggests fundamental factors at work:

Saving as income goes up within countries/across countries and longevity increases

Liquidity as financial markets deepen.

The more pronounced downward trend since 1992 is equally striking.

Not just saving/investment, but risk aversion and perceived risk.

My working hypotheses in thinking about fiscal policy:

- Might be bumps (for example as result of fiscal policy, 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 strictly, in general potentially.

**Debt sustainability.**

## Debt dynamics under certainty

Current levels of debt are very high. Reasons to worry? Schäuble versus Krugman.

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:

$$d = (1+r)/(1+g) d(-1) - s$$

Debt to GDP ratio stabilization implies:

$$d=d(-1) \Rightarrow s = (r-g)/(1+g) d < 0 \text{ if } r-g < 0$$

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

- Can run a primary deficit and keep debt ratio constant ( $d=100\%$ ,  $r-g=3\%$ , primary deficit=3%)
- Can run any primary deficit, debt will increase, but not explode (primary deficit=4%,  $r-g=3\%$ ,  $d=150\%$ ).
- Can issue additional debt once, and never raise taxes to pay for it.

Infinite fiscal space? No:

## Endogeneity and Uncertainty

Two big caveats:

- Endogeneity. The larger the deficits, the stronger aggregate demand, the higher  $r^*$ , making debt dynamics less attractive.
- Uncertainty. In particular: Prob that  $r > g$  is small but positive.

Given uncertainty, debt sustainability is a probabilistic statement. I suggest following definition:

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.

## How to assess debt sustainability?

Can think of answering the question 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  $\sigma(r)$ , gives time to adjust if needed)

Right analytical tool: Stochastic debt sustainability analysis (SDSA)

Right institutional structure: An independent fiscal council.

## Tentative conclusions on debt sustainability.

If main source of uncertainty is  $(r-g)$

Realistic decreases in debt (fiscal austerity) do not make much difference to  $P(\text{sustainability})$

Suppose  $sd(r-g) = 3\%$

If  $b=100\%$ , then  $sd((r-g)b) = 3\%$

If  $b=90\%$ , then  $sd((r-g)b) = 2.7\%$

Contingent plans on  $(r-g)b$  make a large difference to  $P(\text{sustainability})$

For example  $s = a [(r-g)b] + x$

Suggests, if SDSAs not acceptable, explore rules along the lines of

$s = a(L) [(r-g)b] + x$ , with  $a(L)$  depending on state of economy,  $a(1)=1$ .

## Multiple equilibria and the role of central banks.

Sovereign bond markets are prone to multiple equilibria.

Worries about default 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)

## **Welfare costs and benefits of fiscal policy**

## Welfare costs of debt under certainty

Are low rates the sign of dynamic inefficiency (“too much capital”)?

Under certainty: Phelps: yes, if  $r < g$

$r < g$ : sign of overaccumulation.

Less capital, less output, but more consumption.

Can debt improve welfare?

Under certainty: Diamond’s OLG: Yes, if  $r < g$

Debt crowds out capital. But this is good

More debt is good until  $r = g$  (Golden rule).

Why? Current generation benefits directly.

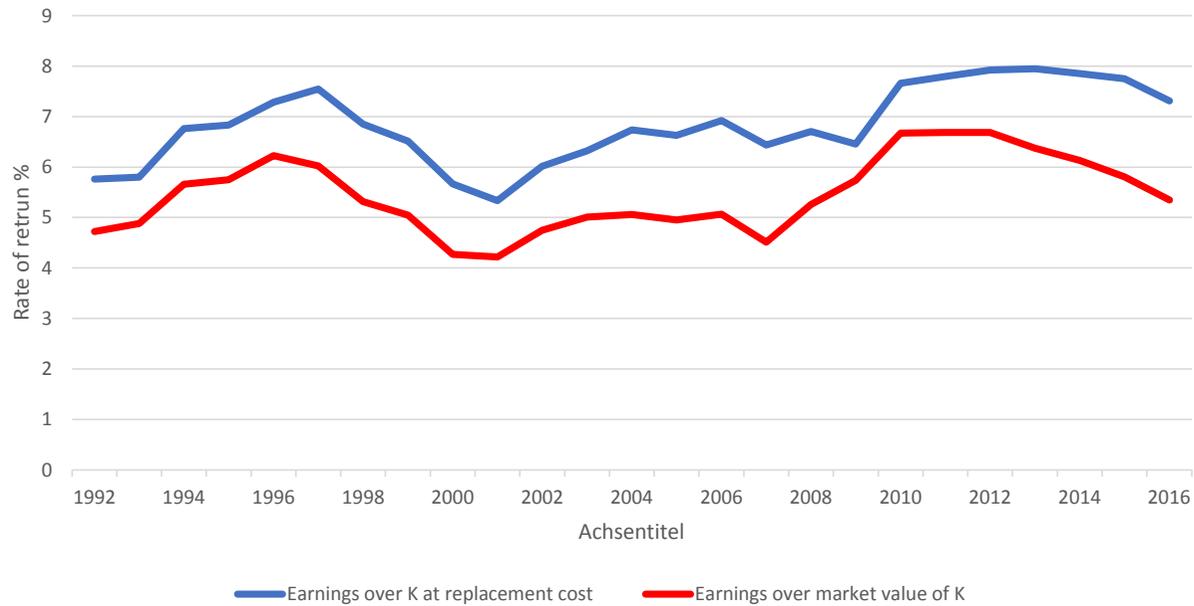
Future generations have less capital, but it is a good thing: more consumption.

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

Basic question: Under uncertainty, which rate? Safe rate, or average mpk?

## Welfare costs under uncertainty?

The issue: Uncertainty and risk. Safe  $r < g < \text{average MPK}$  Which one?



## Which rate?

In Diamond OLG with uncertainty, direct effect of debt depends on **safe rate** versus growth rate  
Why? Pay-as-you-go SS or Debt are safe transfers across generations  
The indirect price effects however complicate the conclusion

An approximate formula under Cobb Douglas technology:  $\frac{1}{2}$  (safe  $r$  + average risky  $r$ )  
So empirically ambiguous (and clearly too rough)

What if source of low safe  $r$  is precautionary saving, due to uninsurable individual shocks?  
Debt can help as well. And safe rate still central  
But better way to go: Provide more social insurance (Medicare for all?)

What if other distortions? (Financial repression: Liquidity requirements for banks)

Bottom line:

Public debt may not be good on its own (ignoring its uses), but it is probably not bad.  
Low safe rate is signal that risk adjusted marginal product is low.  
Surprising conclusion, but hard to avoid.

## Welfare benefits of deficits and debt

Even away from ELB, fiscal policy can help in stabilizing output around potential  
Automatic stabilizers

More essential, the closer to the ELB.

Fiscal policy affects aggregate demand through debt and deficits.

Effect depends a lot on expectations, on type of spending/tax.

Case for expansionary fiscal austerity is weak in current context (no spreads to start)

Recent work on multipliers. Vary, but positive:

Surprisingly: Multiplier from tax cuts > Multiplier from spending.

### **Putting benefits and costs together:**

The more negative ( $r^*-g$ ), the smaller the welfare cost of debt

The closer  $r$  is to the ELB, the larger the welfare benefit of deficits and debt

## Practical implications for fiscal policy now?

Today:

ELB strictly binding, and secular stagnation:  $r^* < r = -\pi - \varepsilon < g$ .

Large deficits due to second covid year. 8% of GDP on average in 2021 for major AEs

Right policy: “Whatever it takes” (both for protection, and aggregate demand if needed)  
If need for public investment, use it to sustain demand and supply.

In the future: .

Aggregate demand should recover from Covid. Other things equal, increase in  $r^*$

So ELB only potentially binding, but still secular stagnation.  $r = r^* > -\pi$ ,  $r^* < g$

Two extreme options:

Keep  $r^*$  and  $r$  at the ELB and decrease deficits.

Keep deficits and allow for an increase  $r^*$  and  $r$ .

Right solution: In between. Increase  $r^*$  above  $-\pi$ , to increase room for monetary policy

What if? Private aggregate demand post-covid remains depressed, ELB strictly binding.

Need to sustain large deficits, and debt increases (Japan scenario)

Other ways to increase private demand? Back to better social insurance.