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Global Macro Trends: Today & Tomorrow

James Carrick / Chris Jeffery

Global Economist / Asset Allocation Strategist

Legal and General Investment Management



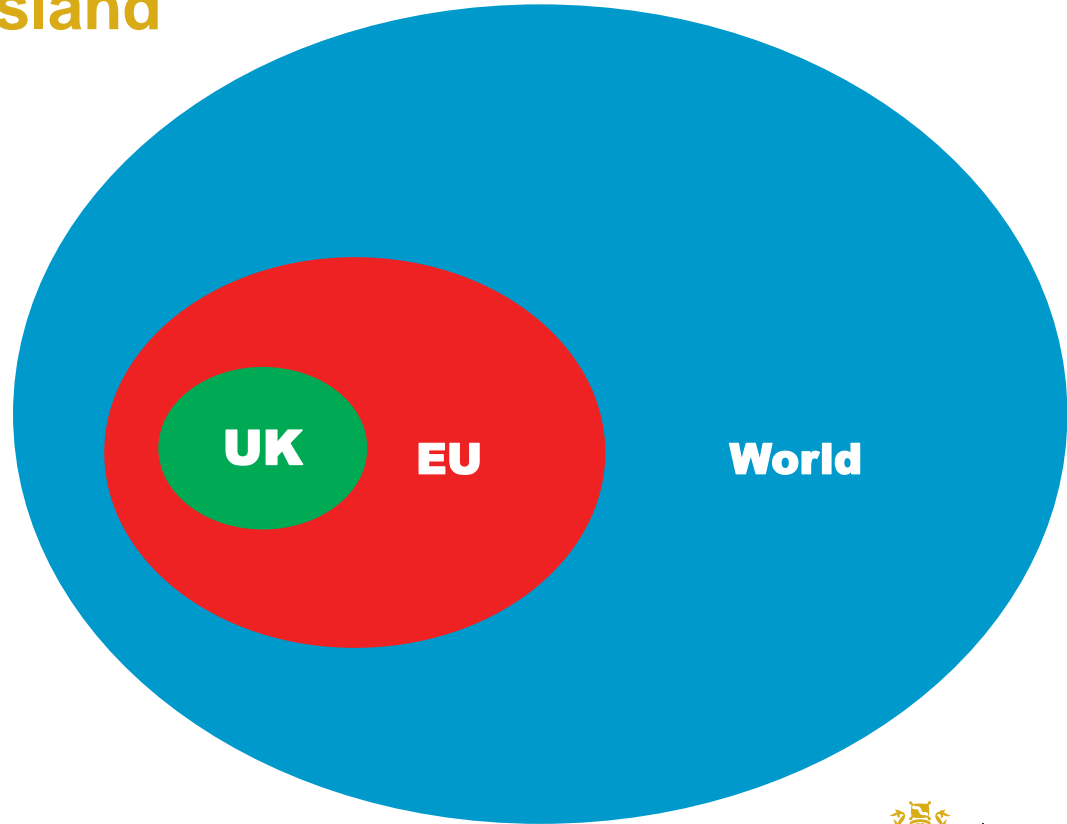
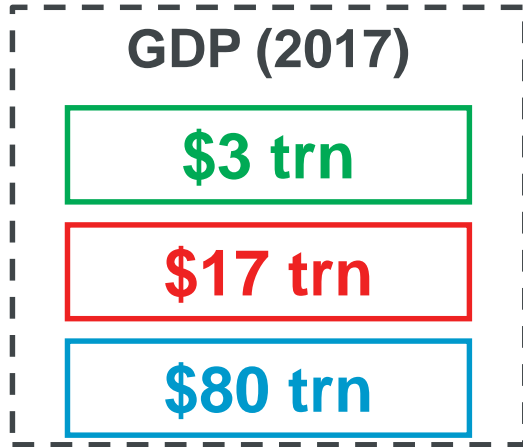
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Global Macro Trends: Today & Tomorrow

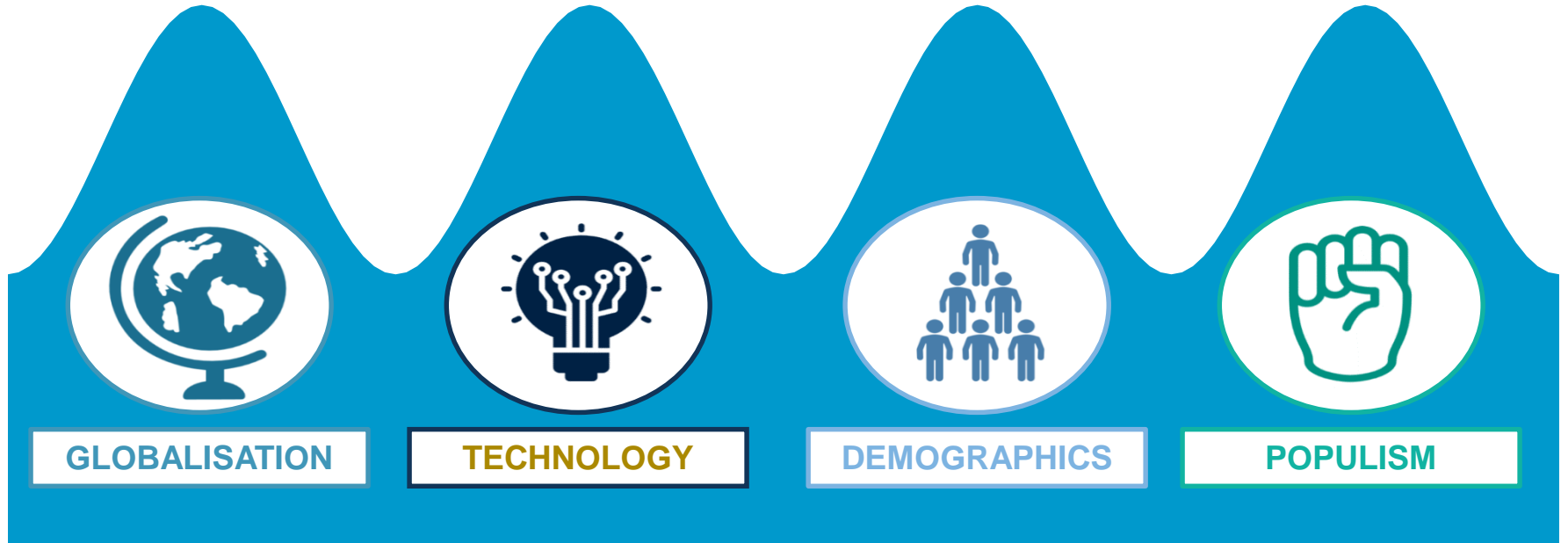
Globalisation, Technology, Demographics, Populism

30 October 2018

Notes from a Small Island



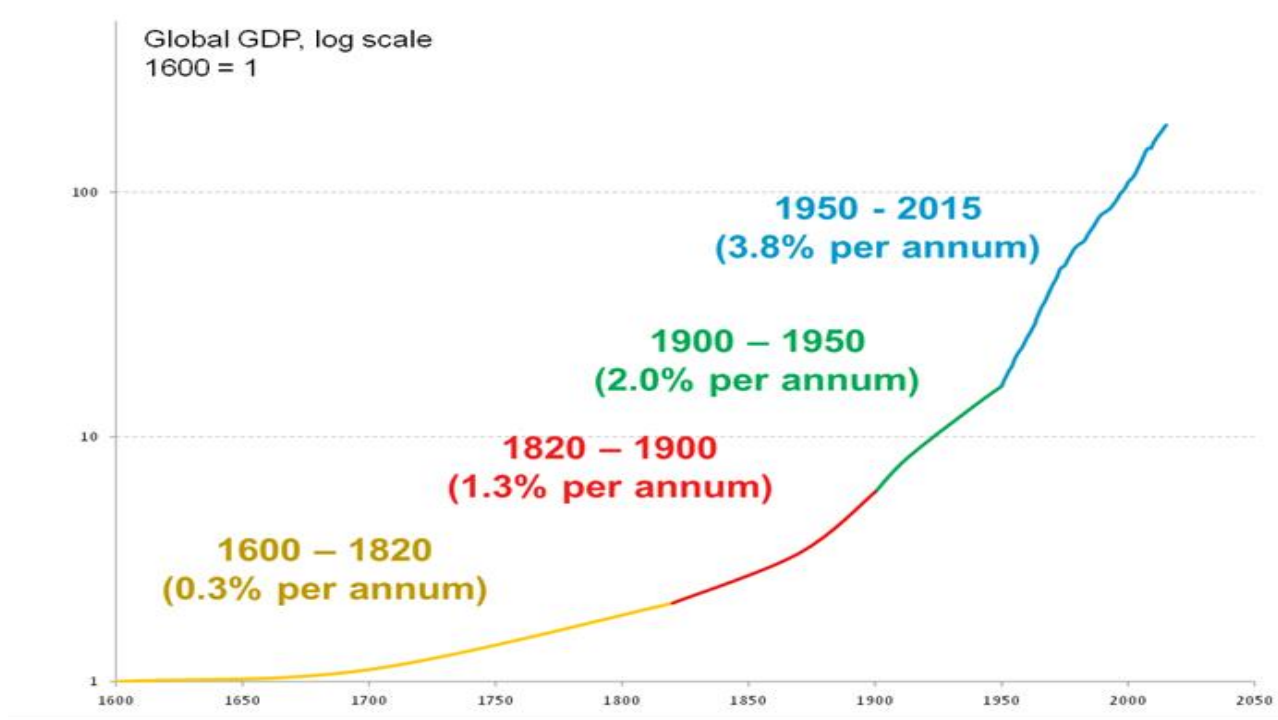
The impact of four waves



Global growth... we've never had it so good?



GLOBALISATION



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Driven by specialisation and trade

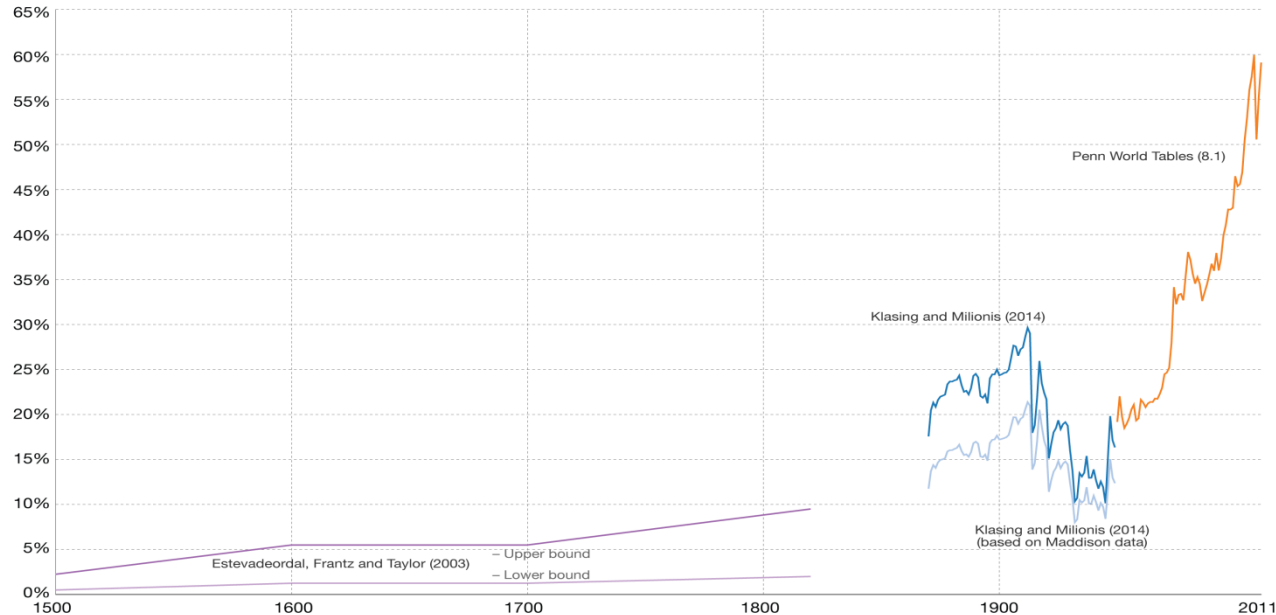


GLOBALISATION

Our World
in Data

Globalization over 5 centuries (1500-2011)

Shown is the sum of world exports and imports as a share of world GDP (%)
The individual series are labeled with the source of the data



Data sources: Klasing and Milionis (2014), Estevadeordal, Frantz and Taylor (2003) and the Penn World Tables Version 8.1
The interactive data visualization is available at [OurWorldInData.org](https://ourworldindata.org). There you find the raw data and more visualizations on this topic.

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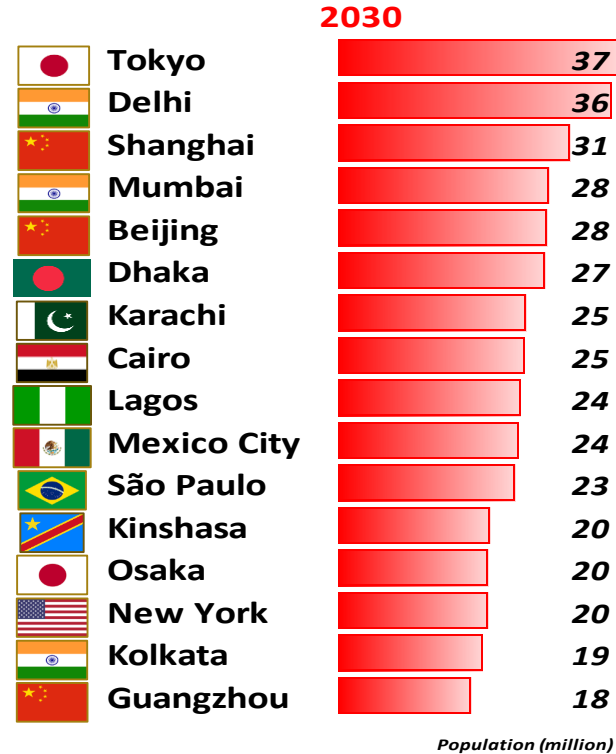
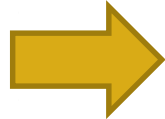
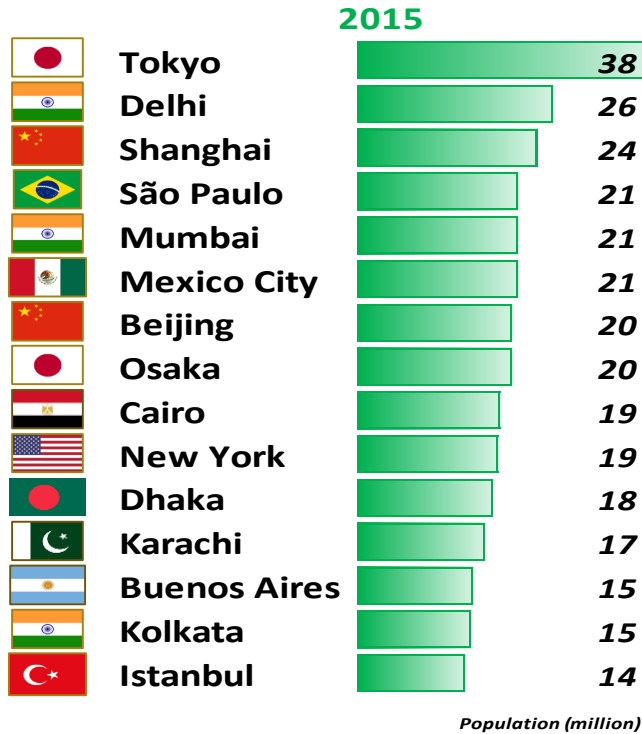


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Globalisation and urbanisation



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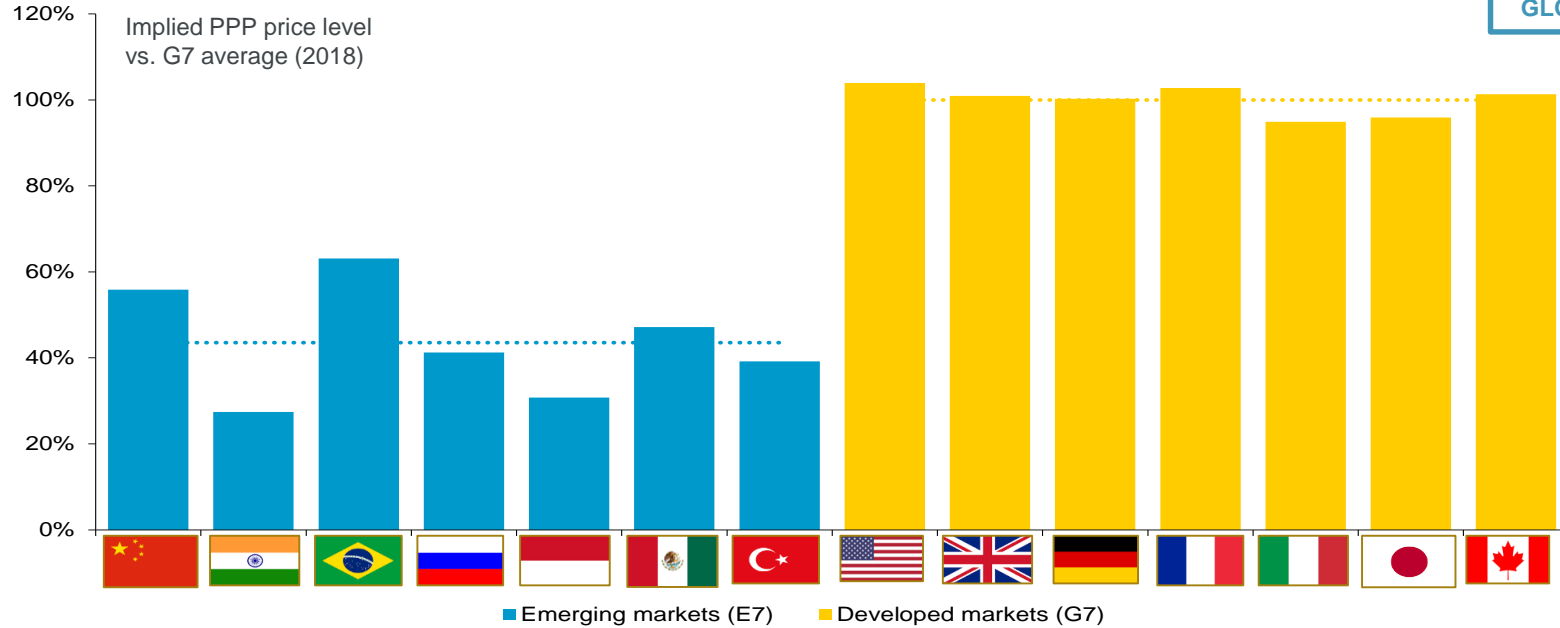


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The cost advantage in emerging markets is hard to ignore



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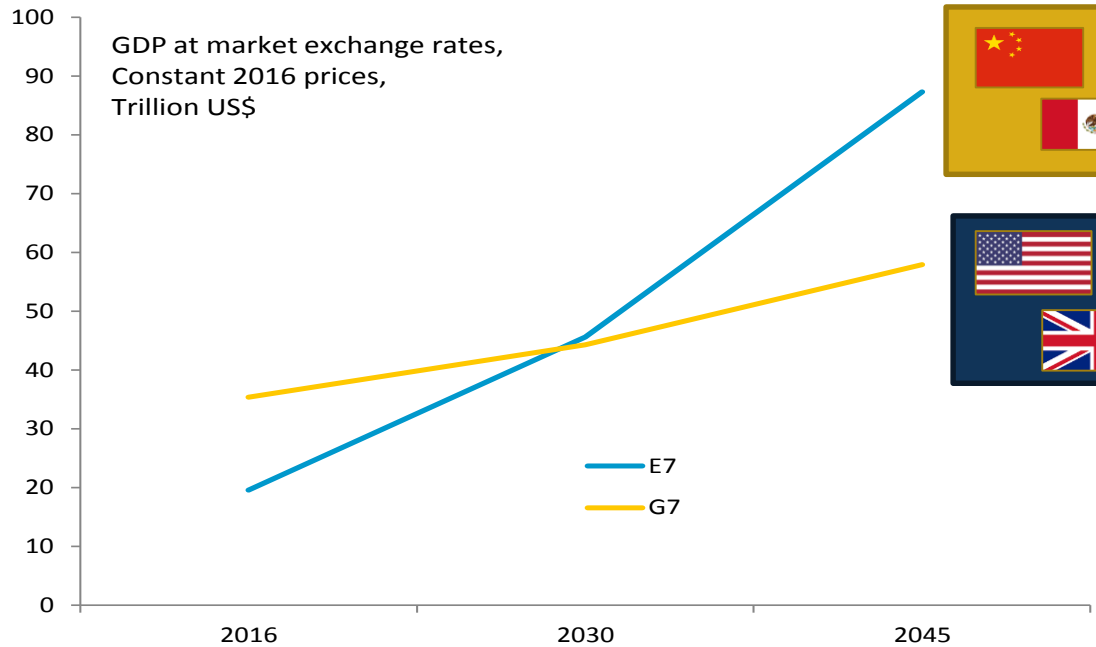
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Catch-up of emerging markets



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The future's bright ... the future's emerging



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Energy... a scarce resource or a technology?



TECHNOLOGY

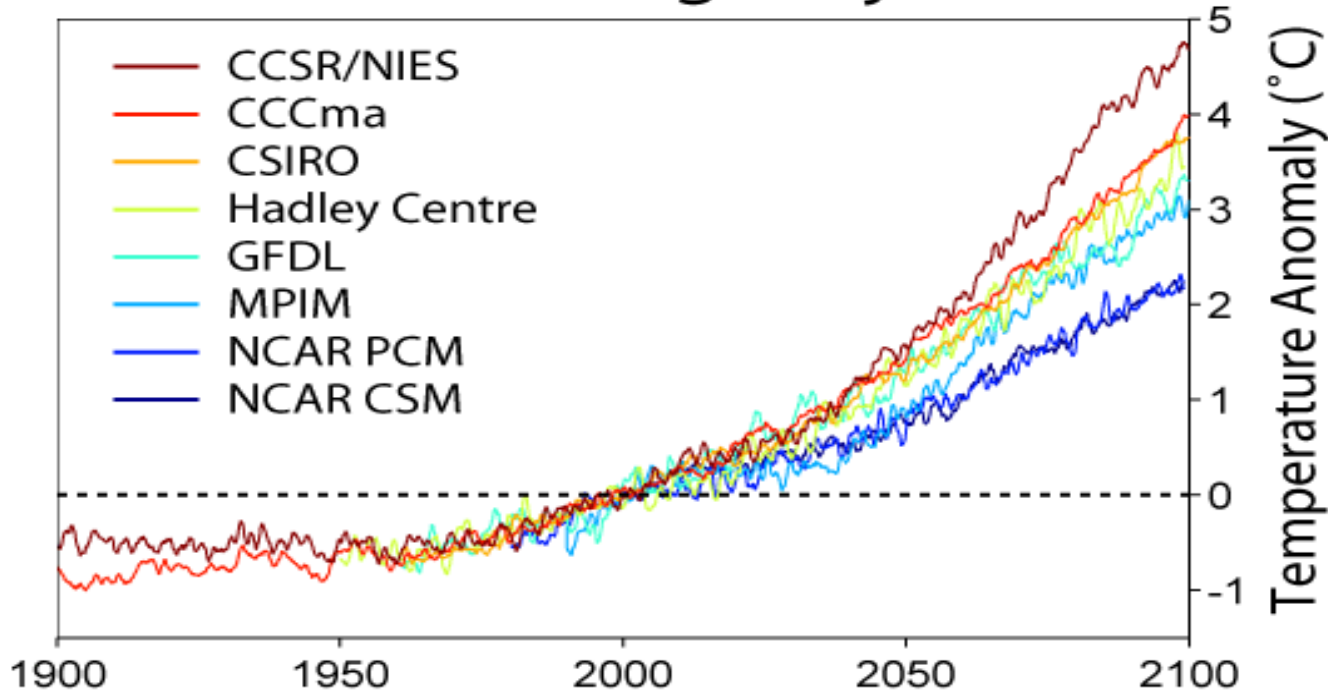


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Global warming...

Massive changes needed to limit global temperature rise

Global Warming Projections



TECHNOLOGY



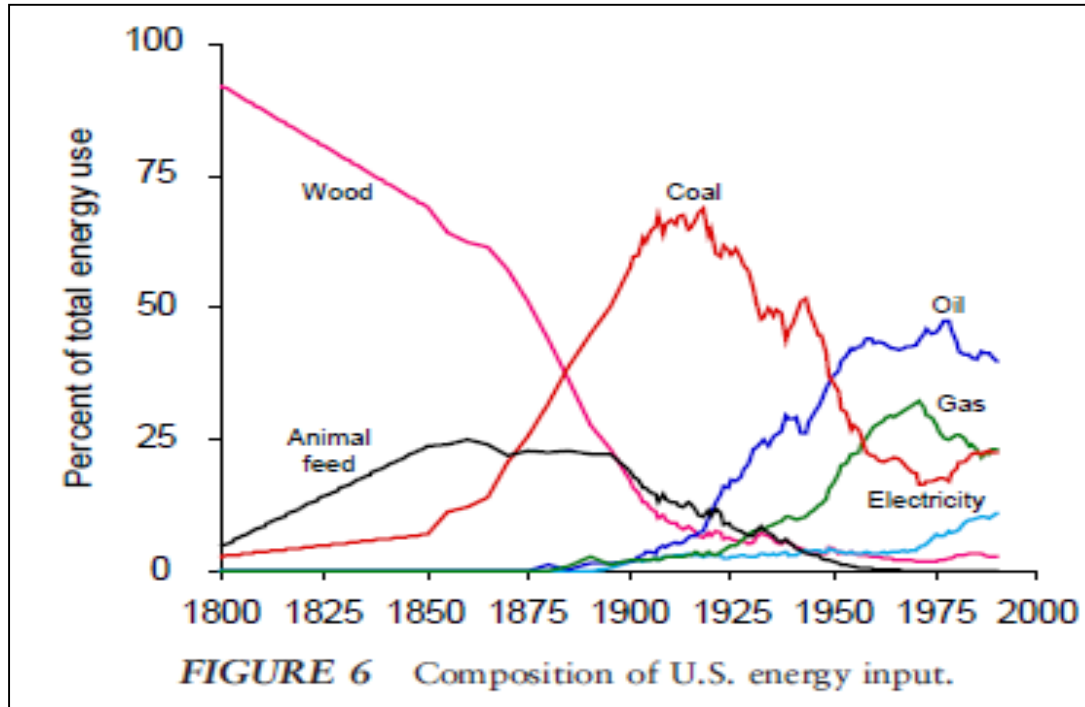
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Energy mix revolution...

Has been done before...coal, wood, animals



TECHNOLOGY



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Solar and battery prices

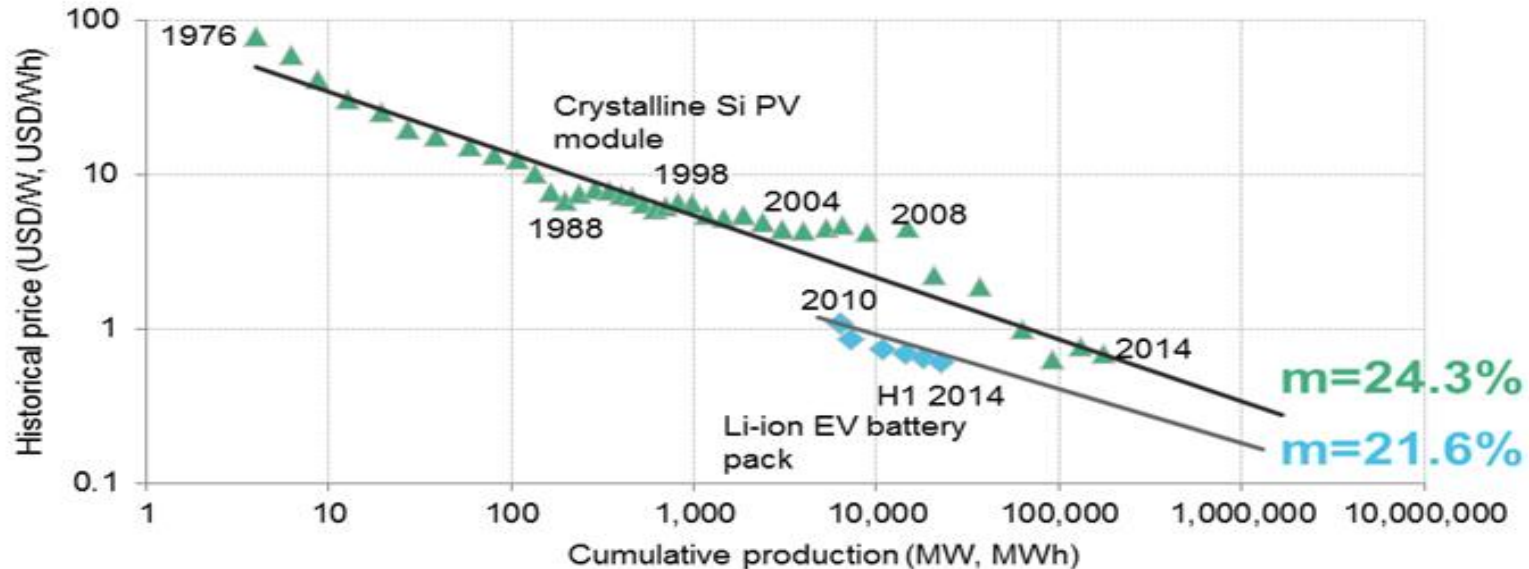
Trend decline in prices due to technological improvement



LITHIUM-ION EV BATTERY EXPERIENCE CURVE COMPARED WITH SOLAR PV EXPERIENCE CURVE

Bloomberg
NEW ENERGY FINANCE

TECHNOLOGY



Note: Prices are in real (2014) USD.

Source: Bloomberg New Energy Finance, Maycock, Battery University, MIT

Michael Liebreich, New York, 14 April 2015

@MLiebreich

#BNEFSummit

1



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Battery technology

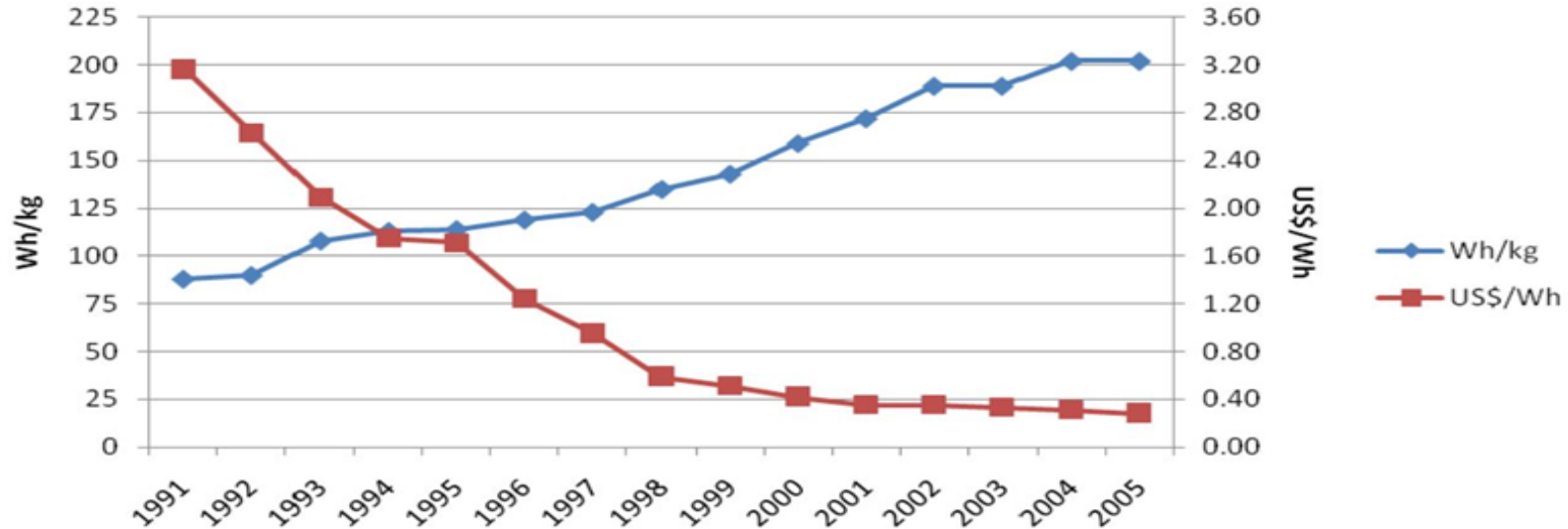
Inverse relationship between density and price



TECHNOLOGY

Li-Ion Pricing and Energy Density, 1991-2005

Adapted from Buchman (2005)



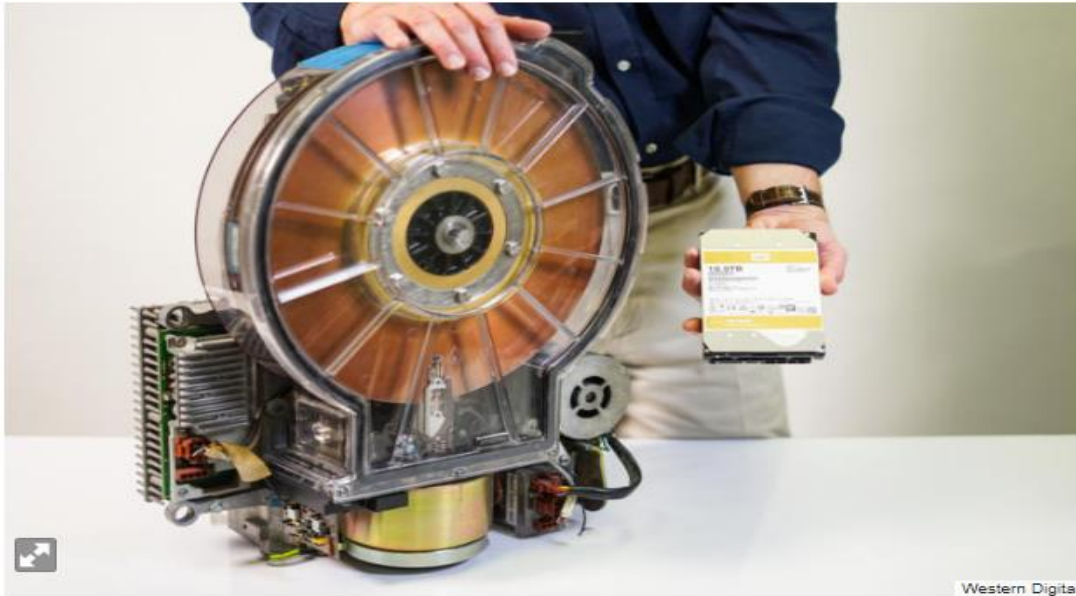
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Other technology prices falling too

Collapse in data storage -> big data -> AI-> autonomous driving



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An IBM 14-in HDD from the early 1980s next to today's highest capacity 3.5-in HDD. The 14-in HDD holds 200MB; the 3.5-in HDD from Western Digital holds 10TB of data or more than 50,000 times the amount of data.



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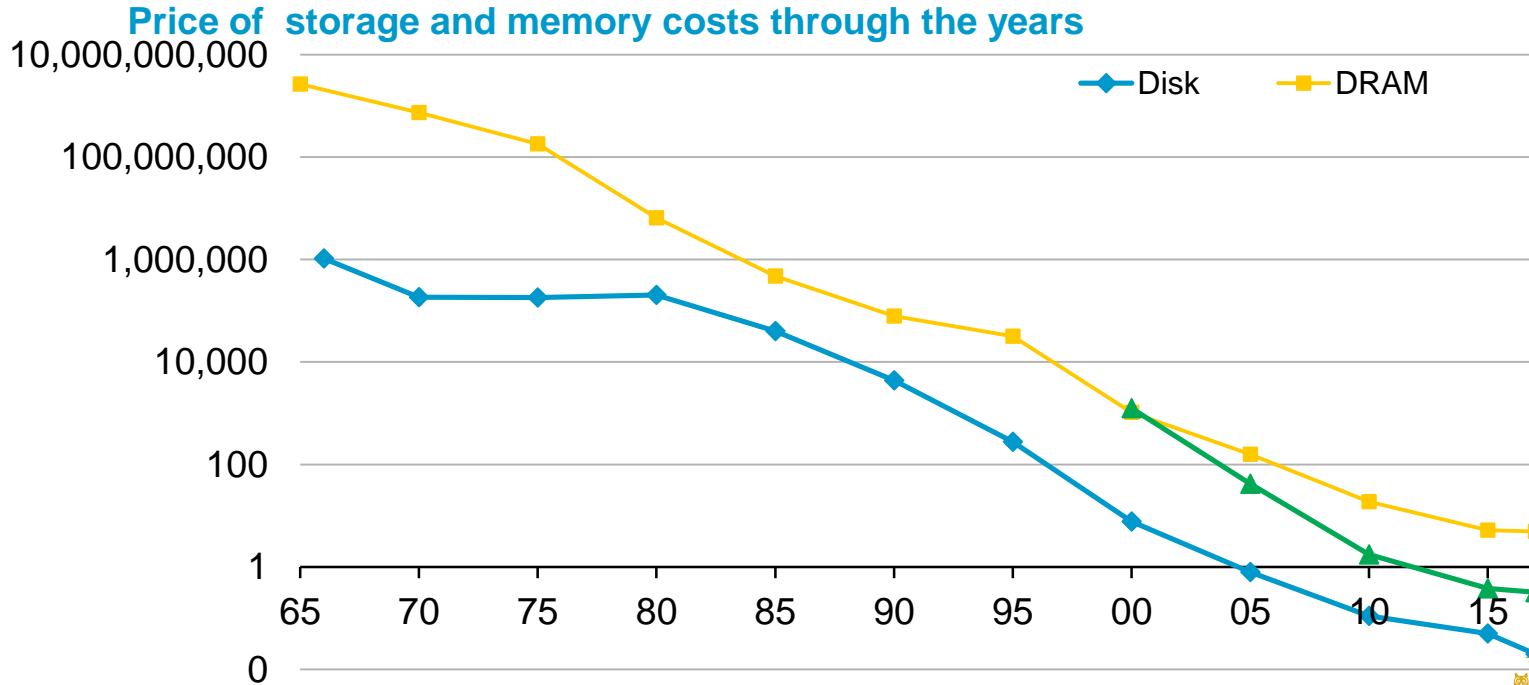
Disruption from falling data storage prices

Will the robots destroy all the jobs?

(Nand Flash = SD card, DRAM = computer memory)



TECHNOLOGY



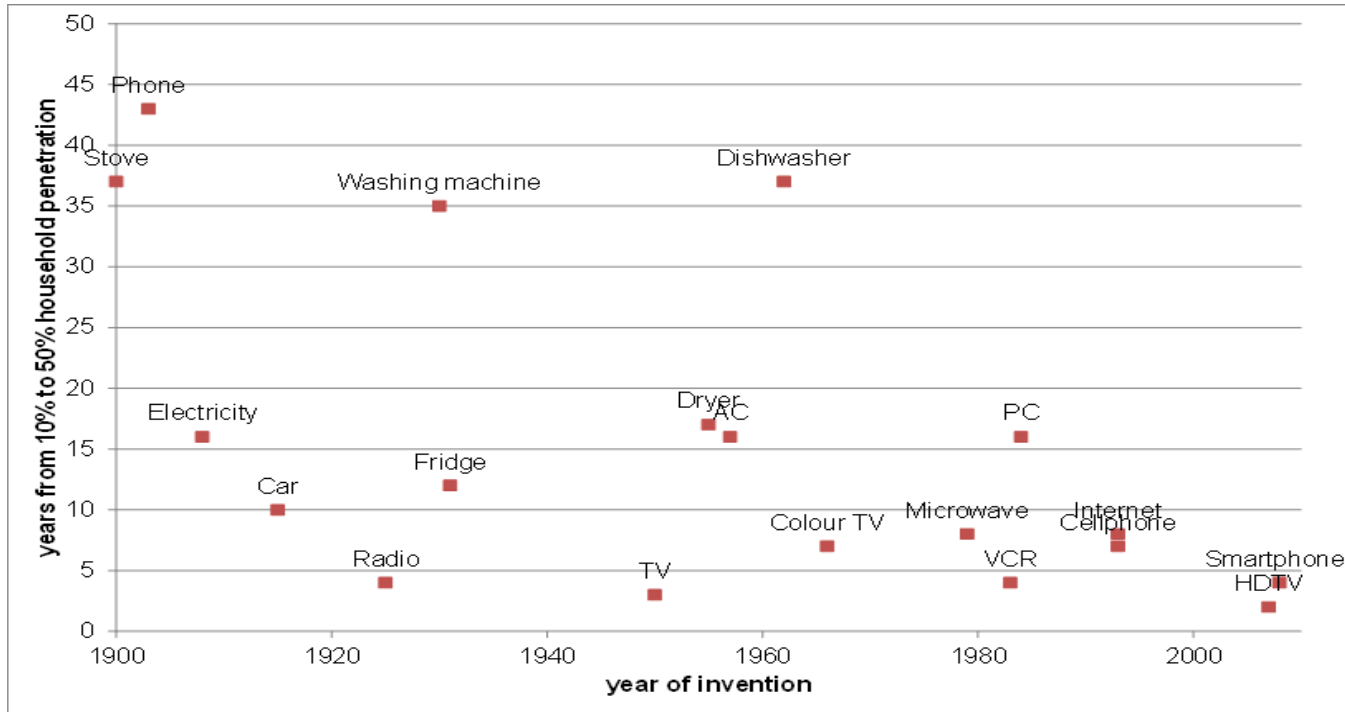
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Disruption is happening quicker?

Smartphone 4 years, computer 16 years, phone 43 years



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Don't underestimate the potential for technological change



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“The telephone has too many shortcomings to be seriously considered a means of communication”

William Orton, Western Union President, 1876

“There is a world market for maybe five computers”

Thomas Watson, IBM Chairman, 1943

“There's no chance that the iPhone is going to get any significant market share”

Steve Ballmer, Microsoft CEO, 2007



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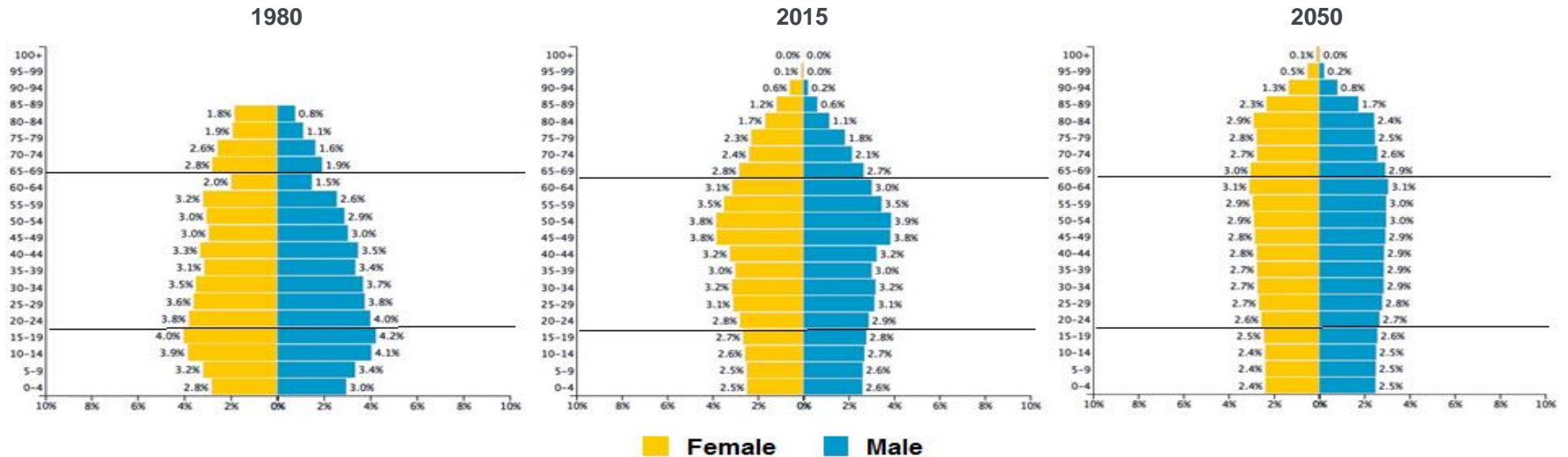
Demographics – Population Pyramid Scheme

Running out of workers!



DEMOGRAPHICS

Western Europe Population Pyramids



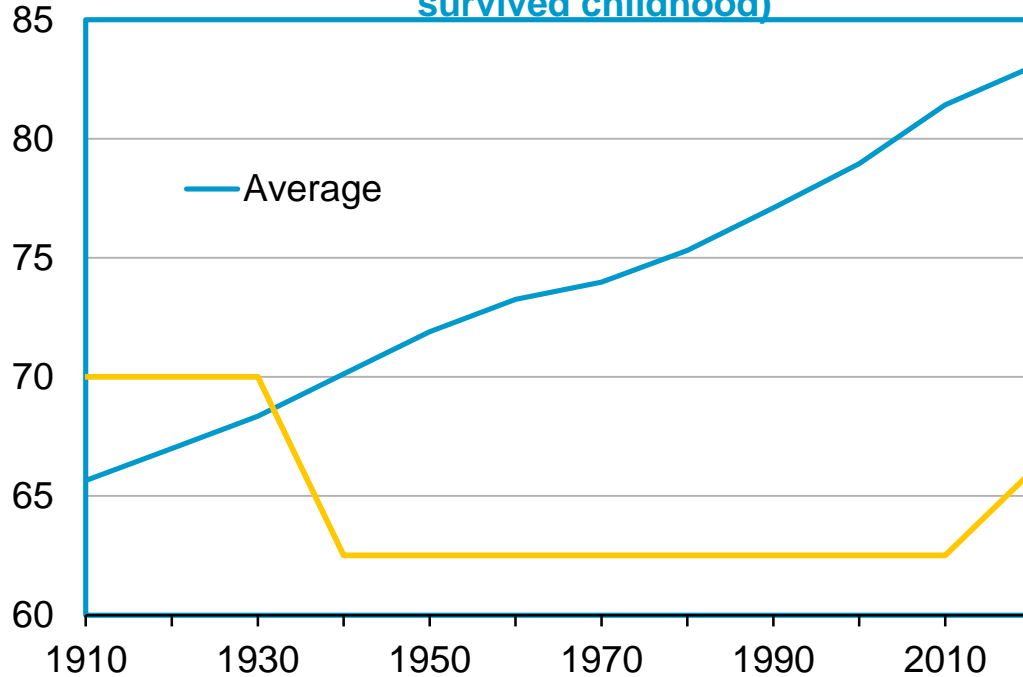
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Population Pyramid Scheme – Rising life expectancy



DEMOGRAPHICS

Average life expectancy of a 20-year old (i.e. survived childhood)



- In 1908, life expectancy was BELOW pension age
- In 1940s, the gap was 7 years
- Today, the gap is 17 years



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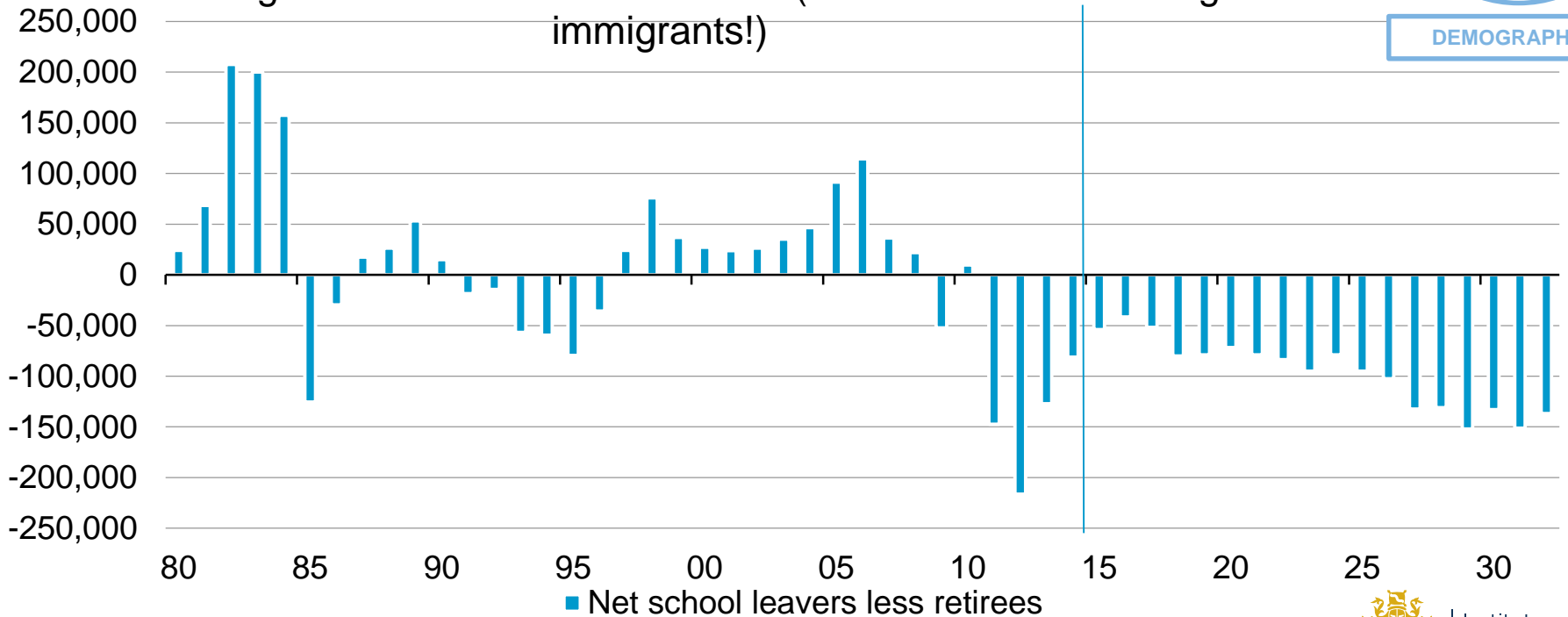
More retirees than school leavers!

Net effect = shrinking domestic born workforce

Net change in domestic-born workforce (nb this excludes retiring immigrants!)



DEMOGRAPHICS



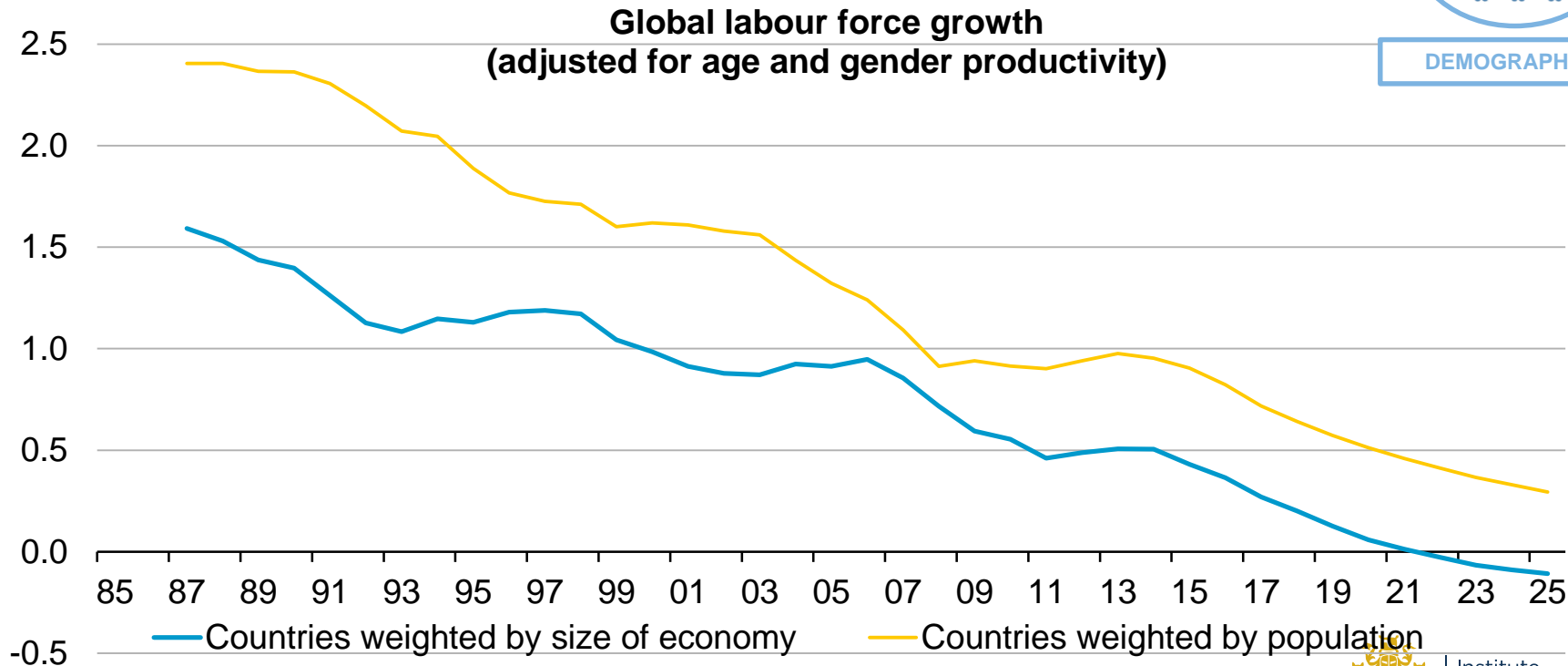
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UK story the same globally...

Global labour force slowing



DEMOGRAPHICS



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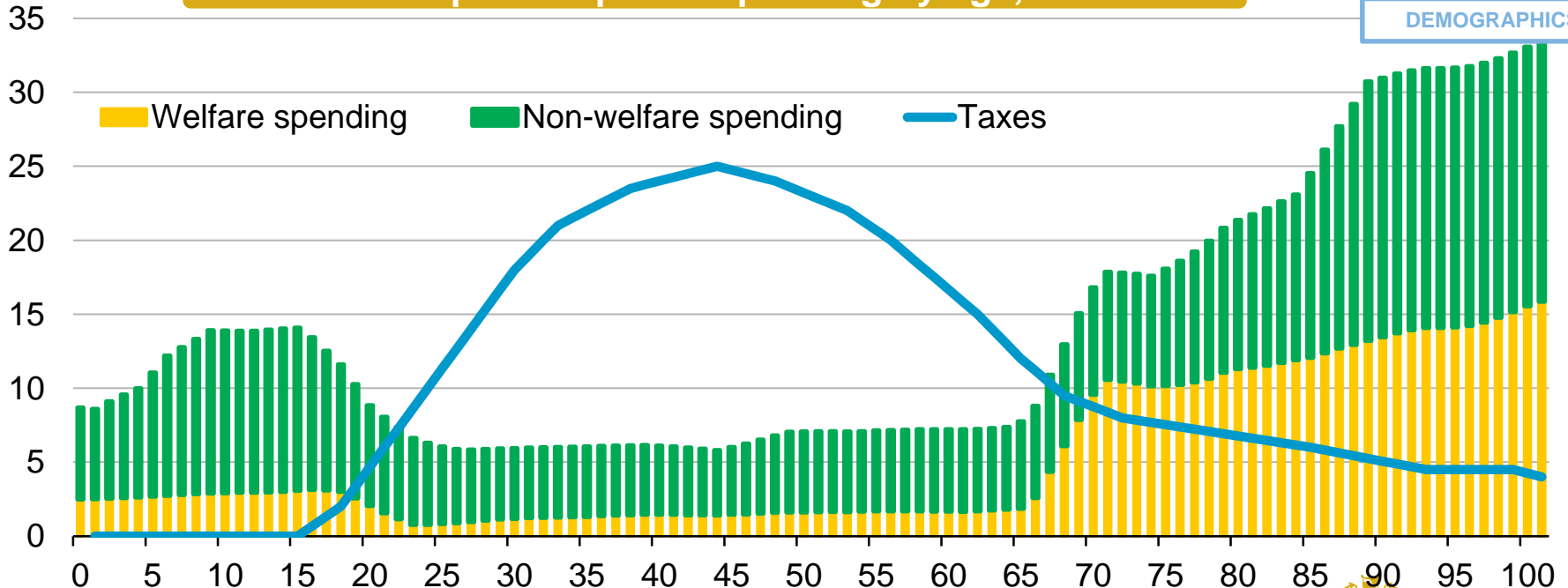
Tax and spend

Middle-aged taxpayers fund children and pensioners



Tax receipts and public spending by age, £000s

DEMOGRAPHICS



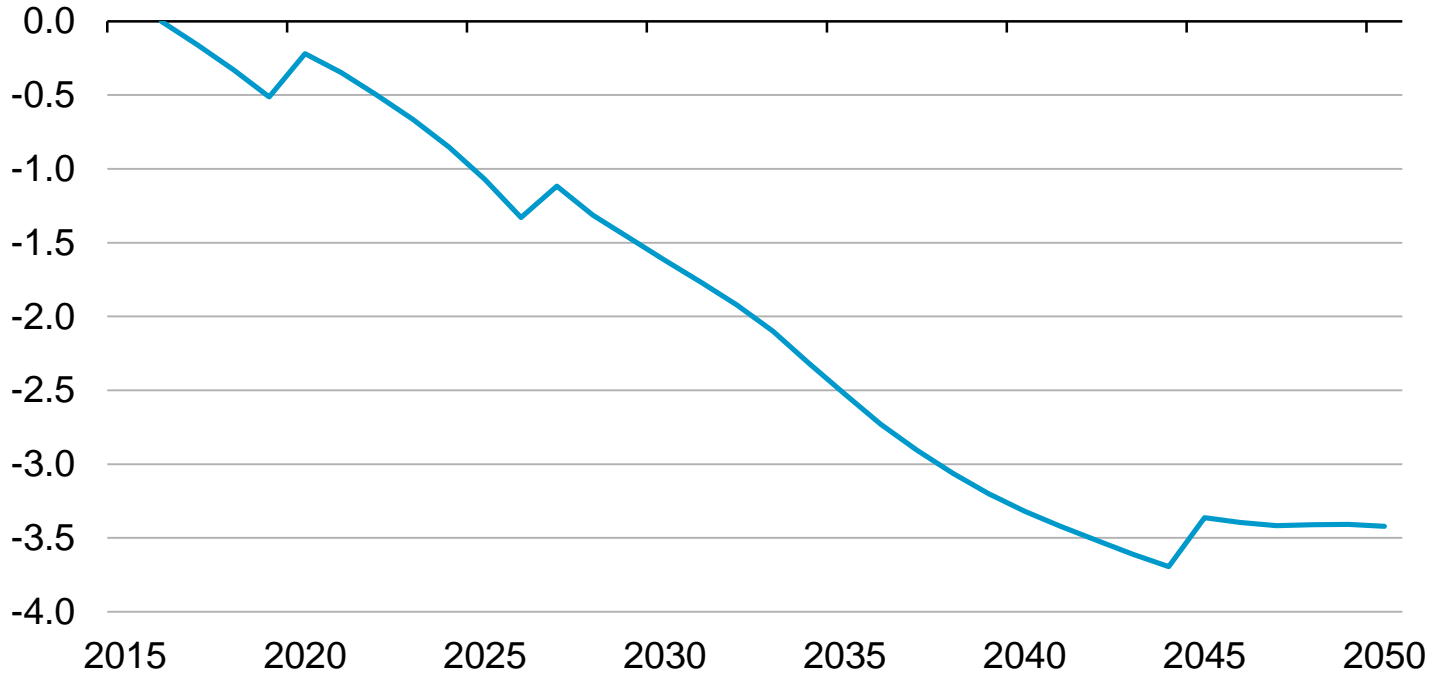
Public finances under pressure

Lower taxes and higher health/pension costs to boost deficit



DEMOGRAPHICS

Cumulative impact on public finances (% of GDP) from ageing



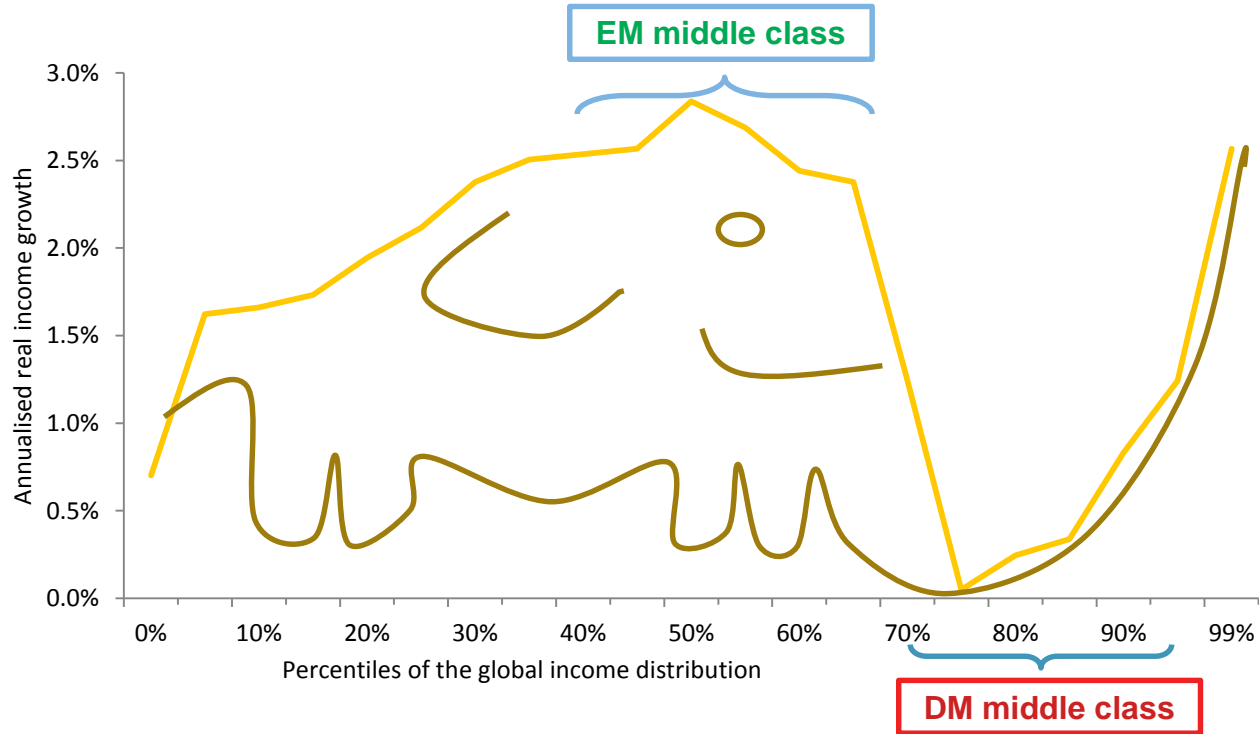
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Global inequality has fallen due to rise of China

But developed market middle class has suffered



POPULISM

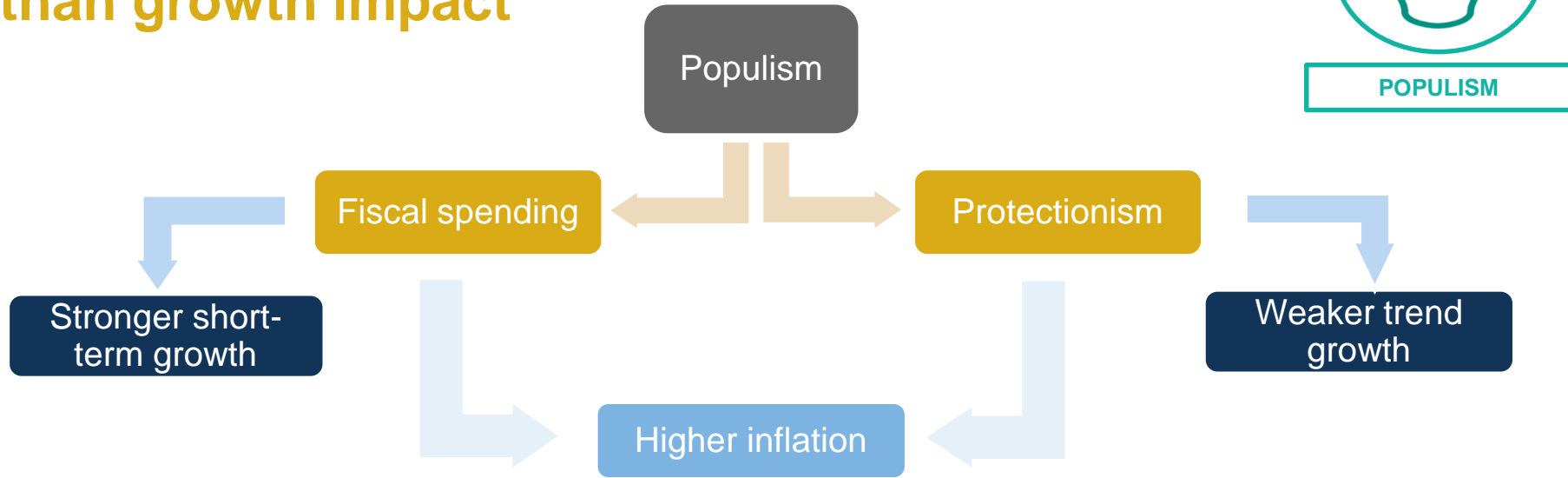


The global "elite"



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Inflation impact of populist shift clearer than growth impact



POPULISM

“An ideology that pits a virtuous and homogeneous people against a set of elites and dangerous ‘others’ who are together depicted as depriving (or attempting to deprive) the sovereign people of their rights, values, prosperity, identity, and voice”

Albertazzi & Duncan (2008), *Twenty-First Century Populism*



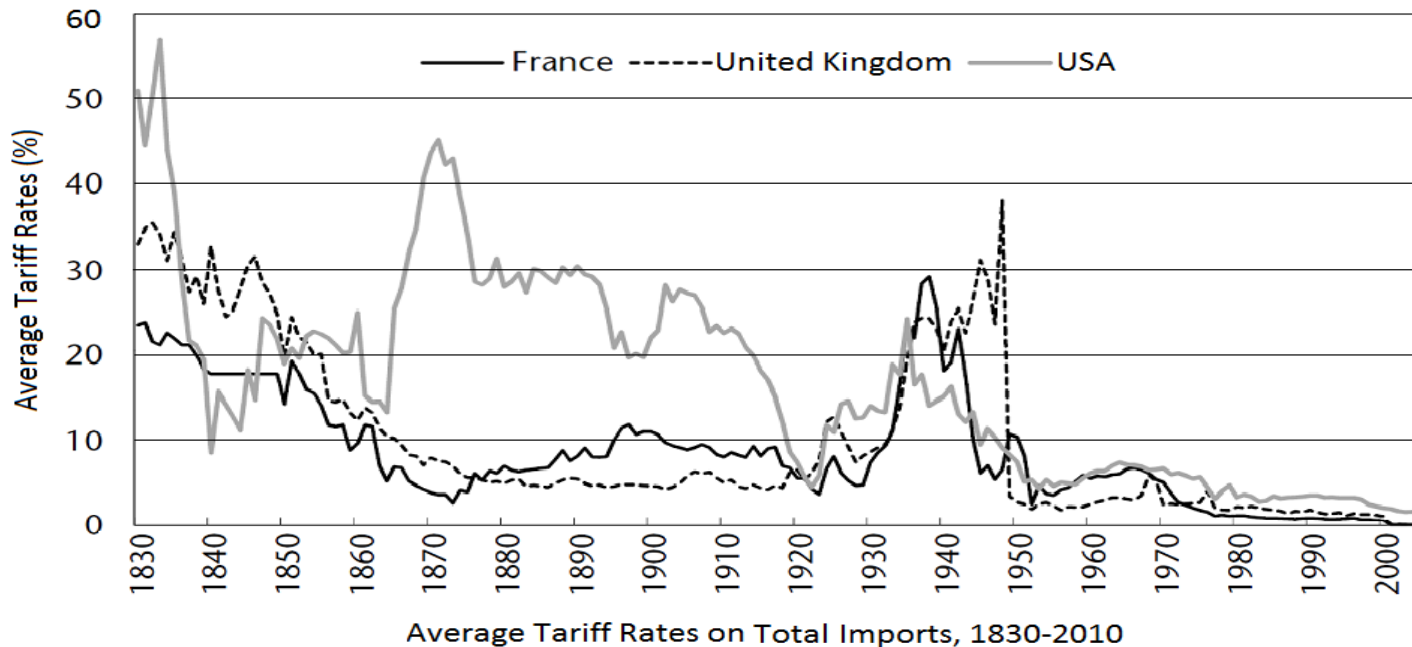
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Trade war?

US often raised tariffs... but 1930s was first time we saw retaliation



POPULISM



Sources: Imlah, Economic Elements



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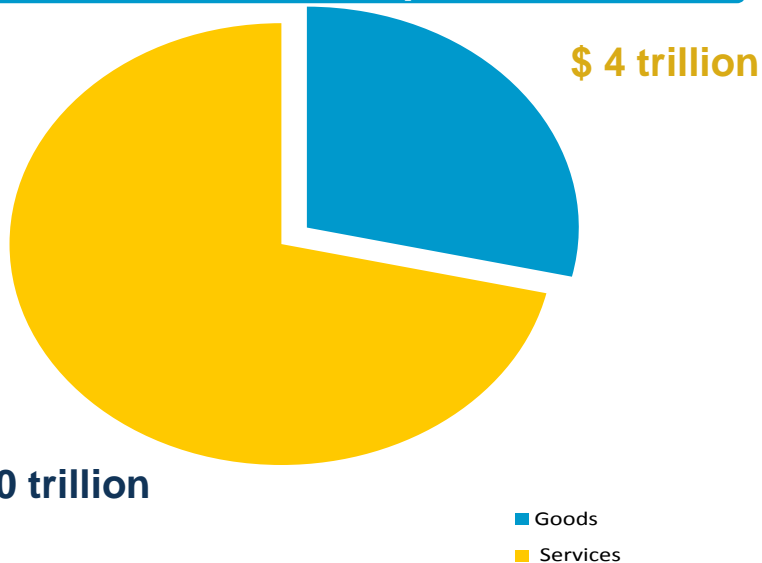
Trade war?

Let's keep it in context

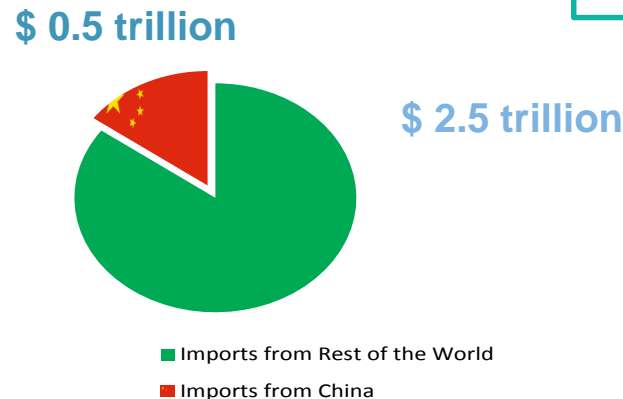


POPULISM

US consumption



US imports



- 10% tariff on all Chinese imports is still only an average tariff of 1.7%
- CPI impact of tariffs is small but noticeable...
- Tariffs so far amount to ¼% of GDP

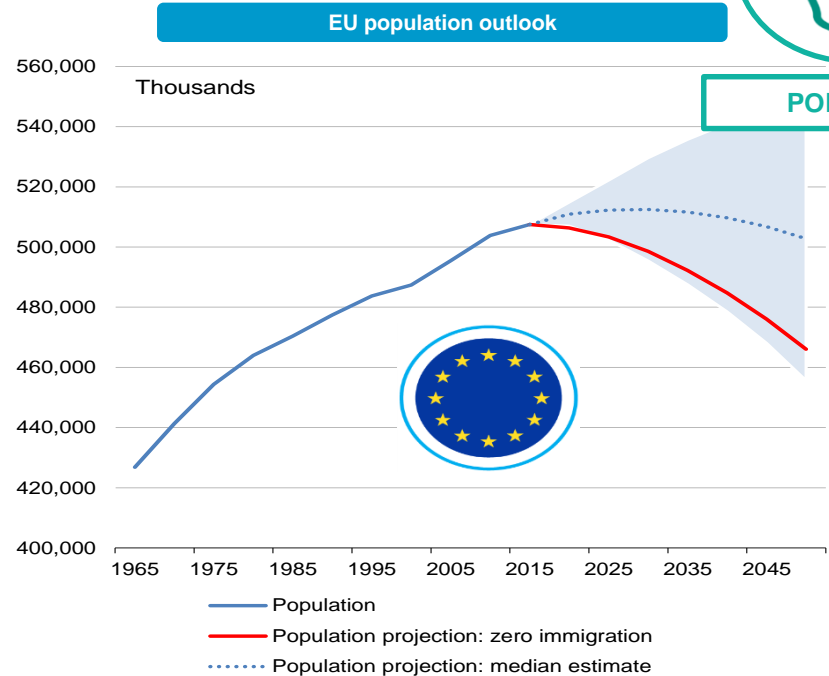
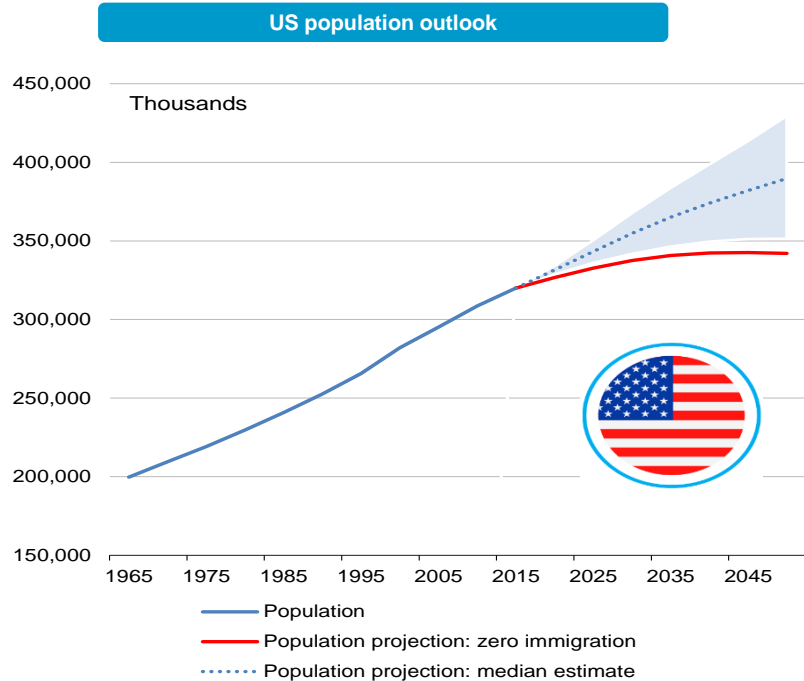


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Who needs high immigration?



POPULISM



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Who wants high immigration?



POPULISM

35%

of Americans described immigration as having a **“very or fairly positive”** impact on their country

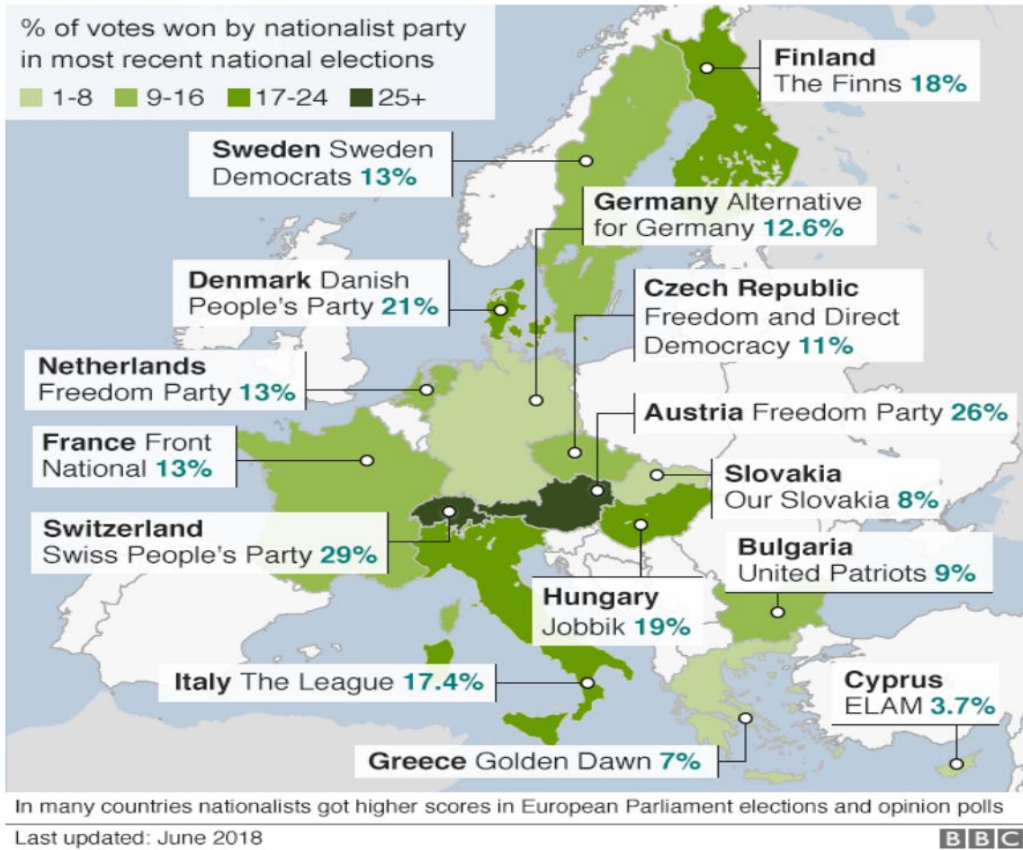
16%

of Europeans* described immigration as having a **“very or fairly positive”** impact on their country



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Rise of nationalism in Europe



POPULISM



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So what?



GLOBALISATION



TECHNOLOGY



DEMOGRAPHICS



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UK
INFLATION



UK
REAL
YIELDS



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