

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

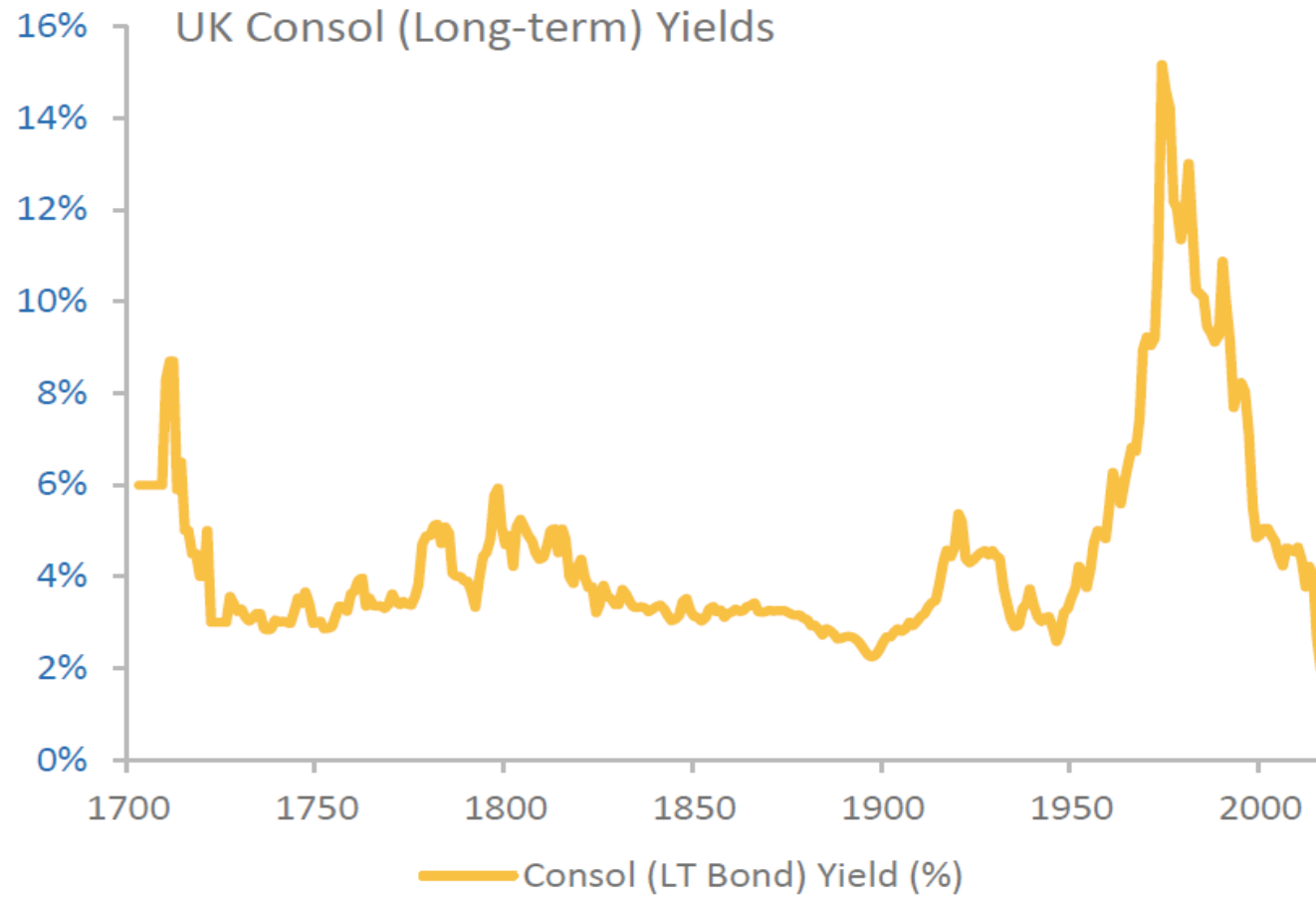
By  
C.A.E. Goodhart  
Financial Markets Group, London School of Economics  
and

Manoj Pradhan  
Talking Heads Macroeconomics

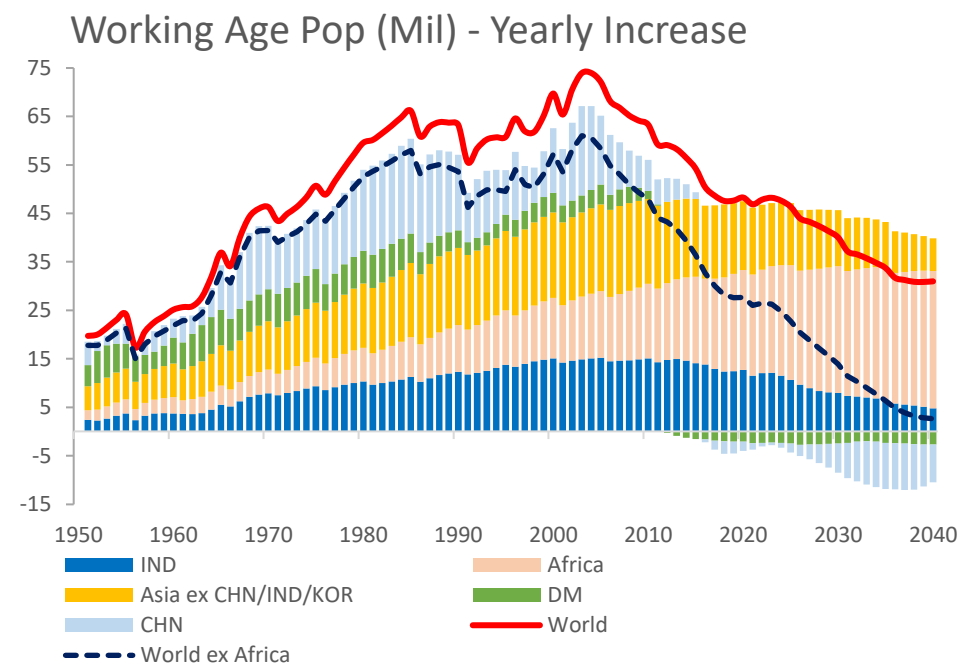
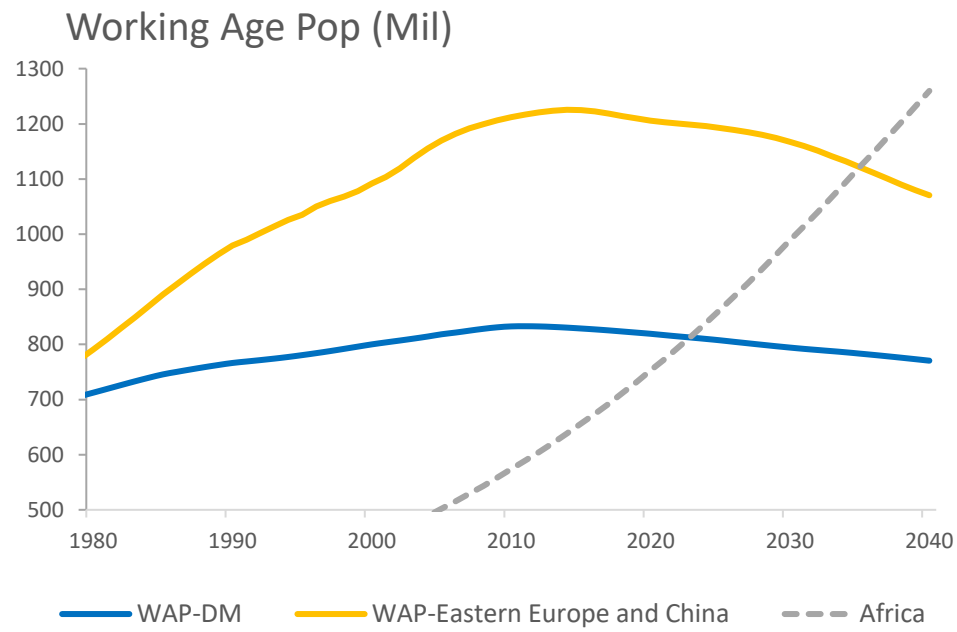
Demography (and some reversal of globalisation) will raise inflation

# Echoes of the 1950s

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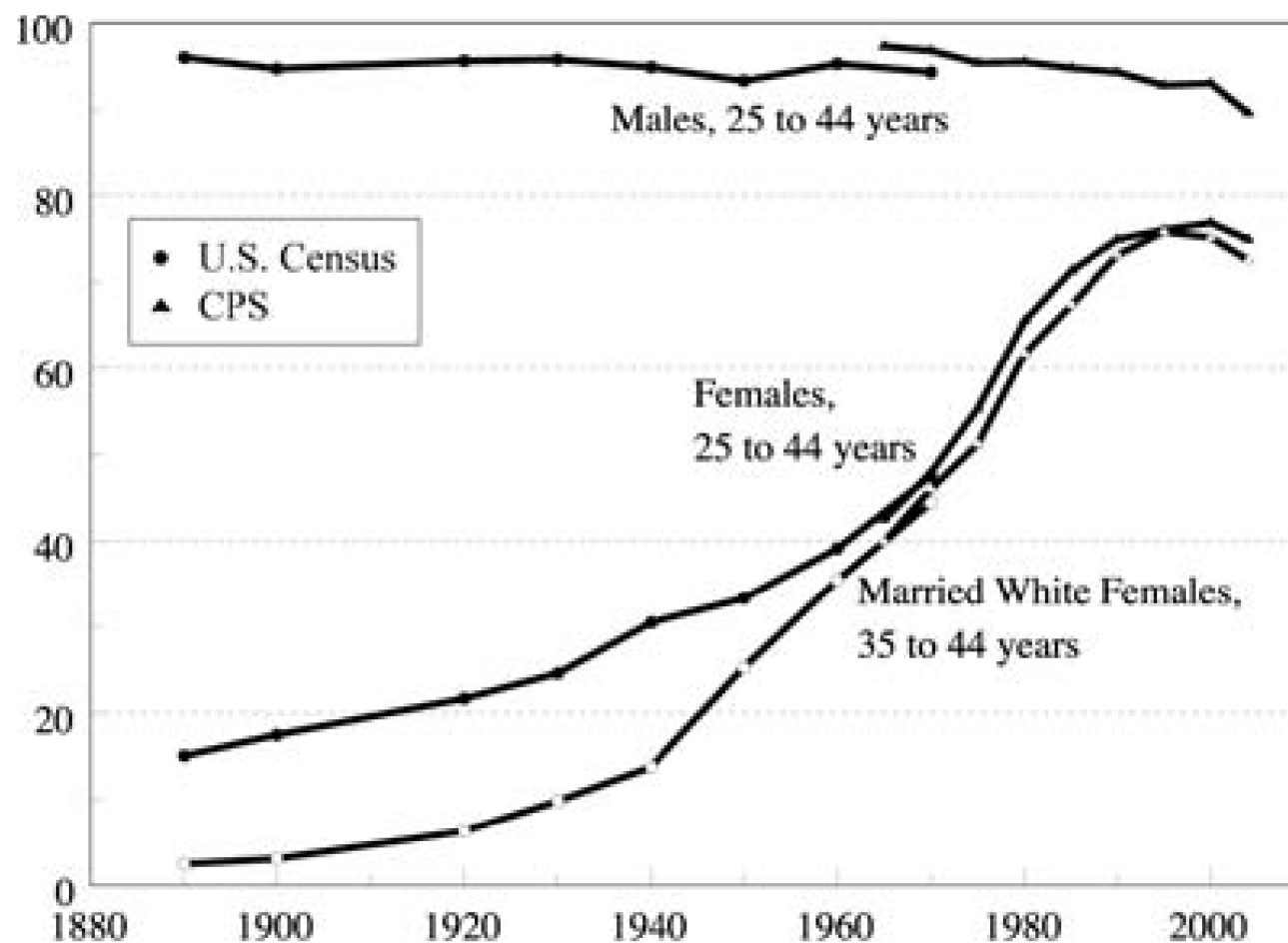


# Working age populations falling globally – Africa is the key exception, and India to a lesser extent



# 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)

# Inequality has Narrowed Across Economies

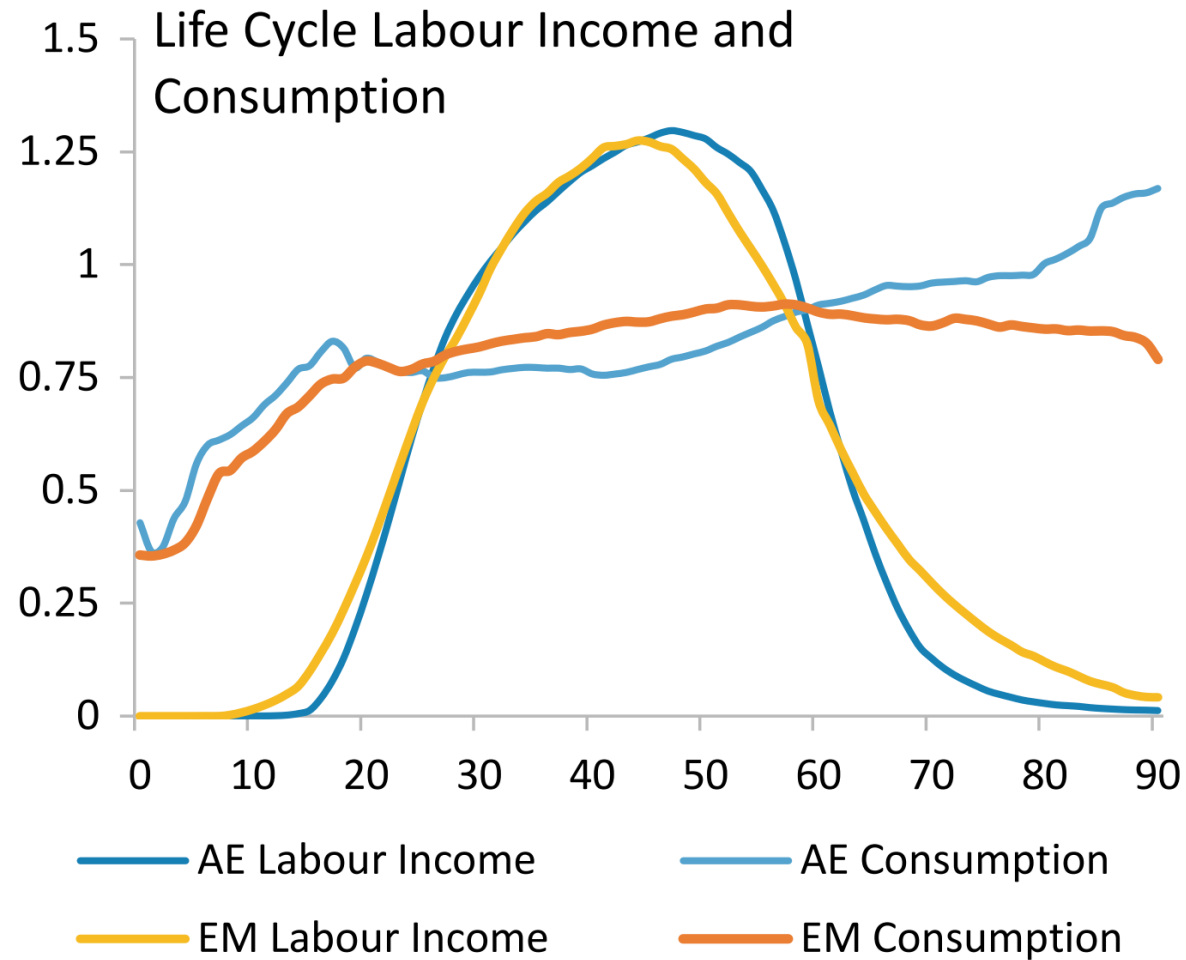
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Ratio of workers wages

	USA/China	France/Poland
2000	34.6	3.9
2001	30.6	3.3
2002	27.4	3.5
2003	25.0	4.0
2004	22.9	4.2
2005	20.4	3.8
2006	18.1	3.7
2007	15.2	3.5
2008	12.2	3.0
2009	10.8	3.7
2010	9.7	3.3
2011	8.4	3.3
2012	7.5	3.4
2013	6.7	3.4
2014	6.3	3.3
2015	6.0	3.4
2016	5.9	3.4
2017	5.6	3.2
2018	5.1	2.9

Source National Sources

# Consumption of the old *increases*

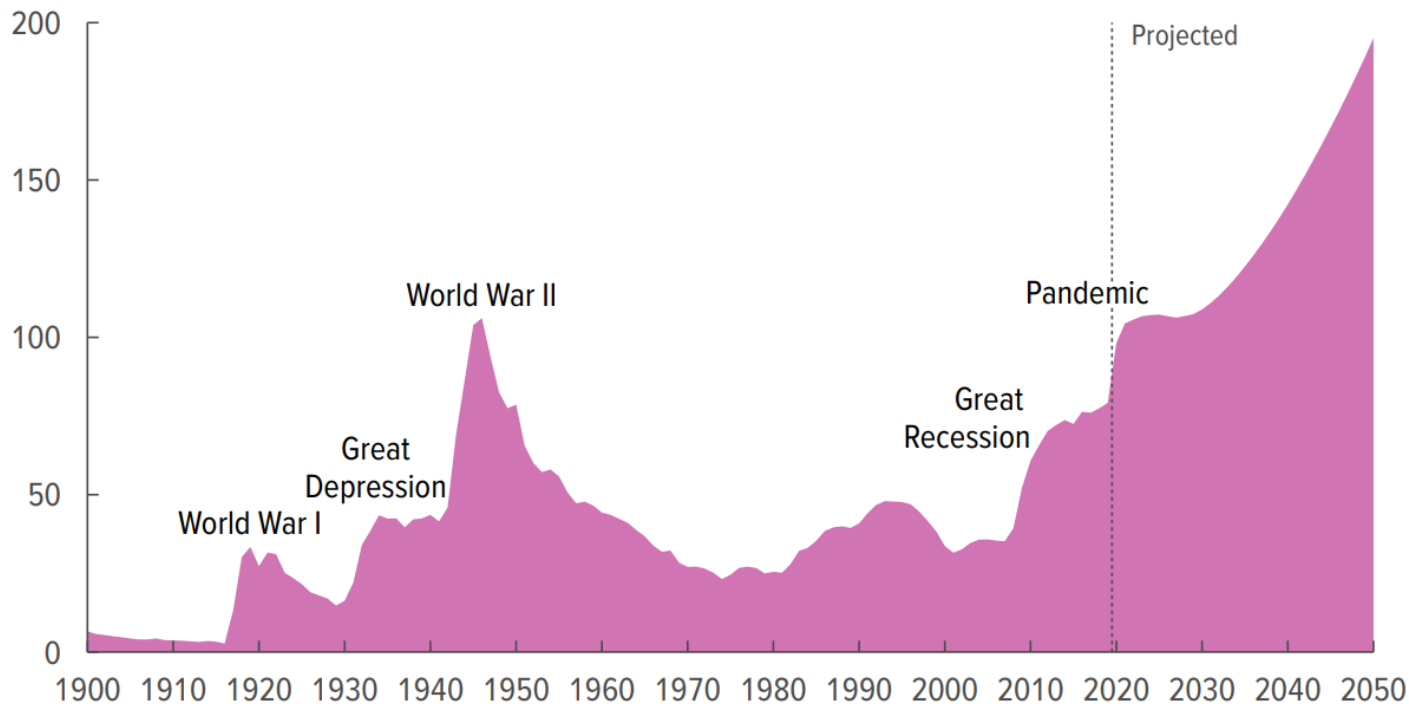


# Debt falls after wars, but that will not apply to ageing

## 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

Percentage of Gross Domestic Product



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

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## Dealing with Debt

- Growth – unlikely
- Productivity – yes, but modest
- Taxation – the ‘right’ solution, but politically difficult
- Inflation – unattractive, but necessary

## Environmental focus

- Inflationary?

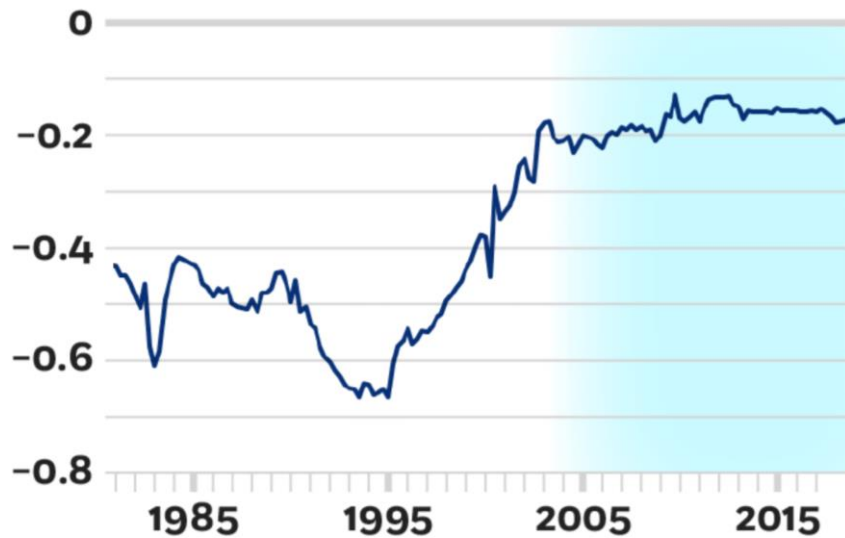
**Why didn't it happen in Japan? How will the pandemic impact our thesis?**

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

# China put the Phillips Curve in a Coma

## Phillips curve's slope

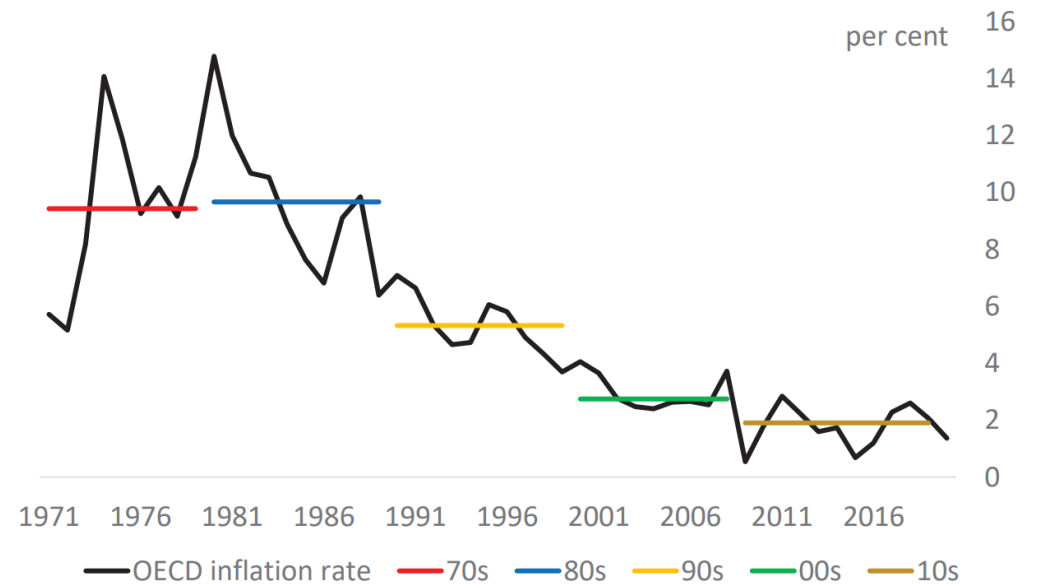
*Closer to zero = weaker connection between US unemployment rate and previous 20 years of price inflation*



Hooper et al., 2019

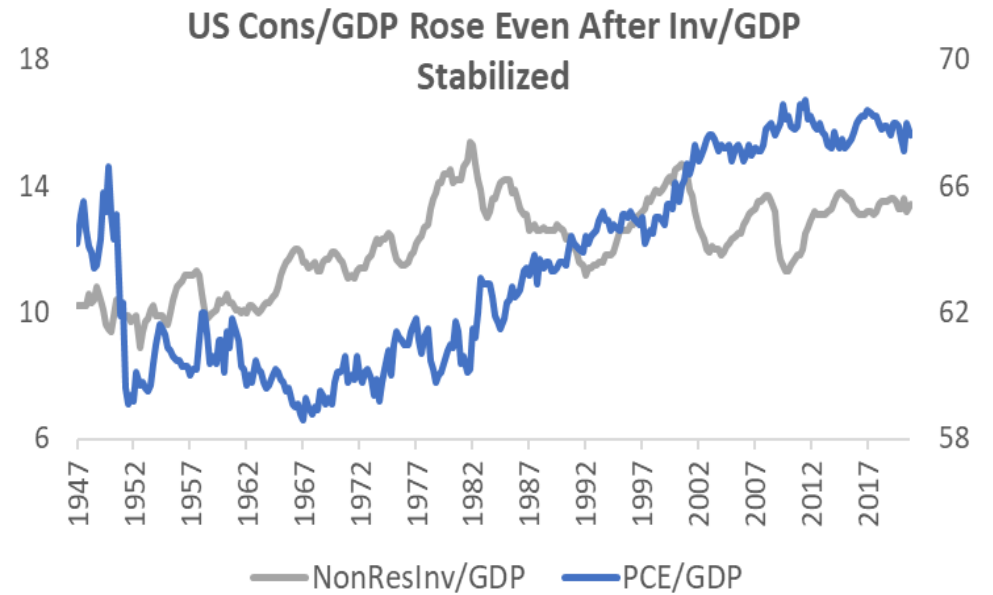
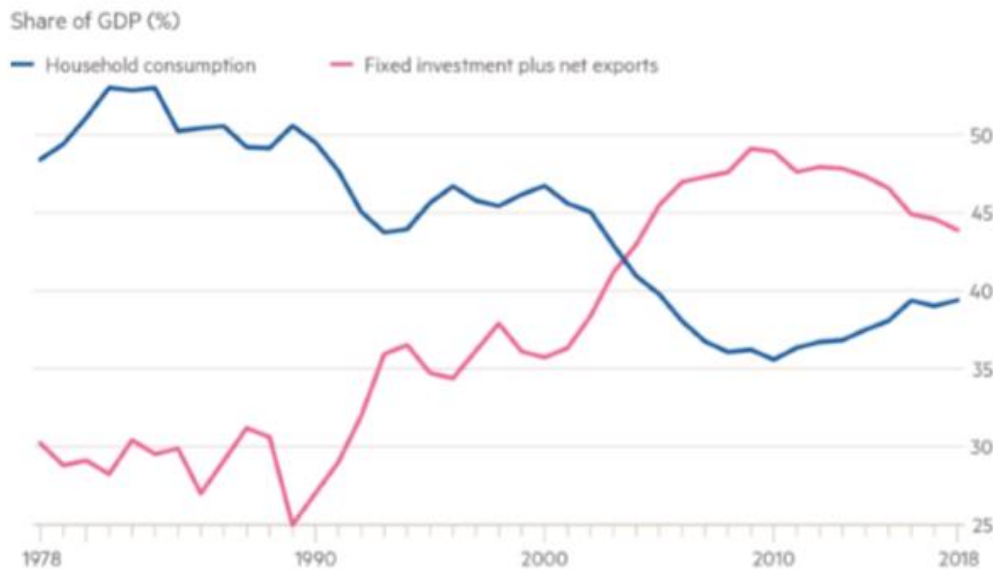
## China Disinflated the World, and Raised Growth Too

Chart 2: Global Inflation



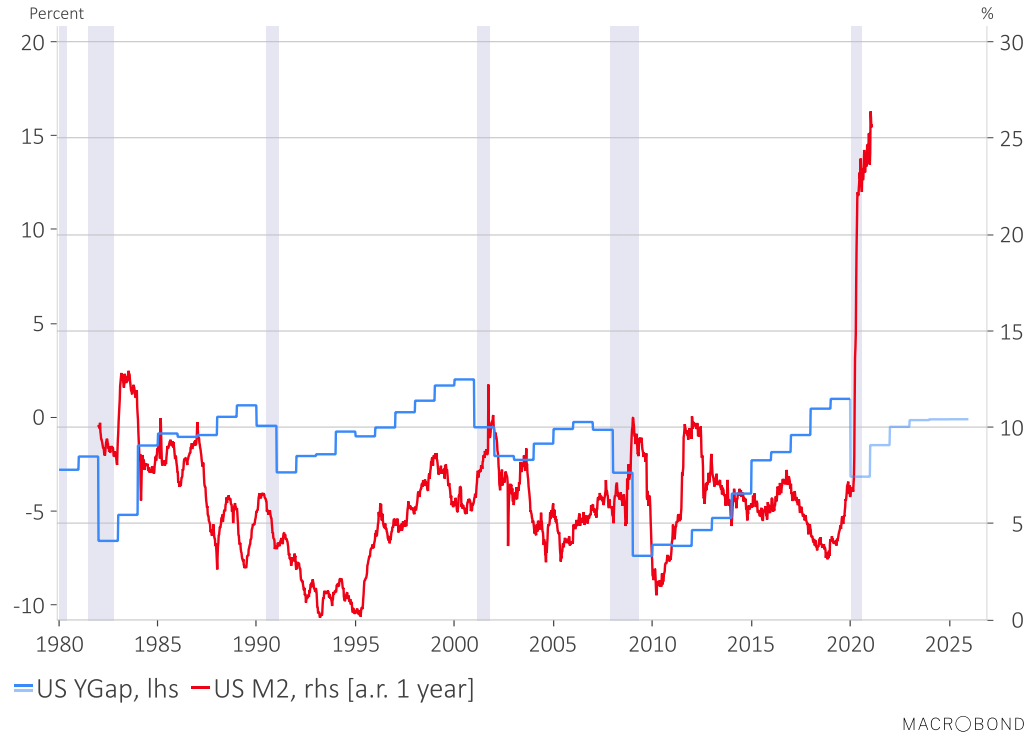
# China's Investment Drive Allowed the US to Consume

## China's Imbalances Widened from 1989

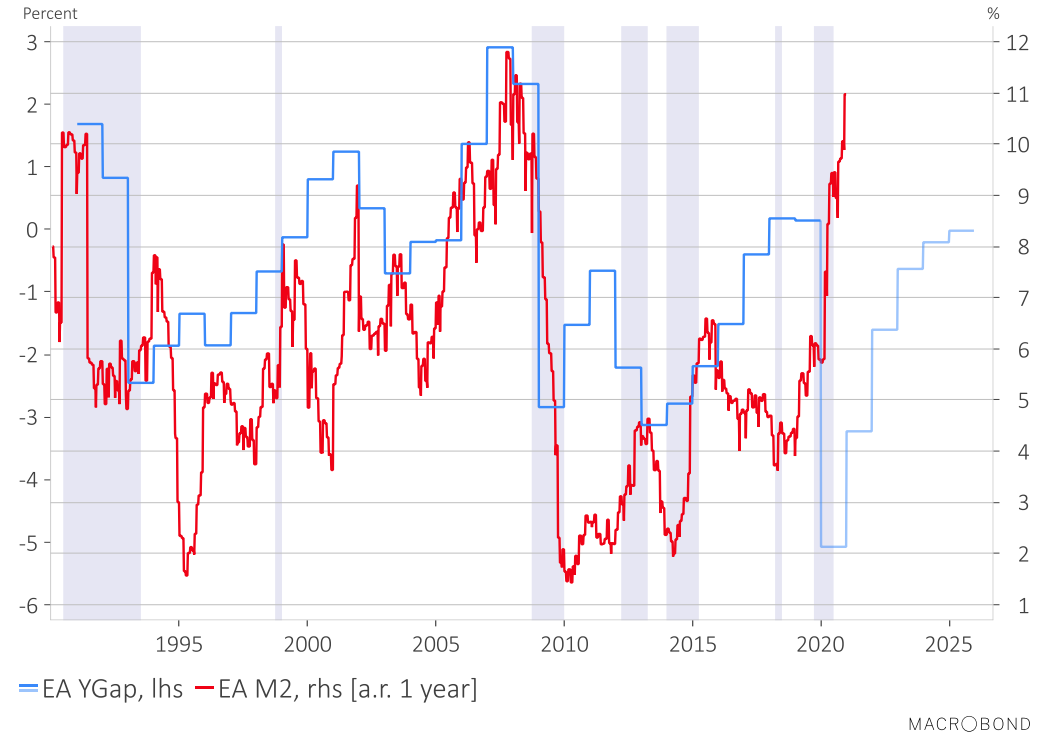


# Friedman vs Phillips – A historic divide

US: M2 Growth vs Output Gap



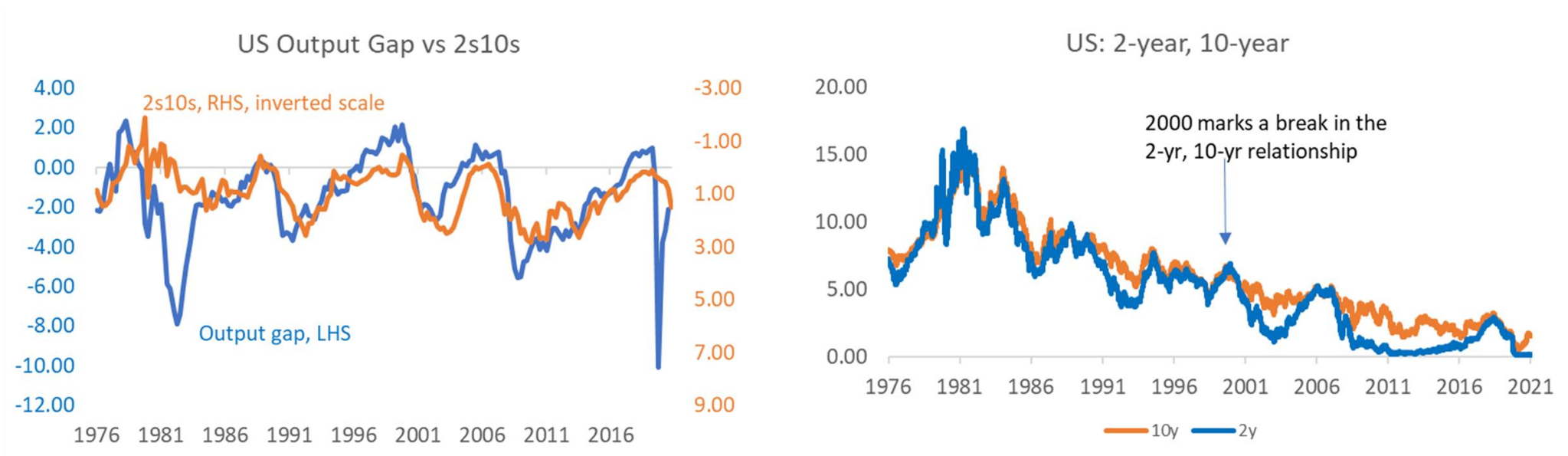
Euro Area: M2 Growth vs Output Gap



$r^*$  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”

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

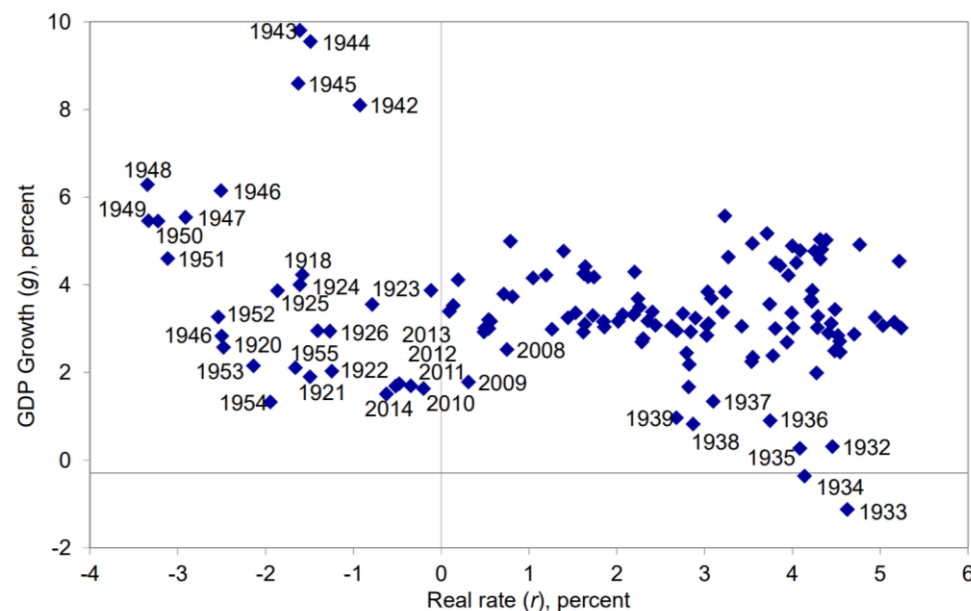
Potential output growth:

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

Hamilton et al (2015)

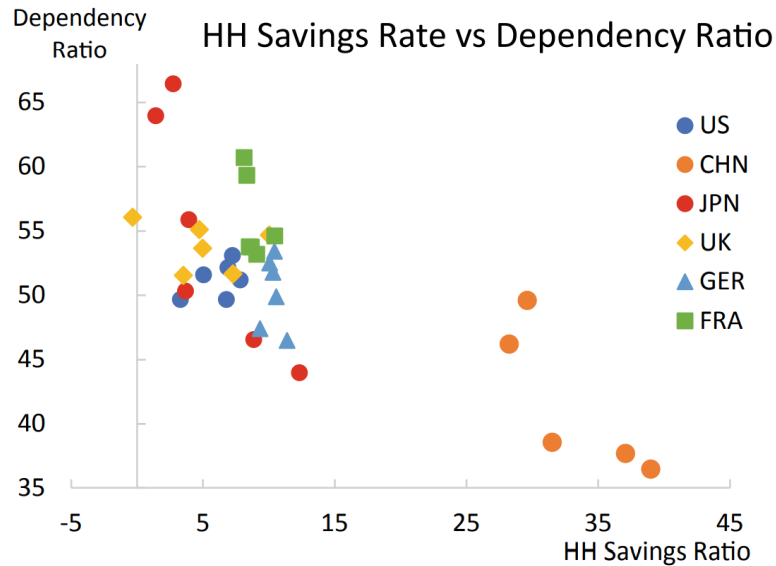
Real GDP growth and real interest rates do not show a correlation that can form the basis for the LW system of equations.

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



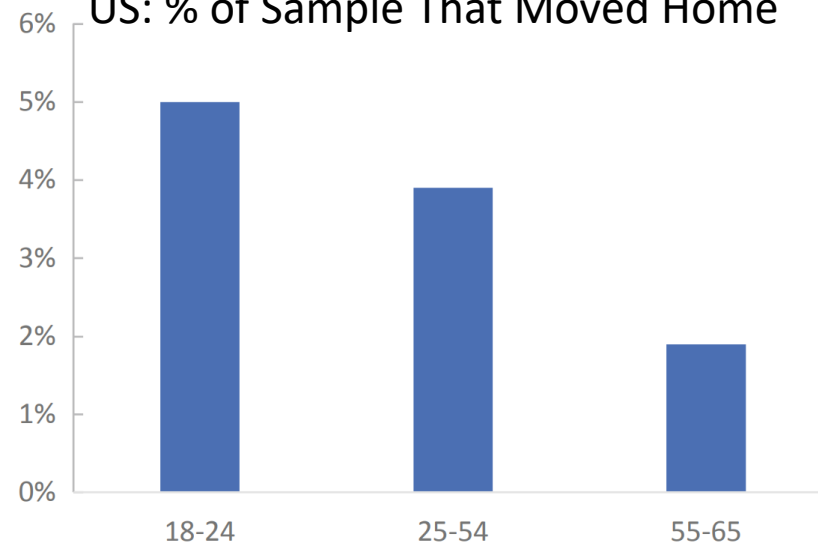


# Long-run $r^*$ : Savings could fall by more than Investment

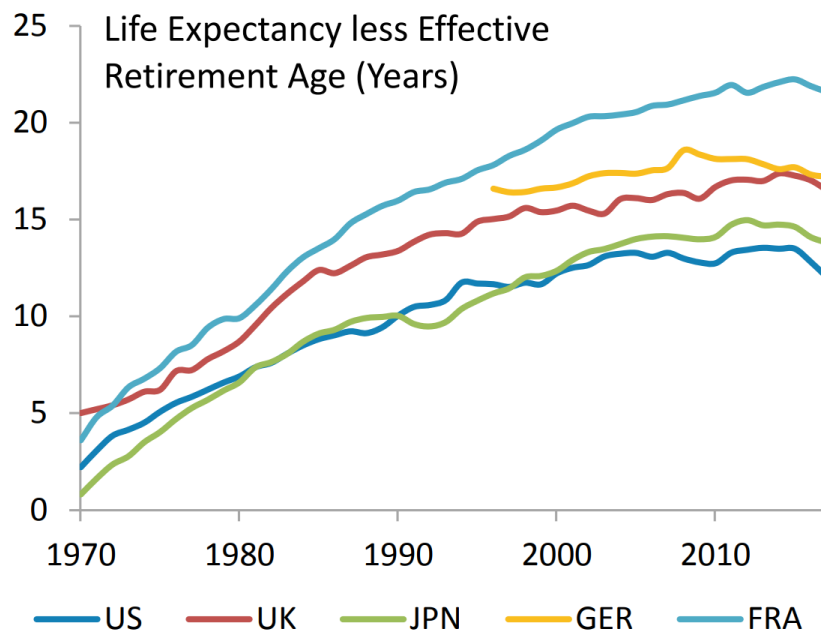


Markers correspond to 1995, 00, 05, 10, 15 and 2017 data points

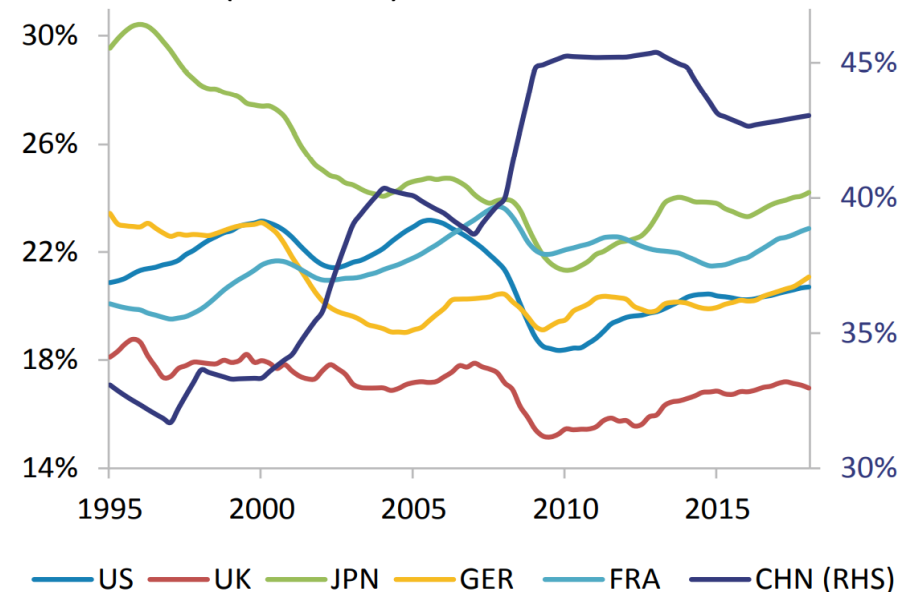
US: % of Sample That Moved Home



Life Expectancy less Effective Retirement Age (Years)

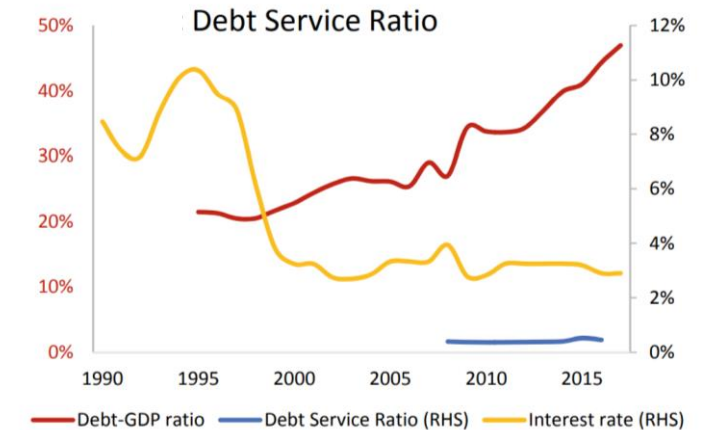
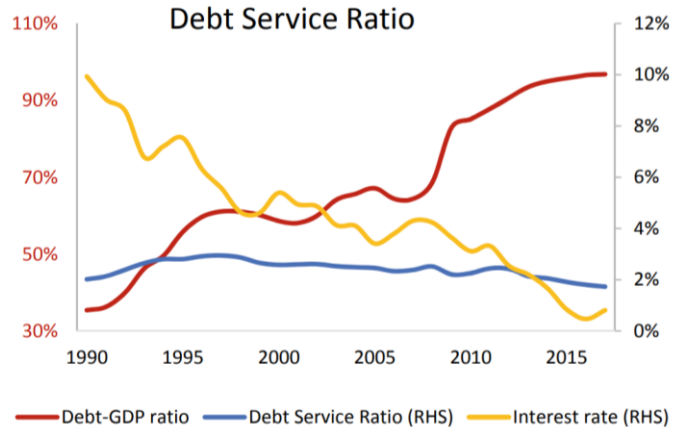
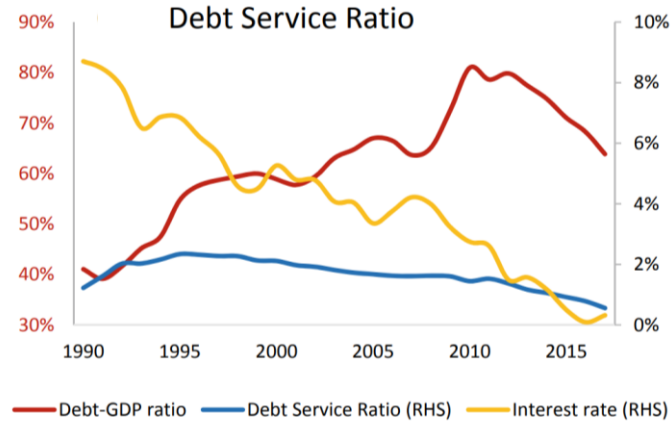
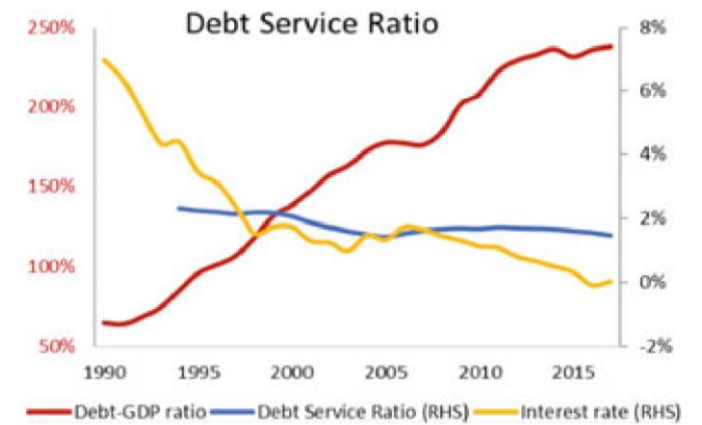
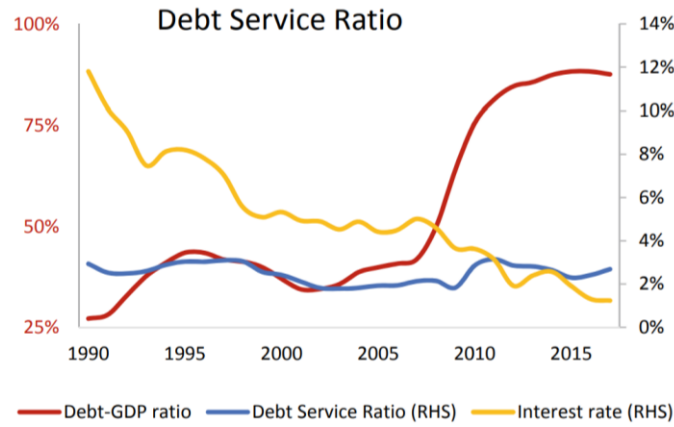
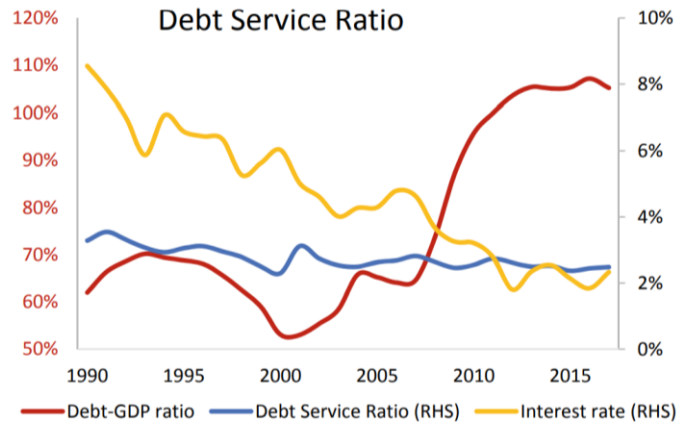


GFCF (% of GDP)



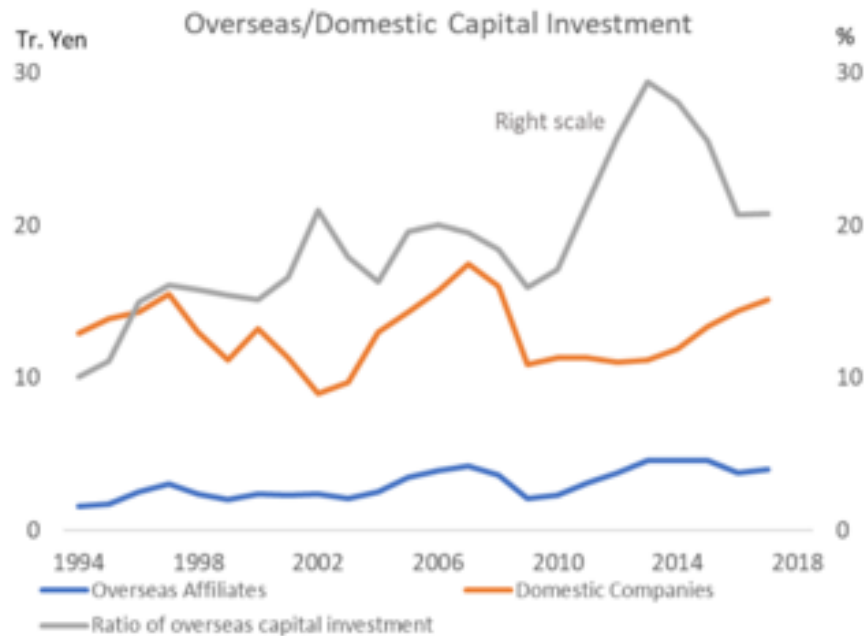
Why Didn't It Happen in Japan?

# Spot the Difference

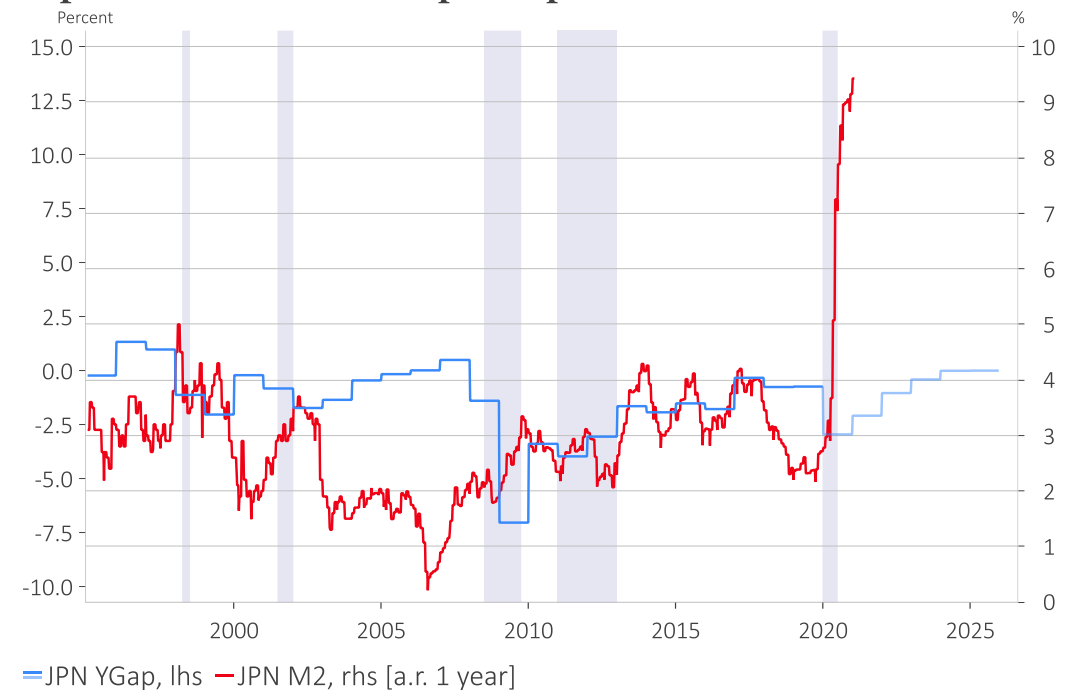


# “Why didn’t it happen in Japan” – A Revisionist History

## Japan Inc. Invested Heavily Abroad



## Japan: M2 Growth vs Output Gap



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# Conclusions

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- 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