# The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival

By

C.A.E. Goodhart
Financial Markets Group, London School of Economics

and

Manoj Pradhan
Talking Heads Macroeconomics

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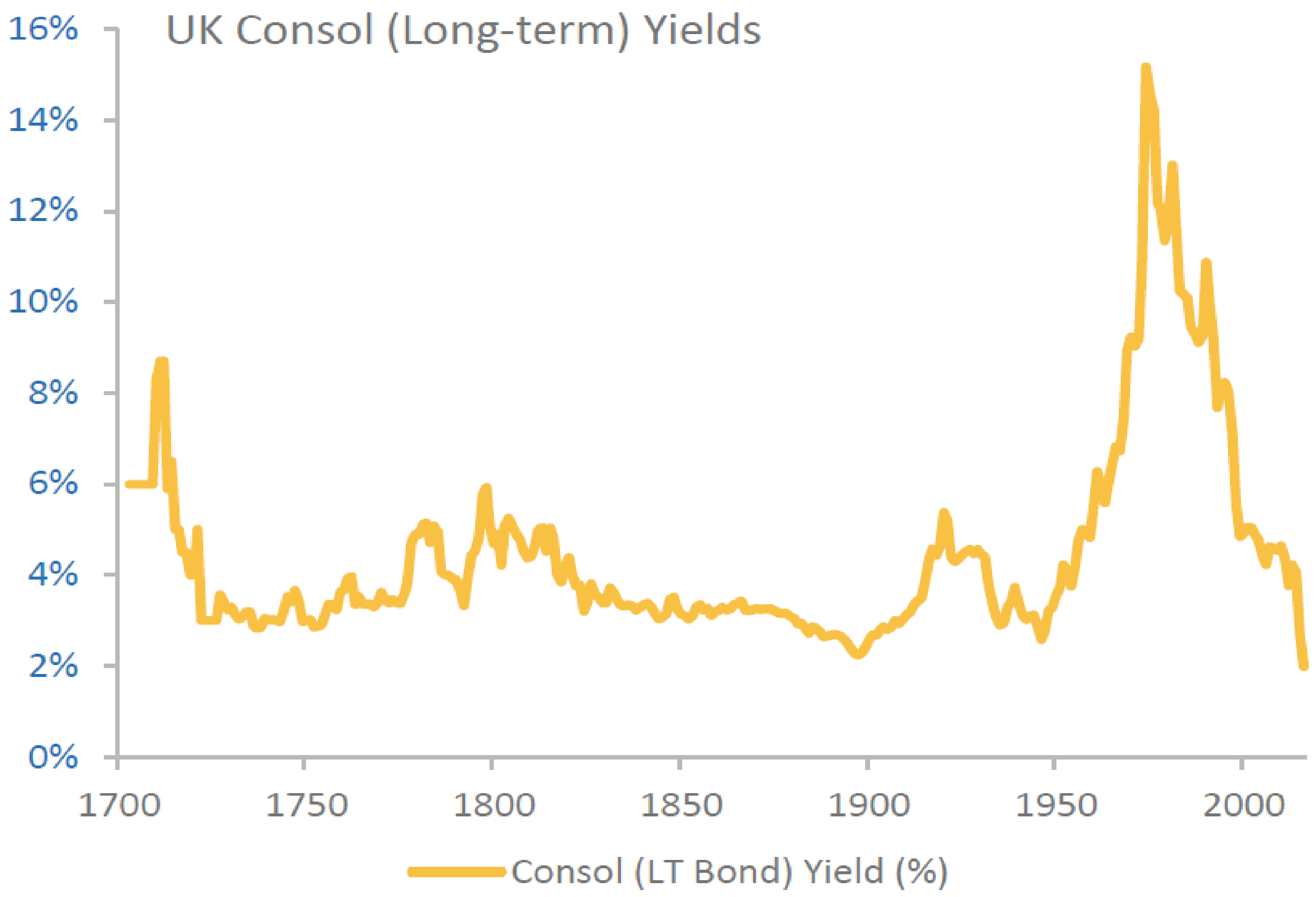
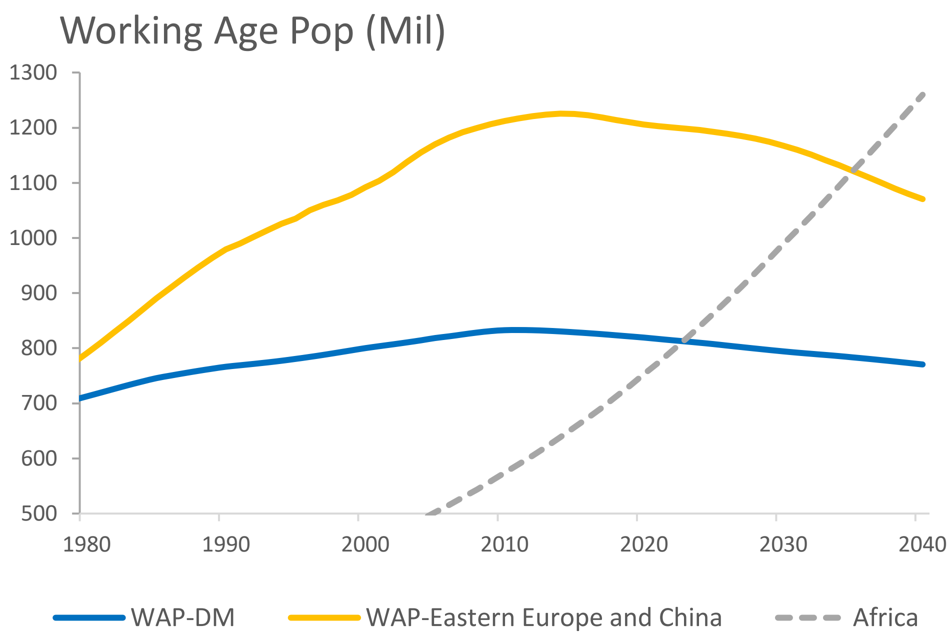
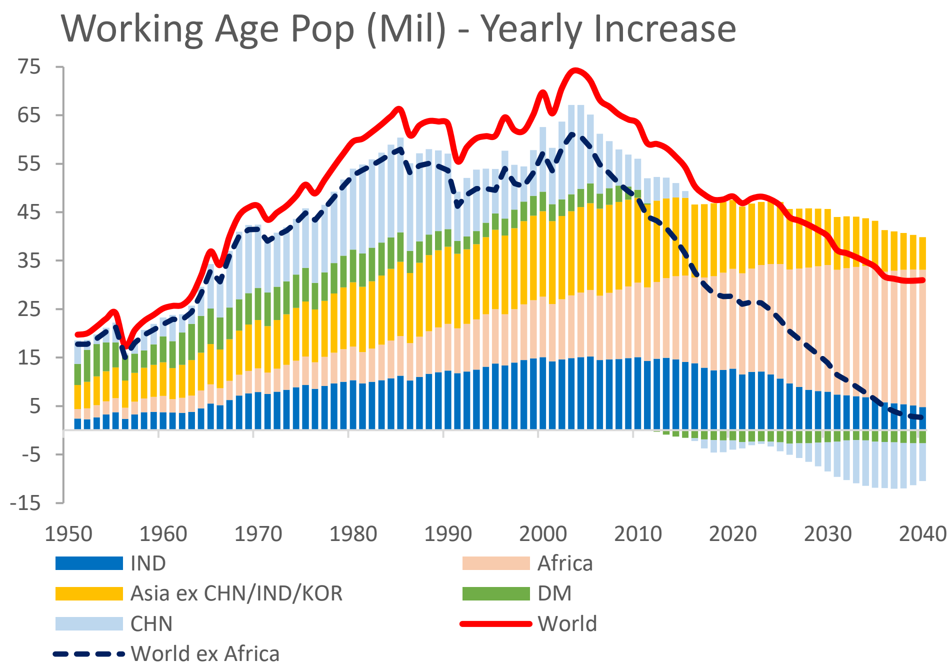
# Demography (and some reversal of globalisation) will raise inflation

# Echoes of the 1950s



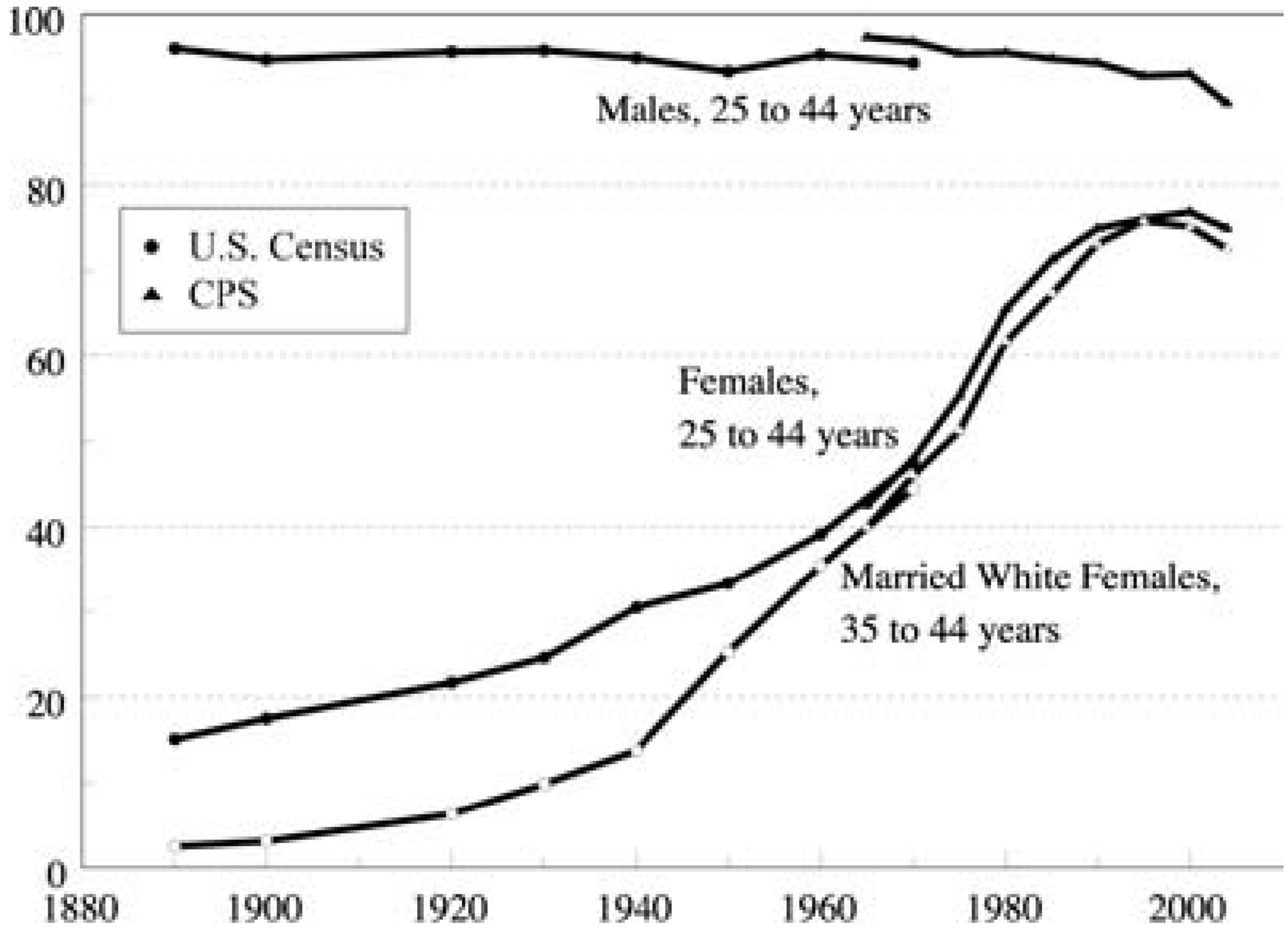
# Working age populations falling globally – Africa is the key exception, and India to a lesser extent



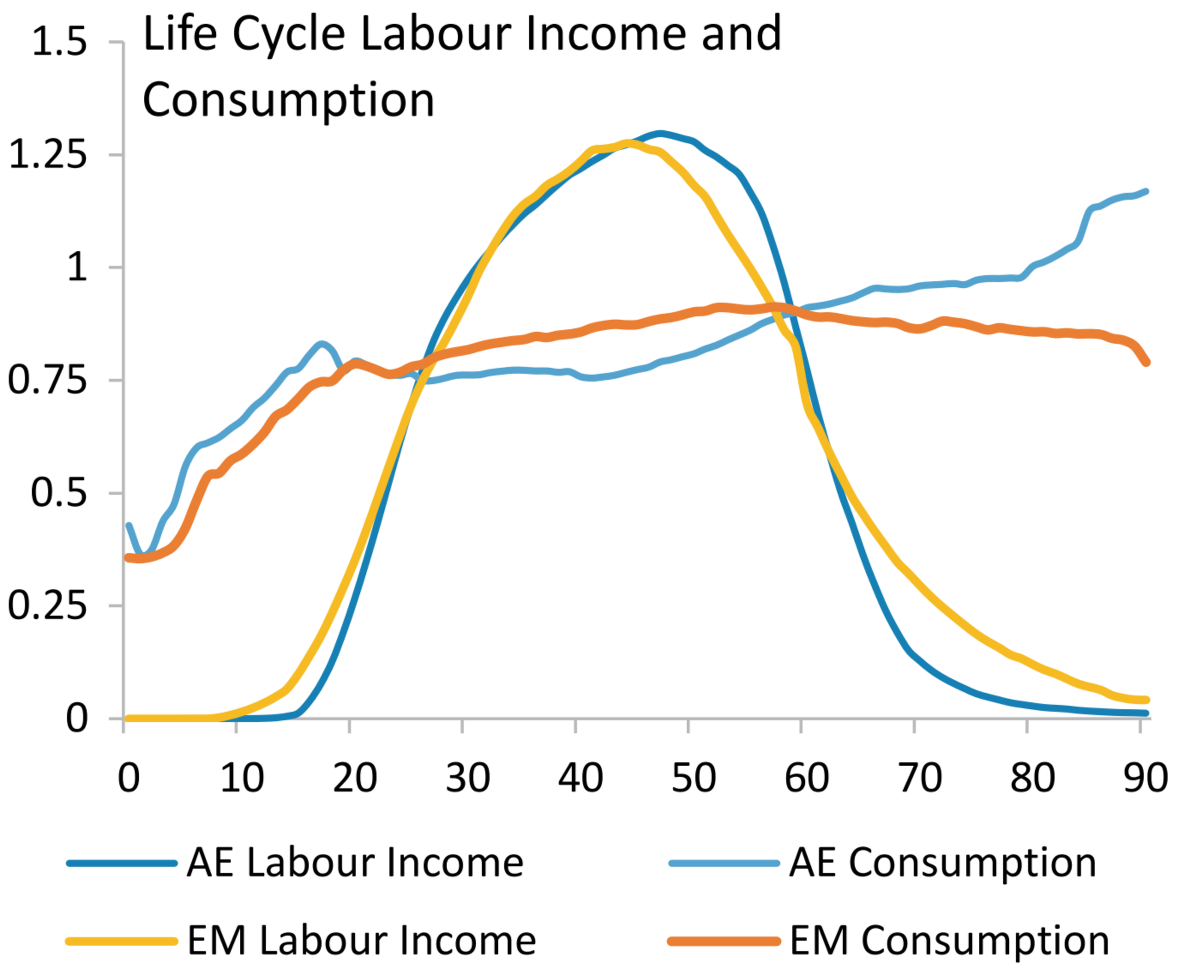
# The Quiet Revolution That Transformed Women's Employment

Labour force participation rates for females and males
by age and marital status: 1890-2004




Source: Goldin (Richard T. Ely lecture, 2006)

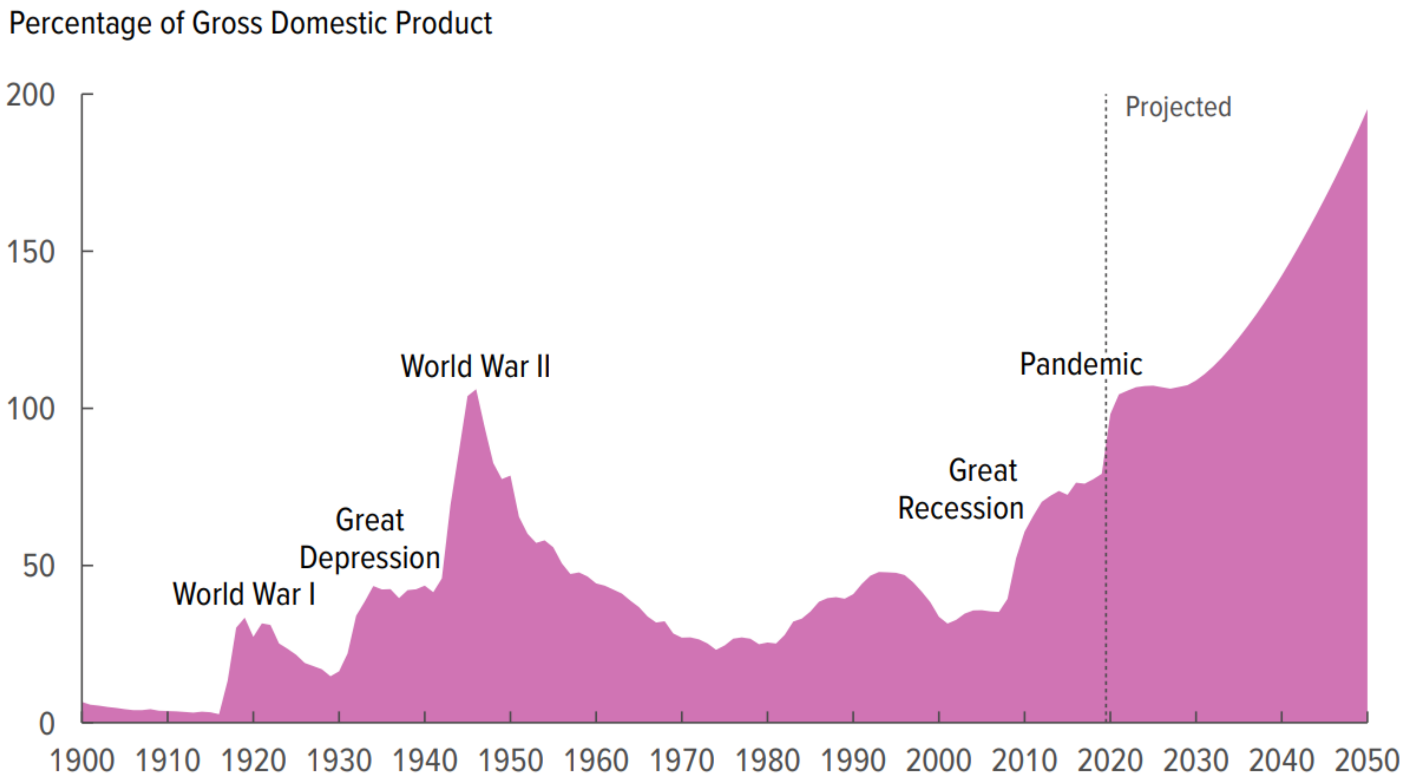
# Consumption of the old *increases*



# Debt falls after wars, but that will not apply to ageing

**Debt and deficits**

Federal debt held by the public is projected to equal 195% of GDP in 2050, and the deficit is projected to equal 13% of GDP




**In CBO's projections, federal debt held by the public surpasses its historical high of 106 percent of GDP in 2023 and continues to climb in most years thereafter. In 2050, debt as a percentage of GDP is nearly 2.5 times what it was at the end of last year.**

# The endgame? Inflation

## Dealing with Debt

- Growth – unlikely

- Productivity – yes, but modest

- Taxation – the ‘right’ solution, but politically difficult

- Inflation – unattractive, but necessary

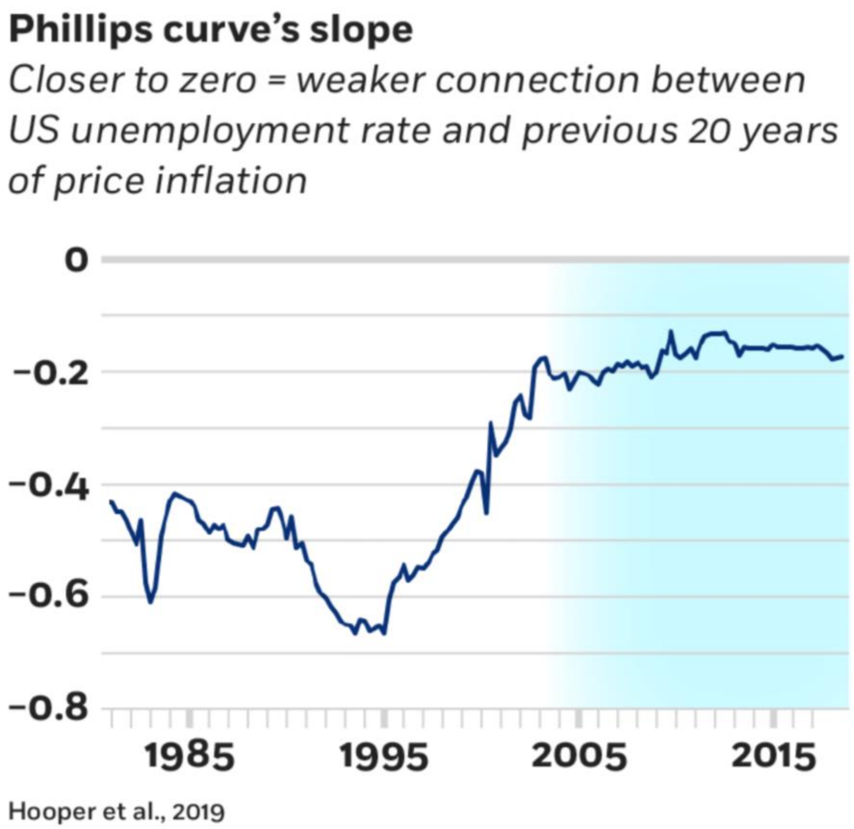
## Environmental focus

- Inflationary?

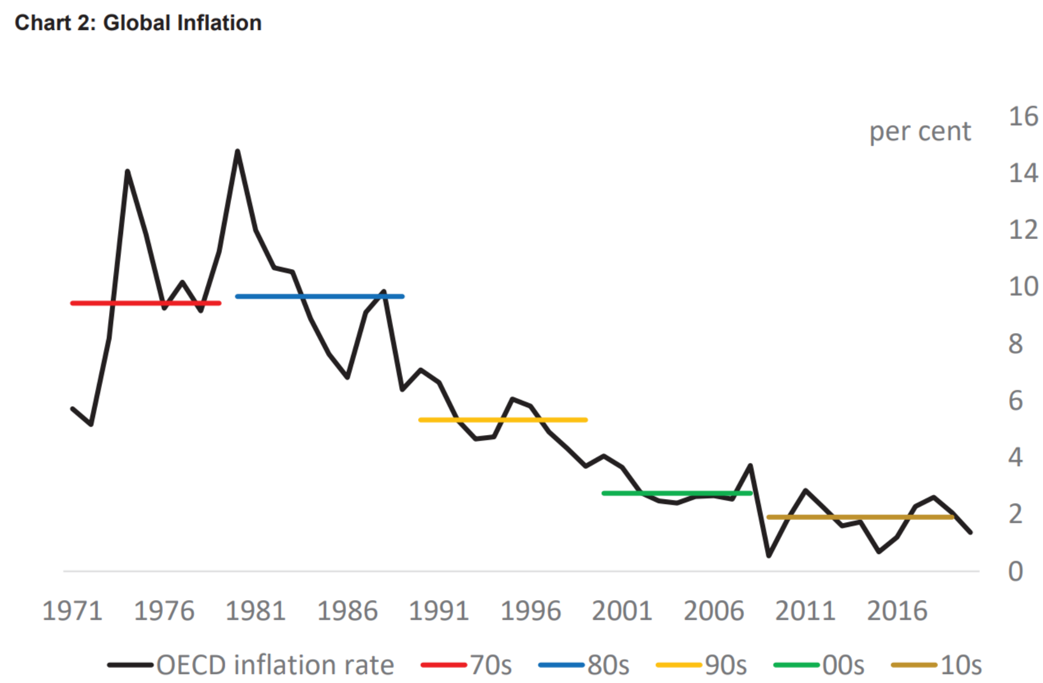
## Why didn’t it happen in Japan? How will the pandemic impact our thesis?

China put the Phillips curve in a coma.
The pandemic/demography will revive it

# China put the Phillips Curve in a Coma

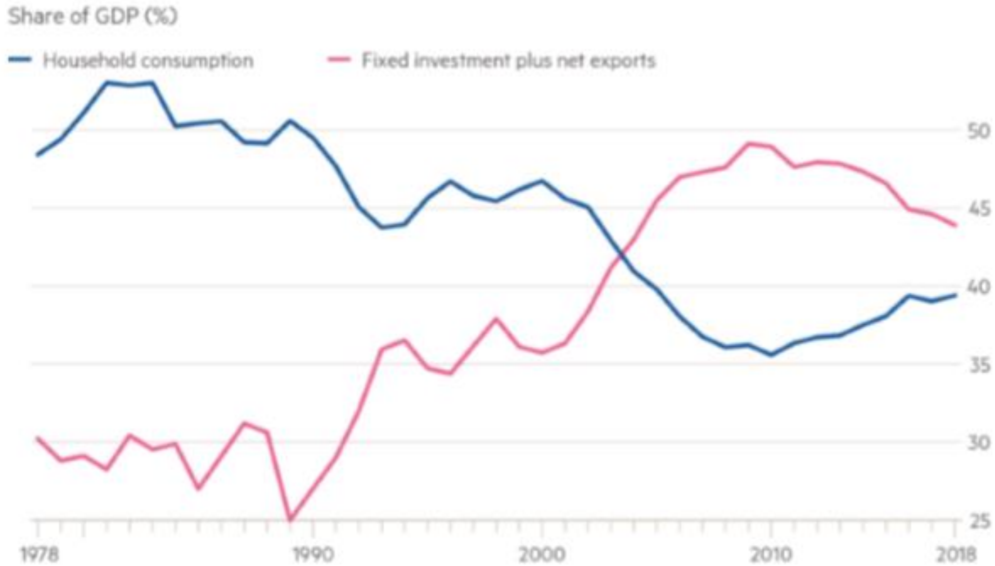


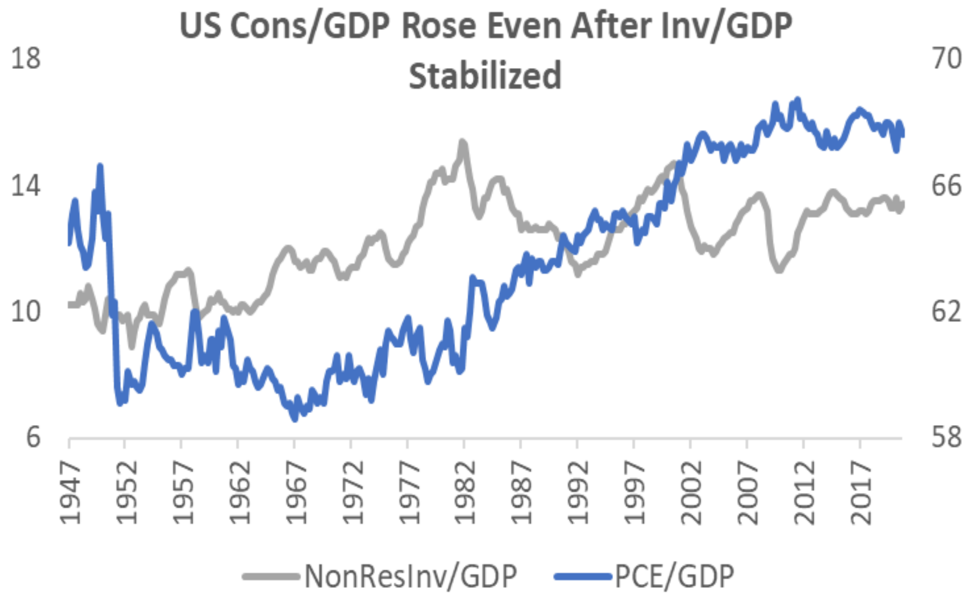

China Disinflated the World, and Raised Growth Too



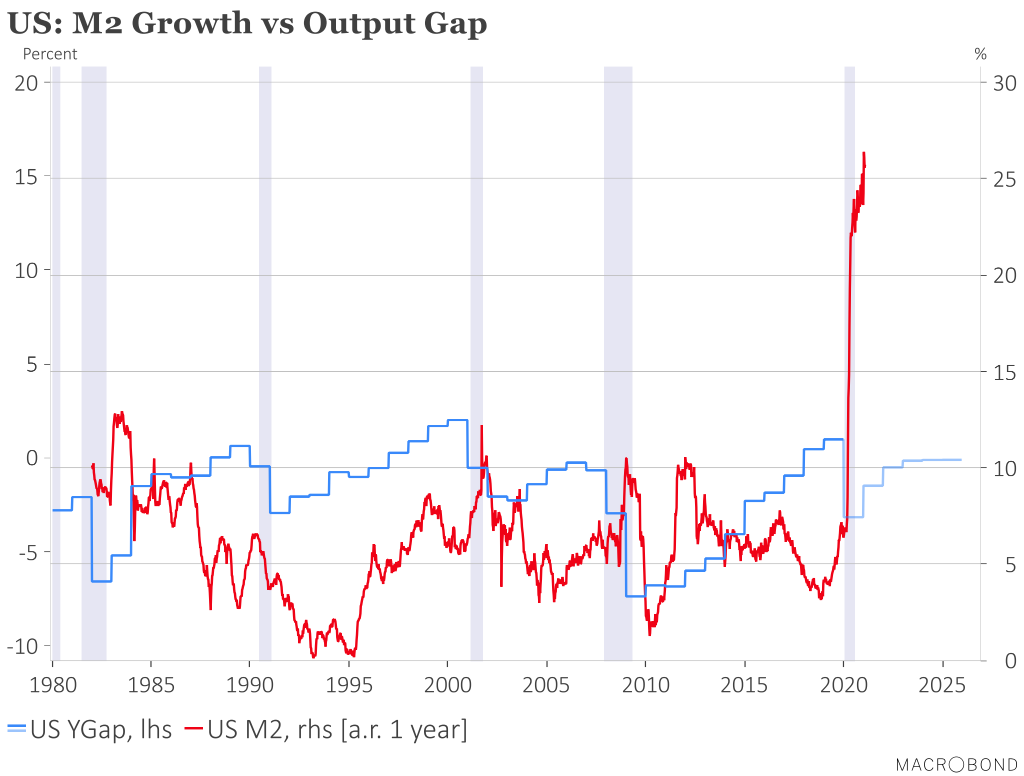
# China's Investment Drive Allowed the US to Consume

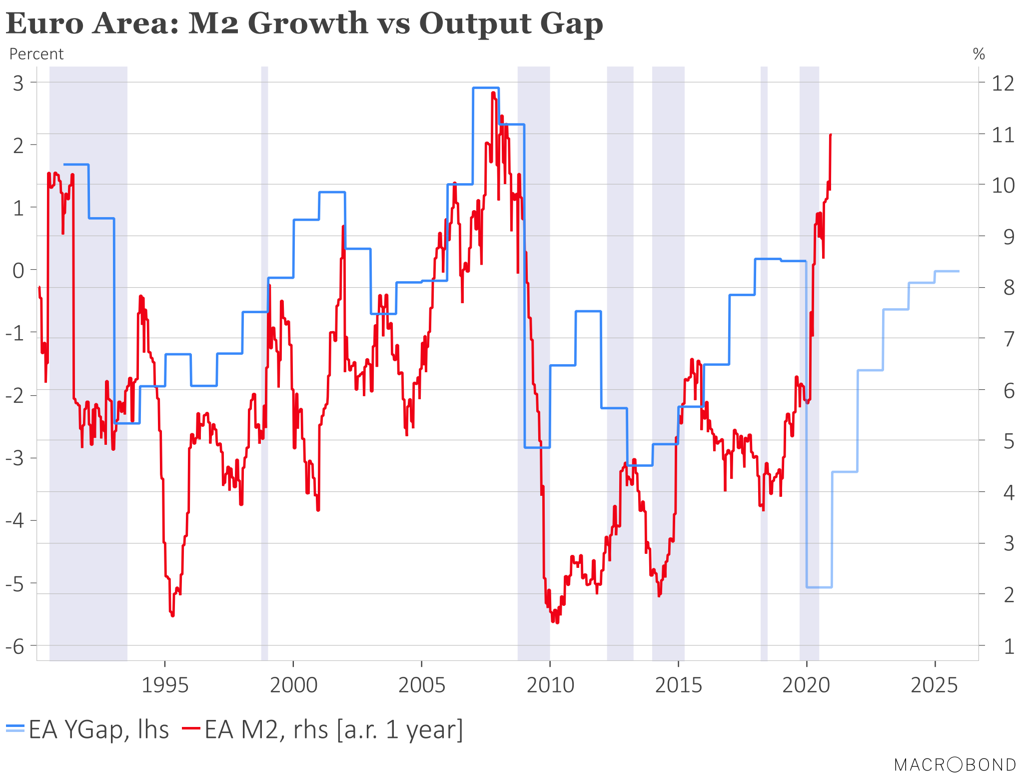
China's Imbalances Widened from 1989



# Friedman vs Phillips – A historic divide

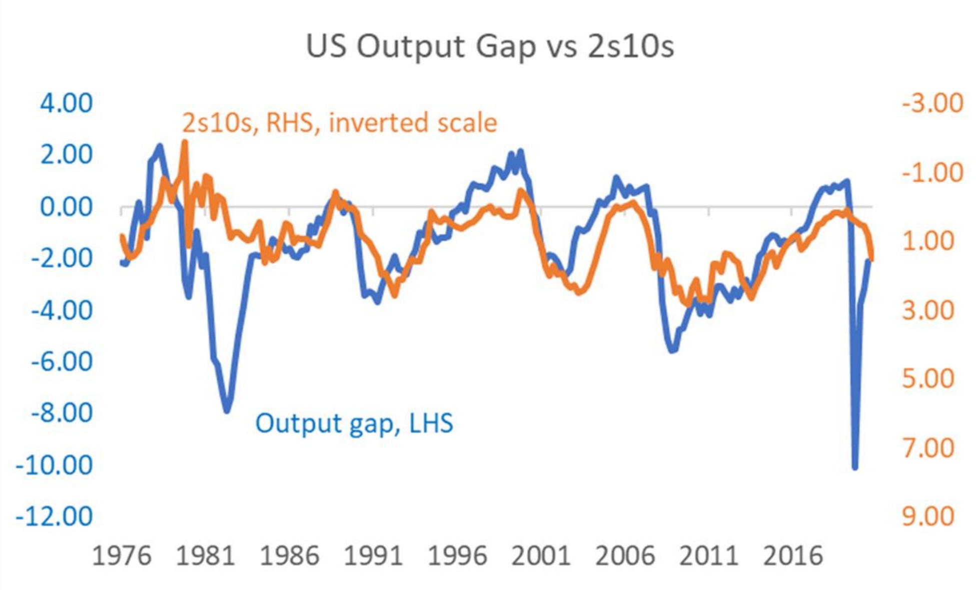


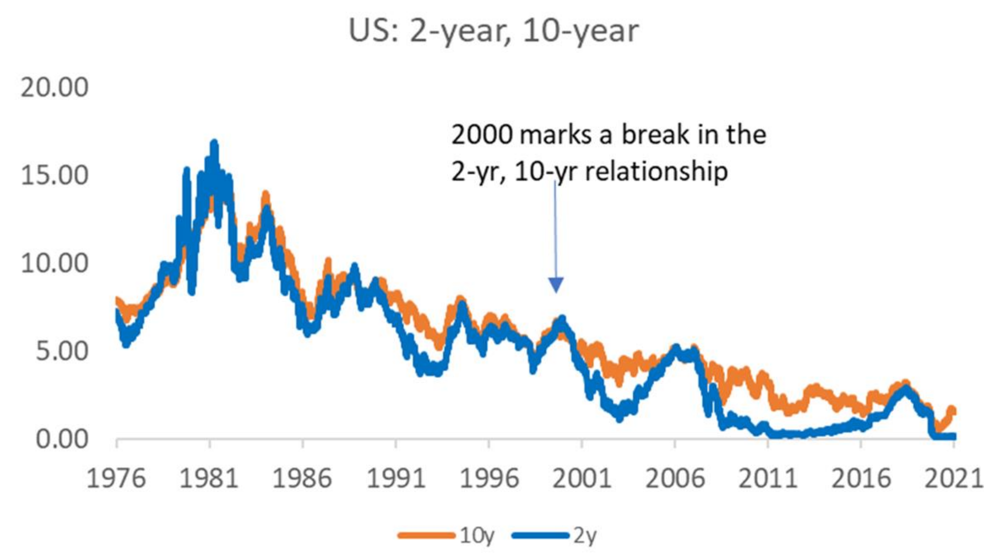



# $r^*$ in the Short vs Long Run

# Central Banks control short-term *r*, unless vigilantes intervene

The yield curve as a predictor of expansions



# Laubach-Williams: In Theory, Not in Practise

**There are two key ‘unobservable’ equations in the LW Model, one for equilibrium rates (*r**) and the other for potential growth (*y**)**

“Economic theory implies that trend growth (*g*) is one determinant of r*. Hence, we specify”

$$r_t^* = c\, g_t + z_t$$

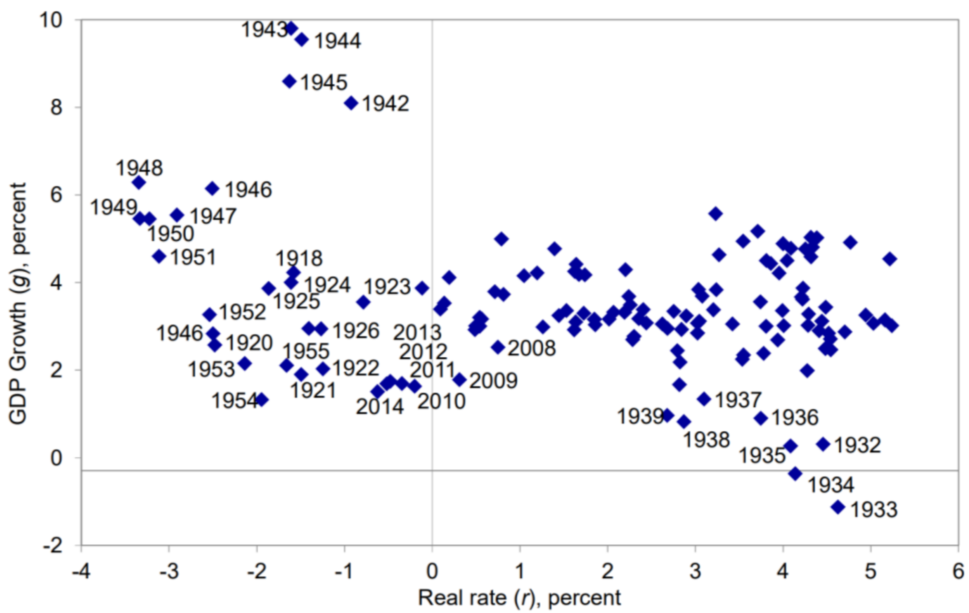
Potential output growth:

$$y_t^* = y_{t-1}^* + g_{t-1} + \epsilon_{4t}$$

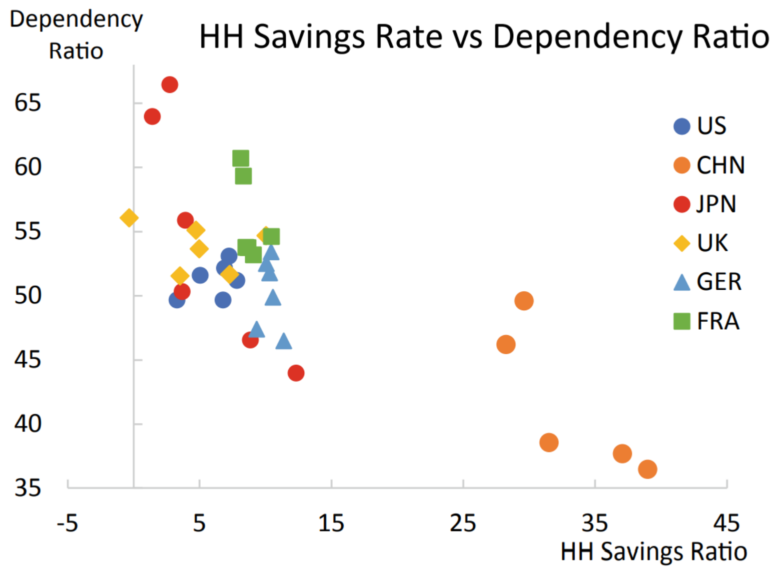
**Hamilton et al (2015)**

Real GDP growth and real interest rates do not show a correlation that can form the basis for the LW system of equations.

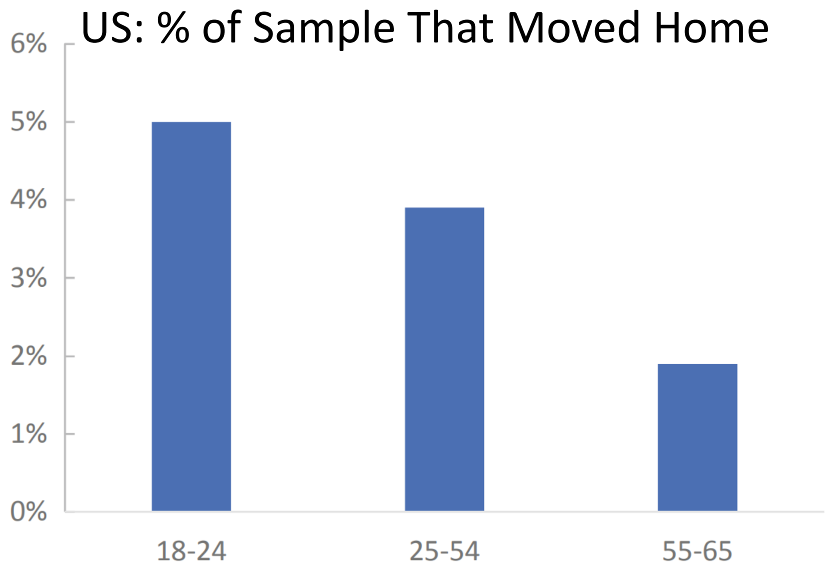
Exhibit 3.7. GDP growth versus *r*: 10-year backward moving averages, 1879-2014.

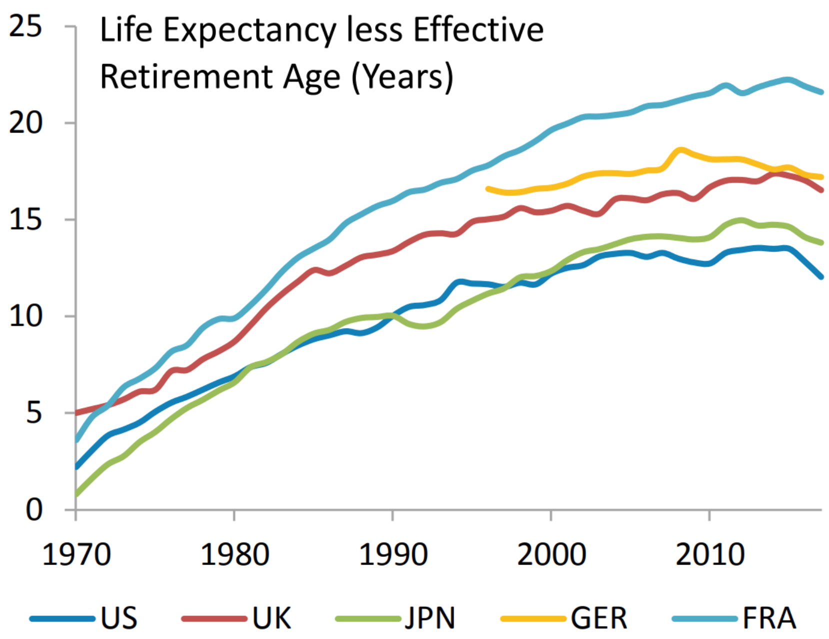


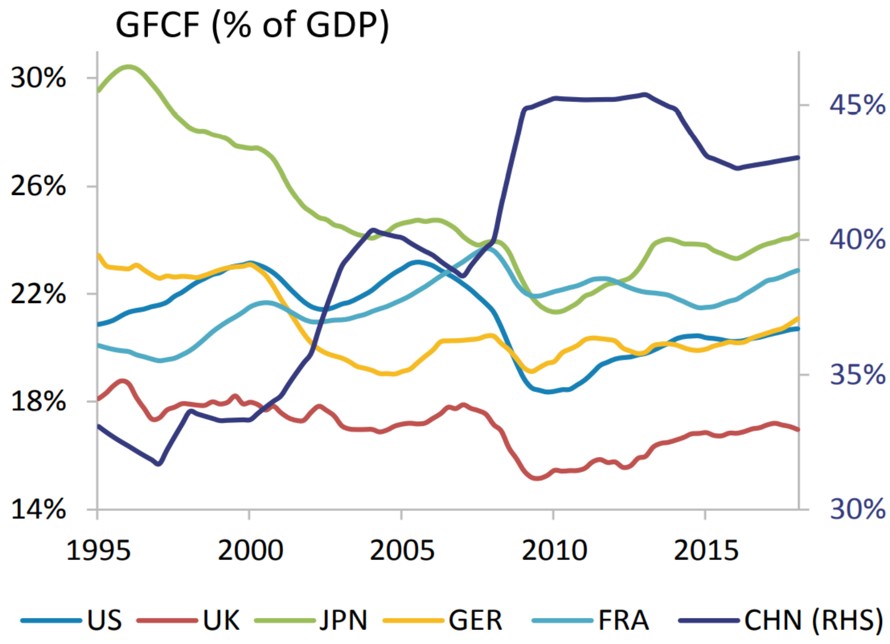
# Long-run *r**: Savings could fall by more than Investment




Markers correspond to 1995, 00, 05, 10, 15 and 2017 data points

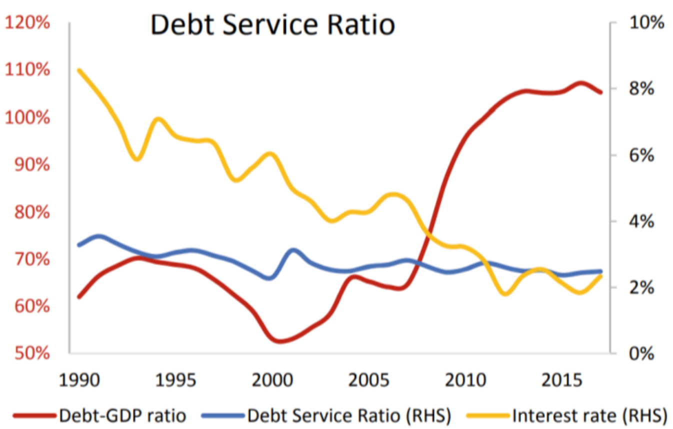


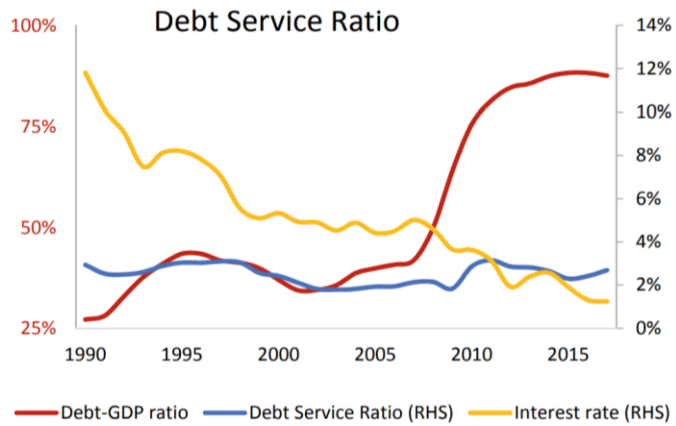



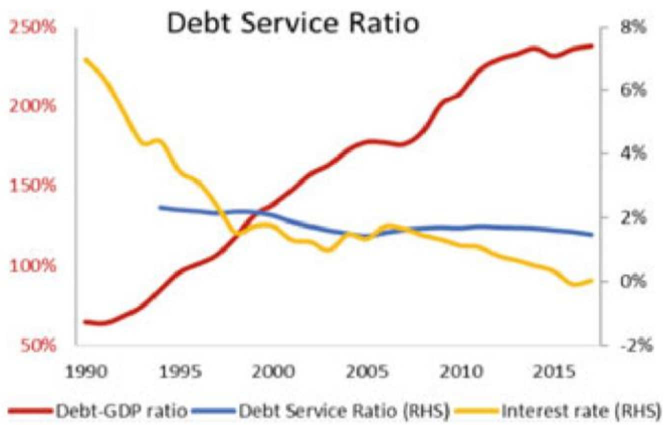



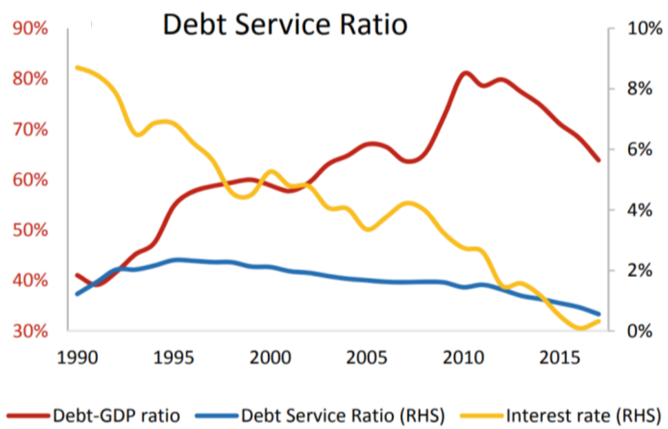
# Why Didn’t It Happen in Japan?

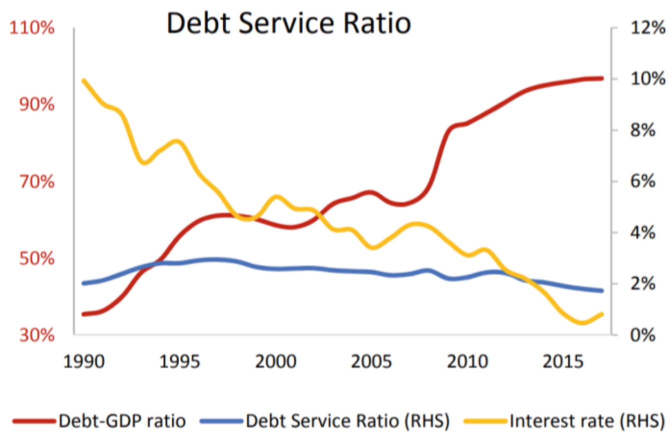
# Spot the Difference

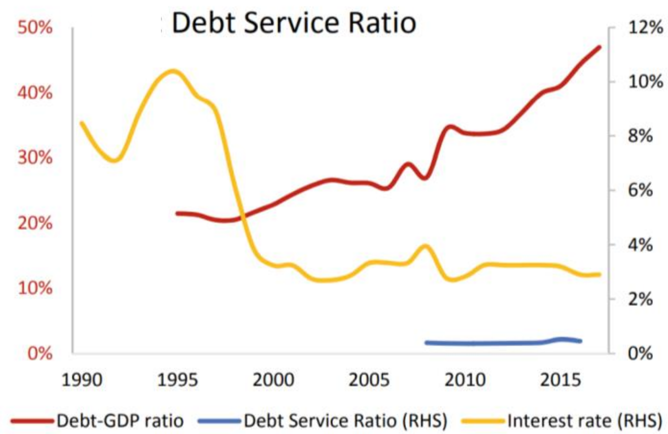


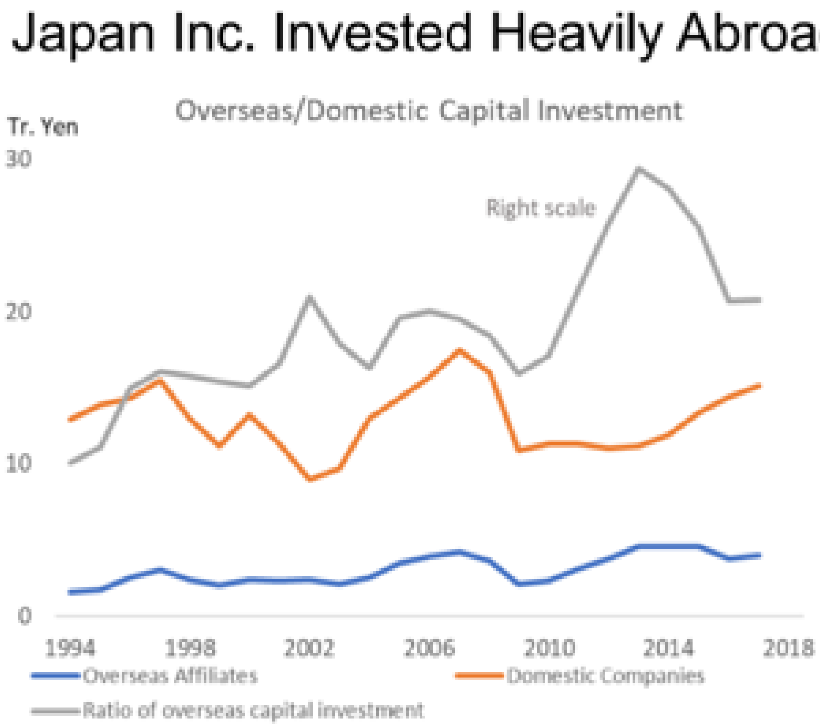



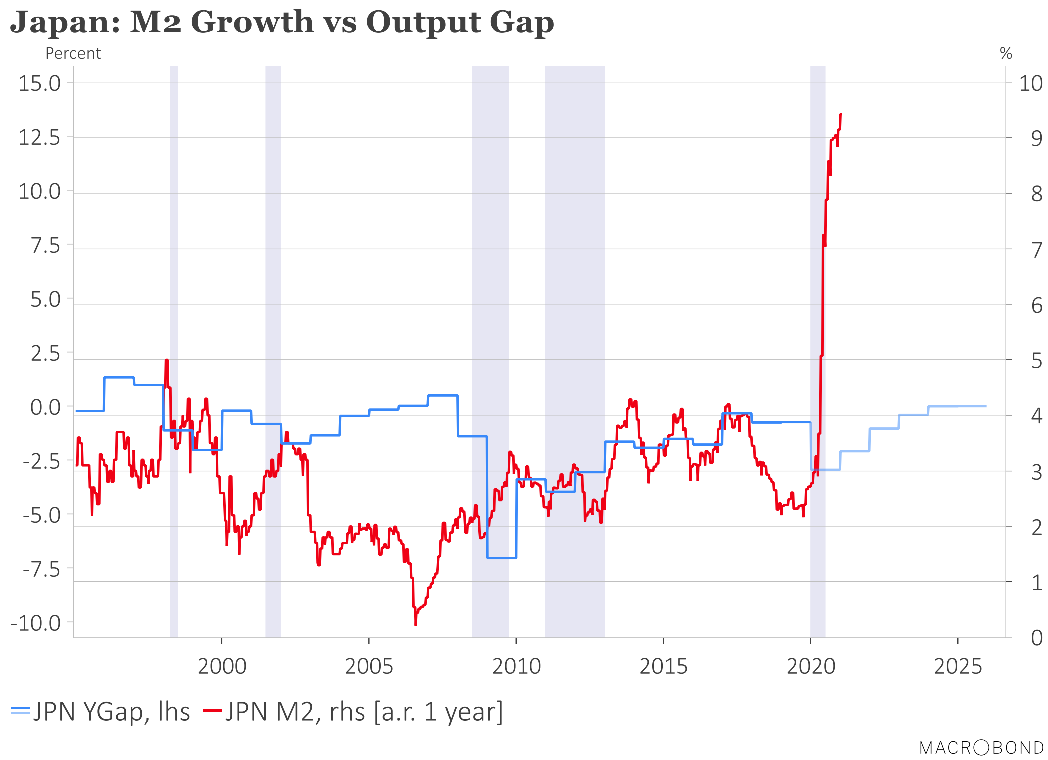



# “Why didn’t it happen in Japan” – A Revisionist History



# Conclusions

- Inflation is coming. Post GFC: QE injections into Wall Street. Today: Fiscal injections into the high street, financed by monetary policy.

- The yield curve will steepen: Breakevens higher than nominals everywhere, but the breakevens curve is inverted

- Asset returns will be harder to extract. The ESG implications of demography and inflation will be pervasive.

- Lower within-country inequality, but in the context of lower growth

- Central bank independence under increasing threat