

# Global Mega Trends

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# What is a Megatrend?



Megatrends are:

- Global
- Broad in scope
- Powerful forces
- Transformative
- Long term in nature

Megatrends are inter-related and can amplify each other like ripples on a lake

Megatrends present great opportunities but also great risks

# Five Global Megatrends

## Demographics and social change

By 2050, the global population is projected to reach 9.8bn people

1/4 of these people will be aged over 60 and 2/3 of these people will live in urban areas (up from 1/3 in 1950)

Meanwhile, 60% will be middle class and 40% will never have known life without the internet and screens\*

## Sustainability

Growing populations that are increasingly prosperous will lead to increased strain on the planet's resources – particularly food, water and energy

Climate change could exacerbate these problems with droughts and extreme weather events

The public and private sectors are becoming increasingly focused on ESG factors

## Technological change (the 4th Industrial Revolution)

First came **Steam**, next **Electricity**, then came **Information Technology** and now the **Digital Revolution** is upon us, some 20 years after the Nasdaq tech boom first predicted such major changes to society

## Globalisation vs Nationalism

Globalisation has boosted the flows of goods and services, labour, capital and technology providing net benefits to global growth and reducing poverty

But many are concerned about wealth and income inequality, business disruption and job insecurity and harm to the environment


## Rising debt levels

Post-GCF, debt levels continue to rise across the developed world and China

Austerity has been discarded for budget deficits and higher corporate and household debt

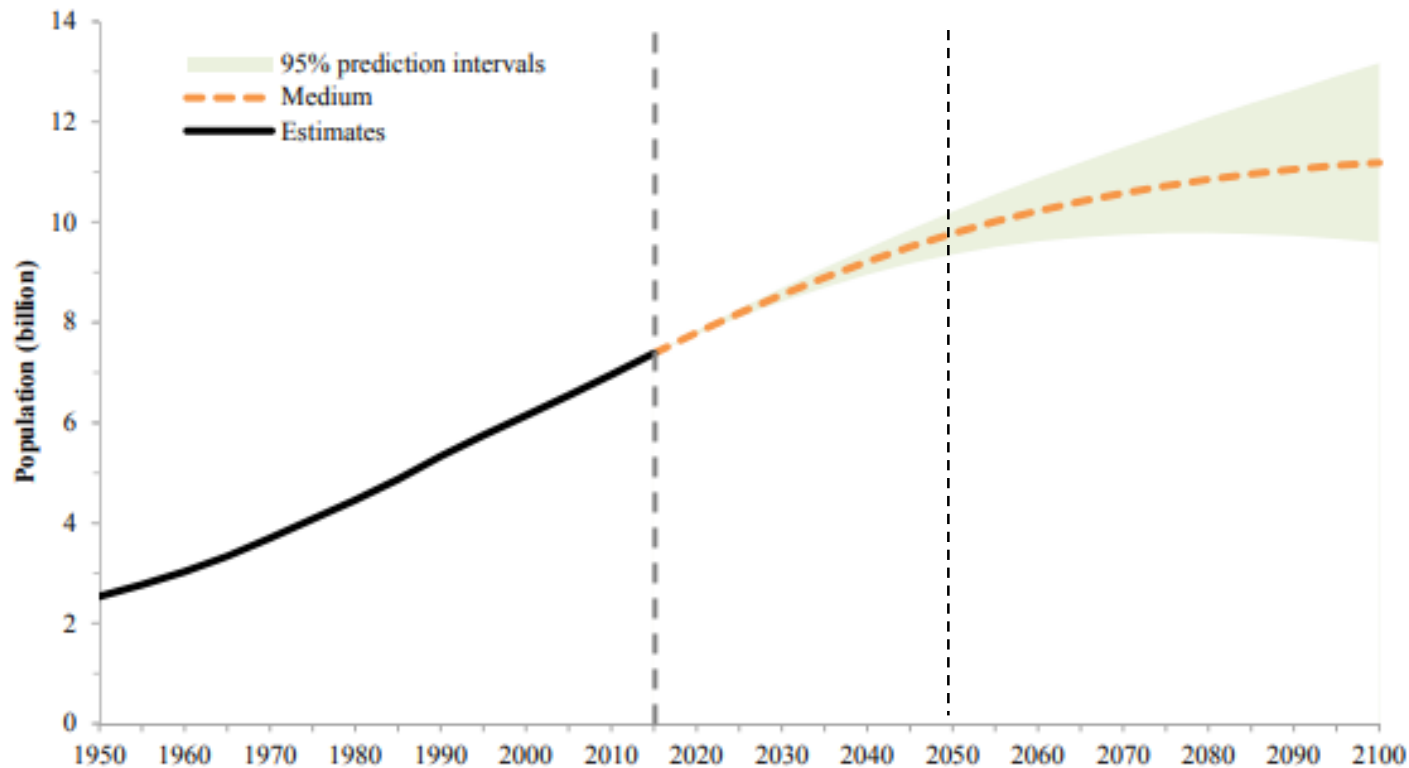
Are we all marching into the next financial crisis?





# Demographics and Social Change

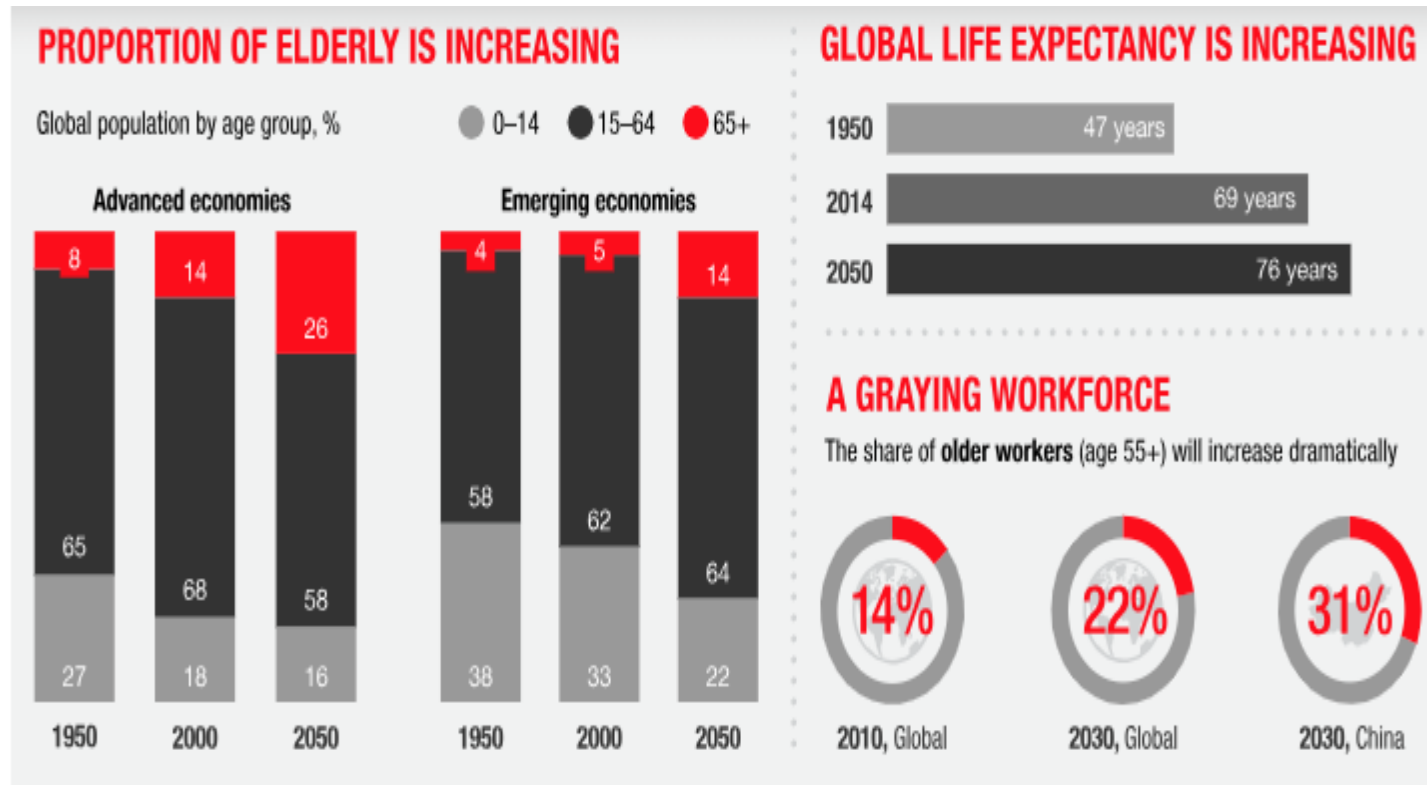
# Global population projections



- The current global population is 7.6bn people
- The growth rate has slowed to 1.10% p.a. from 1.24% p.a. over the past 10 years
- The UN projects the global population will reach 9.8bn people by 2050
- The growth rate is expected to continue to taper off as economies become more developed and could even go into decline

Source: United Nations

# The global population is ageing

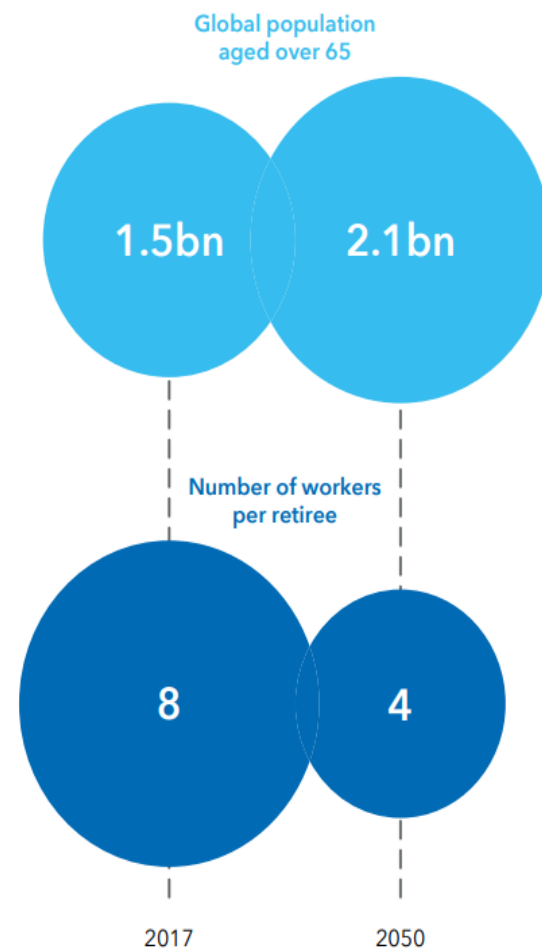


- The birth rate is falling and life expectancy is increasing
- The result is population growth is slowing and people aged over 60 will increase from 13% of the population today to 22% by 2050
- The effect will be even greater in developed economies where people over aged 60 will represent 25% of the population (or 1 in 4) by 2050

Source: McKinsey Global Institute

# Working population

An ageing population will have a dramatic impact on our workforce



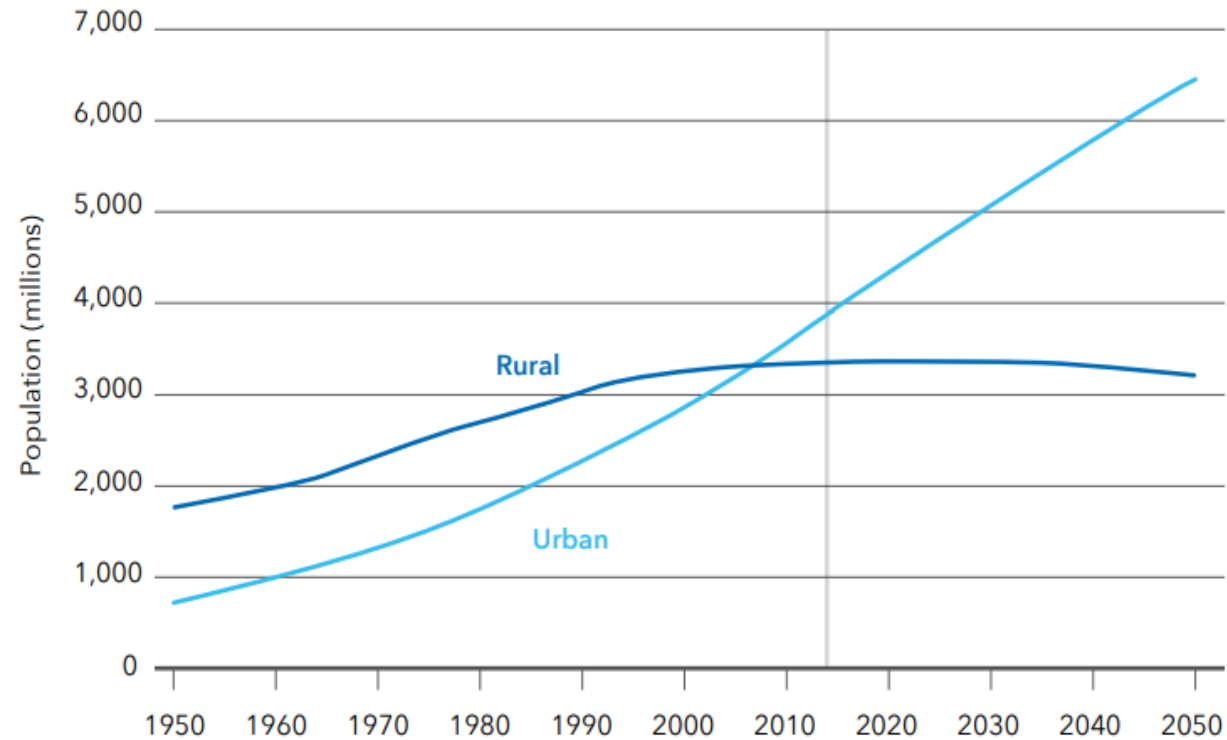
Source: World Economic Forum

- An ageing population will reduce the number of workers per retiree
- This will most likely be resolved via a combination of:
  1. People working longer
  2. Immigrants from younger nations
  3. Robots replacing humans



# Urbanisation

Urban and rural population of the world, 1950-2050



Source: United Nations: World Urbanisation Prospects - the 2014 Revision. Accessed at: <https://esa.un.org/unpd/wup/Publications/Files/WUP2014-Highlights.pdf>

Source: United Nations

- At the same time, people continue to migrate to large cities
- By 2050, the UN estimates that 66% of the global population will reside in cities
- This is more than double the urbanised rate of the 1950s, which was 30%
- Megacities (those with >10m people) have increased from 10 in 1990 to 28 in 2019

# Rise of the Middle Class



Source: World Data Lab

- The global middle class (those earning >\$30-40k p.a.) is expected to increase to around 60% of the global population by 2050
- Most of this growth is expected to come from Asia and India

# Investment Implications

- Population growth will place strain on the planet's resources
- Ageing populations will increase demand for retirement products, tourism and travel, healthcare and aged care
- A shrinking working population will require solutions such as: people working longer, immigration from younger nations and robots
- There will be a massive increase in urbanisation requiring investment in water supply, energy, infrastructure, housing, schools, hospitals, transport, crime prevention and waste solutions
- A rising middle class, particularly in Asia, will increase global growth and consumption but will place additional strain on the planet's resources
- Sustainability and environmental preservation will rise to the top of the agenda
- Population growth itself is likely to continue to flatten out as the birth rate tends to fall as an economy becomes more developed

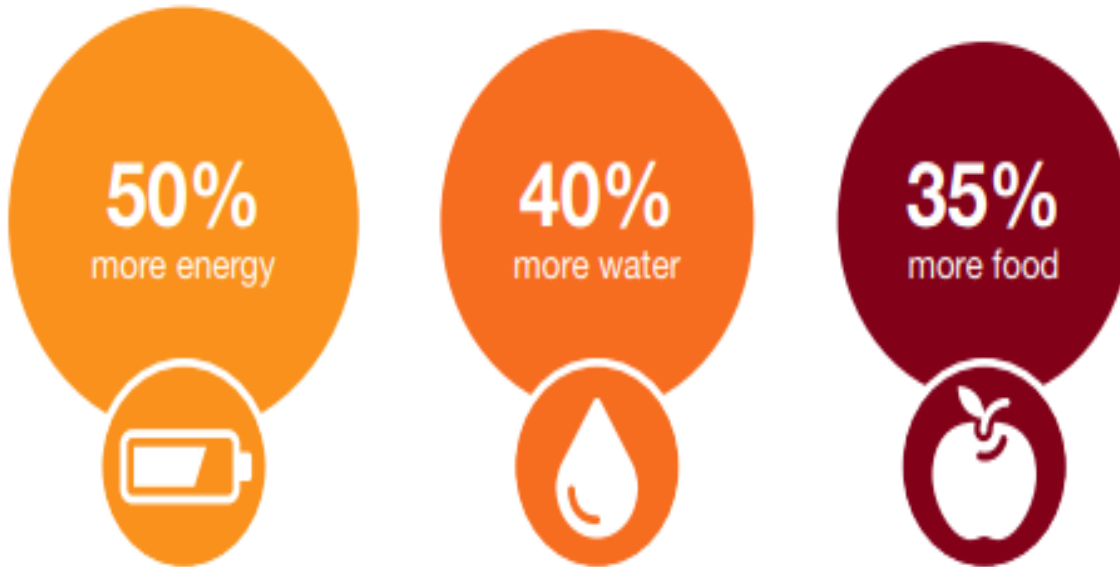


# Sustainability



# Population growth is putting a strain on natural resources and the environment

**Figure 14:** With a population of 8.3 billion people by 2030, we'll need...



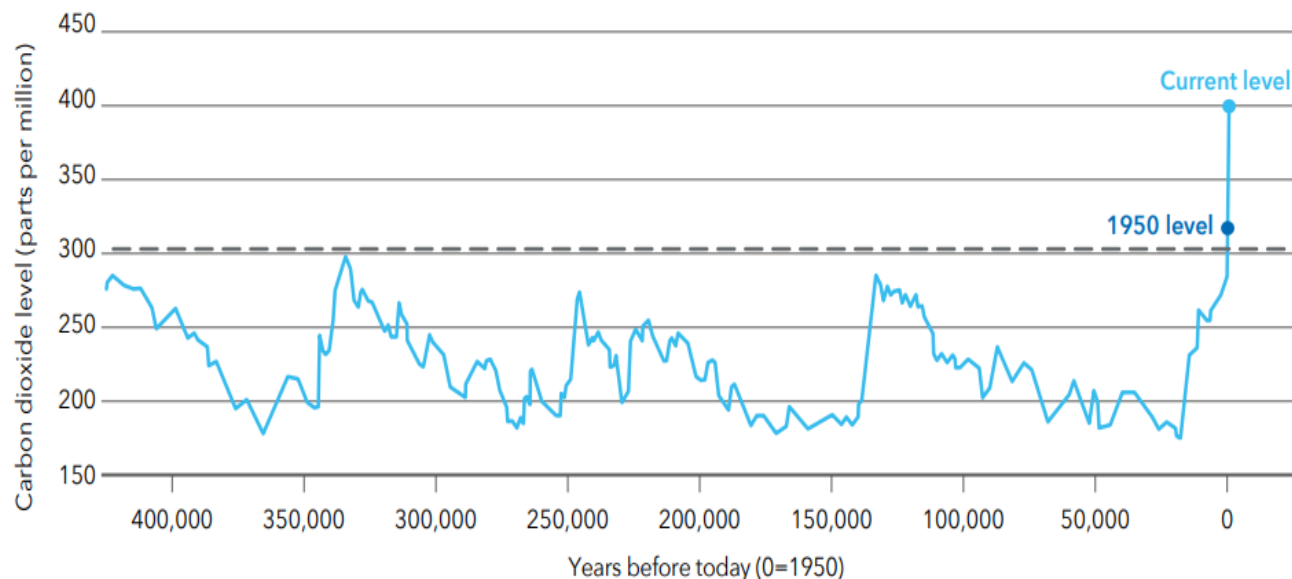
Source: National Intelligence Council: Global Trends 2030: Alternative Worlds.

- The current global population is 7.6bn people
- The UN projects the global population will reach 9.8bn people by 2050
- The middle class is expected to increase to around 60% of population by 2050, which will further increase consumption and place additional strain on the planet's resources and environment

Source: National Intelligence Council

# Add in Climate change and there are significant challenges ahead

CO2 levels during the last three glacial cycles, as reconstructed from ice cores



Important Information: For illustrative purposes only. This graph, based on the comparison of atmospheric samples contained in ice cores and more recent direct measurements, provides evidence that atmospheric CO2 has increased since the Industrial Revolution. Source: Vostok ice core data/J.R. Petit et al.; NOAA Mauna Loa CO2 record.

Source: NASA

Data from NASA shows that global warming is currently outpacing efforts to curb it. This warming is distinct from other periods of climatic change (of which there have been many, such as the ice age) because there's a 95% probability that its predominant cause has been human activity since the mid-20th century.

PWC estimate that the earth's average surface temperature will could increase by 2 degrees Celsius by 2036, rather than 2100.

16  
of the  
17  
warmest years  
on record have  
occurred since  
2001<sup>20</sup>

# Investment Implications

- Increased focus on reducing carbon and other emissions
- Increase in forestation and plants to convert carbon to oxygen
- More sustainable business practices
- Reduction in waste, particularly food and water
- Energy efficiency
- Carbon neutral companies
- Recycle materials
- Reduction in coal power, electric cars, renewable energy, recycling of waste and water
- Use of public transport and car pooling, e.g. uber type service rather than a large personal car fleet
- Natural cooling to reduce reliance on air conditioning

# Investment Implications

- Focus on company ESG scores
- Focus on carbon emissions
- ESG has become the standard to describe sustainable investing
- More and more investment capital being committed to ESG investing



# ESG factors

## ENVIRONMENTAL

CLIMATE CHANGE
NATURAL RESOURCES
POLLUTION & WASTE
ENVIRONMENTAL OPPORTUNITIES


## SOCIAL

HUMAN CAPITAL
PRODUCT LIABILITY
STAKEHOLDER OPPOSITION
SOCIAL OPPORTUNITIES

## GOVERNANCE

CORPORATE GOVERNANCE
CORPORATE BEHAVIOUR

Source: MSCI

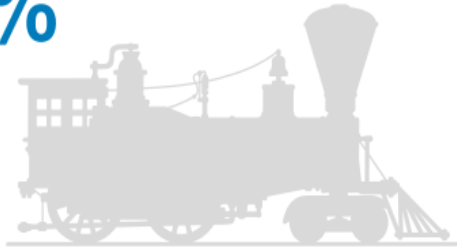


# Technological Change ‘The 4<sup>th</sup> Industrial Revolution’

# Technological Change (the 4<sup>th</sup> Industrial Revolution)

Productivity increase by the **steam engine**

**0.3%**  
1850–1910



Productivity increase through **early robotics**

**0.4%**  
1993–2007



Productivity increase through **information technology**

**0.6%**  
1995–2005



Productivity increase through **automation**

**0.8%**  
**to 1.4%**  
2015–2065



**Adoption of robotics, artificial intelligence, and machine learning** could give a bounce to the global economy, at a time of lackluster productivity growth and aging in many countries

Source data: McKinsey, Credit Suisse

Source: World Data Lab

- The First Industrial Revolution used **water and steam power** to mechanize production.
- The Second used **electric power** to create mass production.
- The Third used **electronics and information technology** to automate production.
- Now a Fourth Industrial Revolution is building on the Third, **the digital revolution** that has been occurring since the middle of the last century. It is characterised by a **fusion of technologies** that is blurring the lines between the physical, digital, and biological spheres. Technology is **connecting** people across the globe.



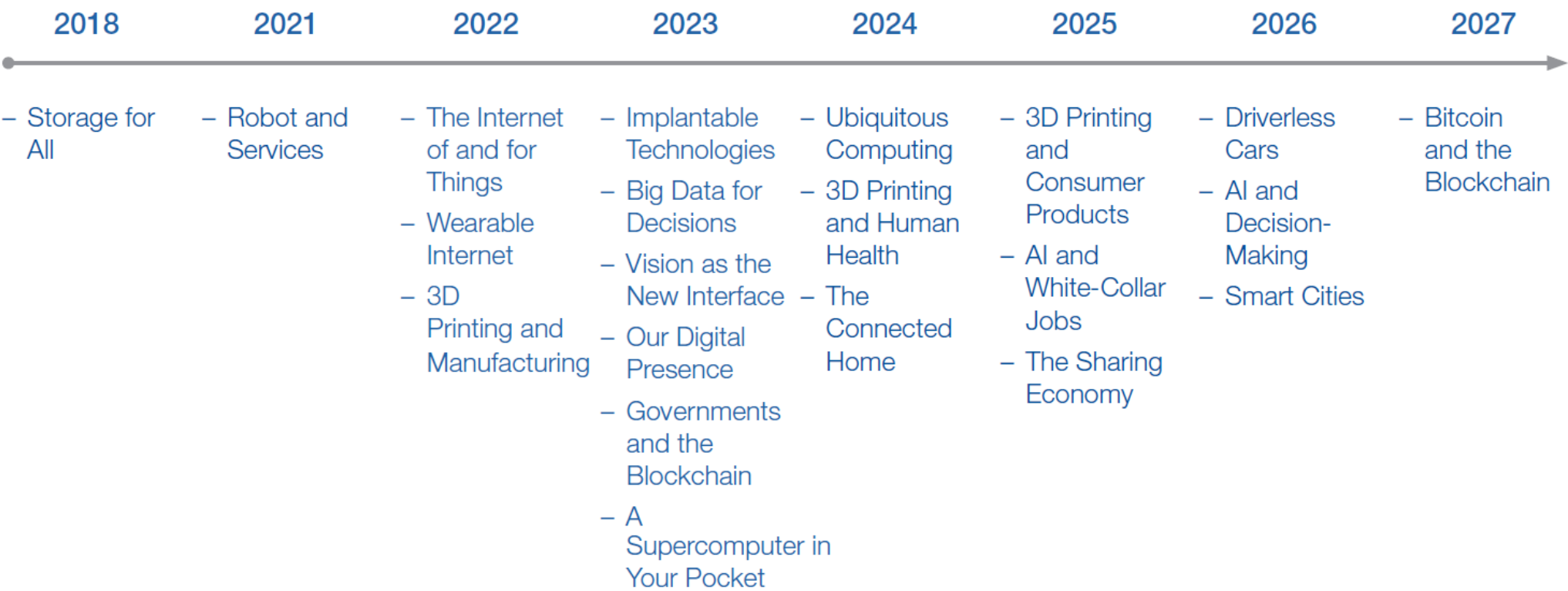
# Technological Change (the fusion of technologies)

1. **People and the internet** – society's association and interaction with the web as a mental, social and physical extension of themselves
2. **Computing, communications and storage everywhere** – the ability to interface with digital technology, data and the web anywhere, anytime on any device
3. **The “Internet of Things”** – the digital linking of inanimate objects
4. **Artificial intelligence, robotics, drones and big data** – the ability to access and analyse vast and disparate data, along with the ability for computers to make decisions based on this data
5. **The sharing economy and distributed trust** – digitally-enabled transparency and trust mechanisms that allow direct exchange of goods, services or money between parties outside of traditional establishments such as stores and banks, **e.g. blockchain or distributed ledger**
6. **The digitization of matter** – 3D-printing and the creating of physical materials on the spot (personalized or on a small scale) based on digitally transmitted parameters



# Rapid progress

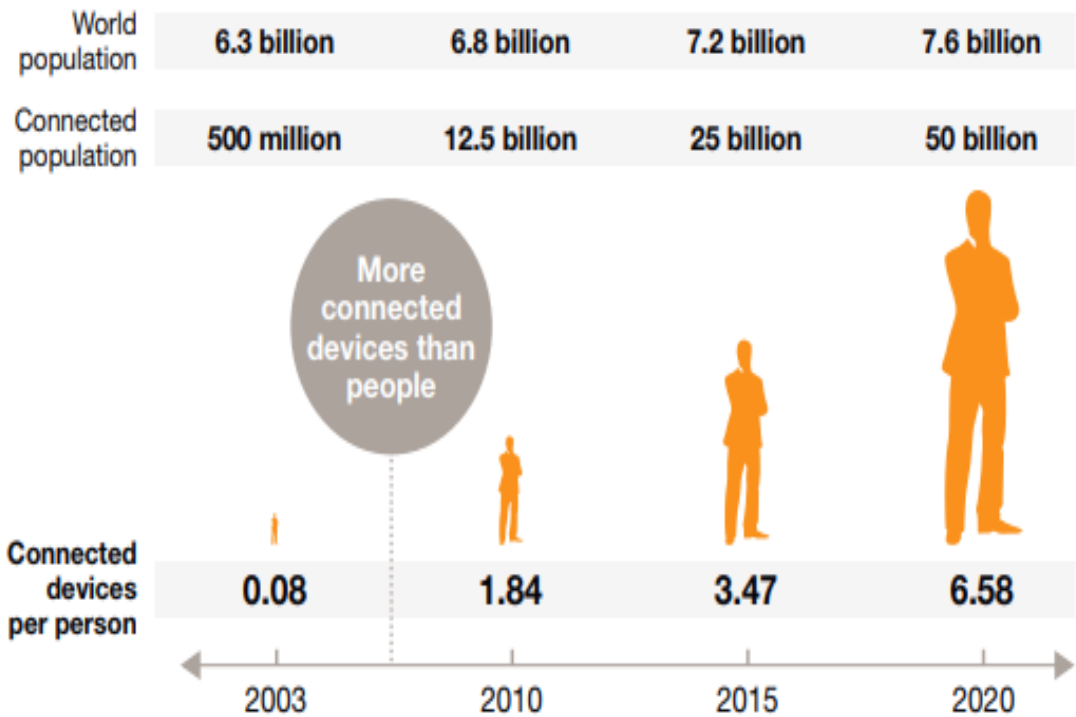
Figure 1: Average Year Each Tipping Point Is Expected to Occur <sup>1</sup>



Source: World Economic Forum

# The internet facilitates connection

Figure 13: The growth of the network connected devices



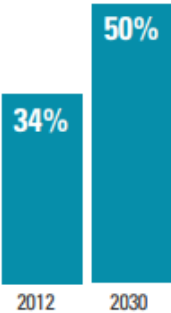
Source: Cisco Internet Business Solutions Group, April 2011



75%

of the global population has access to a mobile phone.

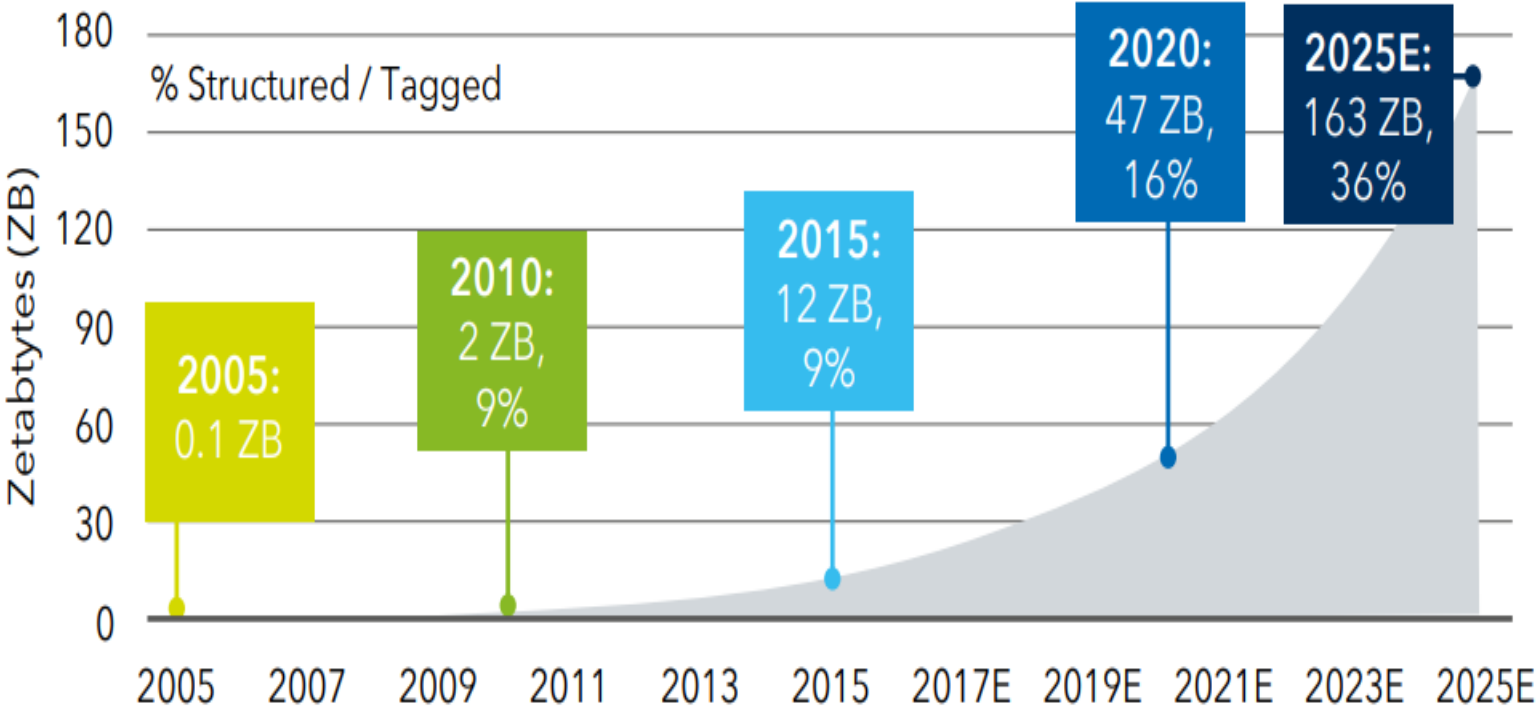
In some countries, more people have access to a mobile phone than to a bank account, electricity or clean water.<sup>29</sup>



Half of the world's population will have access to the internet by 2030.<sup>30</sup>  
Up from 34% in 2012.<sup>31</sup>

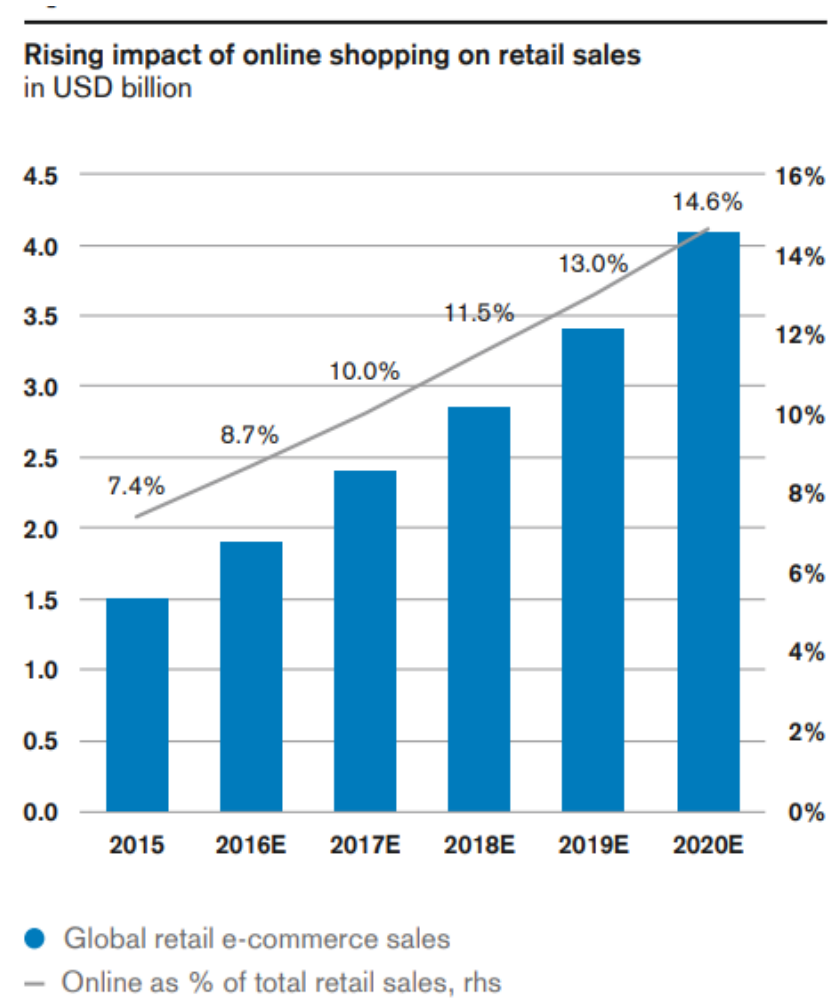
# Big data

Information created worldwide = expected to continue accelerating



Source: IDC Data Age, ZB = Zetabytes

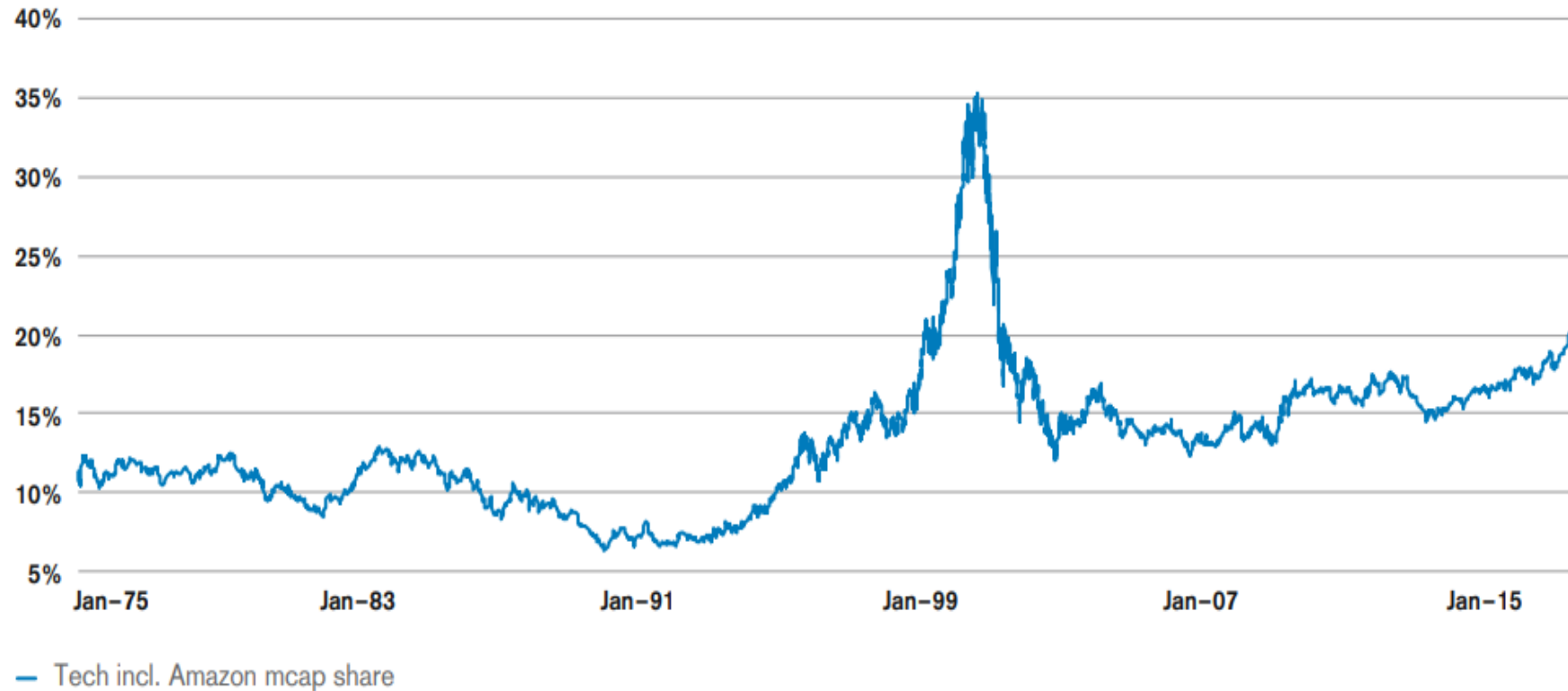
# On-line sales as a % of retail sales



Source data: emarketer, Credit Suisse/IDC



# Technology as a % of market cap on the S&P 500



Source data: Thomson Reuters, Credit Suisse Research

# Investment Implications

## Positives

- Accelerate globalisation via increased connections
- Reduction in conflict due to increased awareness of global issues?
- New business models
- Major productivity benefits
- Robots to replace ageing workers?
- New healthcare solutions
- Improve the use of natural resources
- Reduction in waste
- Reduction in emissions
- Reduction in crime due to improved monitoring of people and location

# Investment Implications

## Negatives

- Disruption to traditional business models
- Continued wealth and income inequalities?
- Job security
- Loss of sovereignty?
- Powerful global multinationals
- Security and privacy issues
- Are our kids becoming addicted to screens and gaming, losing touch with the physical environment?



# Globalisation vs Nationalism



# Globalisation vs Nationalism

- Post the second-world war and the fall of communism, economies have increasingly adopted a **Neoliberalism philosophy** to increase the role of the private sector and free markets and reduce the role of the State.
- This philosophy was extended across national borders and evolved into **Globalisation** whereby countries have become increasingly integrated regarding the flows of goods and services, labour, capital and technology.
- Globalisation is widely credited with boosting global growth & productivity and lifting millions out of poverty in emerging markets.
- But many are now questioning the benefits of globalisation pointing to trade imbalances, wealth and income inequality, disruption of local industry by large multinationals, job insecurity and harm to the environment.

# Globalisation vs Nationalism

- Globalisation and free markets **are being challenged** and we see the evidence in the election of the Trump administration, Brexit, the 'yellow shirt' protests in France and the election of a Nationalist President in Brazil.
- Even in Australia, the Labor party is launching a deliberate campaign against “big business” and “the big banks” and for increased regulation which is ironic given the Hawke and Keating governments of the 1980's first adopted the neoliberalism philosophy of deregulation and privatisation.
- The private sector and free markets are under attack and this was recognised at the recent **World Economic Forum** in Davos where a new model for globalisation was called for titled '**Globalisation 4.0**'
- Globalisation 4.0 seeks to address the inequality problems but also recognise two new megatrends being the **Technology revolution** (the 4<sup>th</sup> Industrial Revolution) and **Climate Change**.

# Investment Implications

- In our view, a move back to Nationalism is **not the end of globalisation**
- We see it has a necessary step to address the imbalances of globalisation
- We see globalisation as a powerful force that will be amplified by the **technology revolution which will increase global connections**
- Further, **climate change and sustainability** needs to be addressed from a global viewpoint requiring global co-operation
- That said, free markets and the private sector are **facing increased public scrutiny and potential re-regulation**
- In response, the private sector is moving to incorporate **Environmental, Social and Governance (ESG) factors** into their business objectives, models and practices
- Trade imbalances are also being addressed between countries
- Income inequality and wage growth are likely to be the next hot topics

# Investment Implications

- We remain wary of **global trade disputes** continuing for some time
- We also note increased government interference and regulation in the Australian market: Banking, WM, Energy, Utilities, Healthcare, Aged care, Telco
- **Wage growth and awards** could also become an issue under a potential Labour government which could increase company costs, moving forward





# Rising Debt Levels



# Rising Debt Levels

Each country has three levels of debt including:

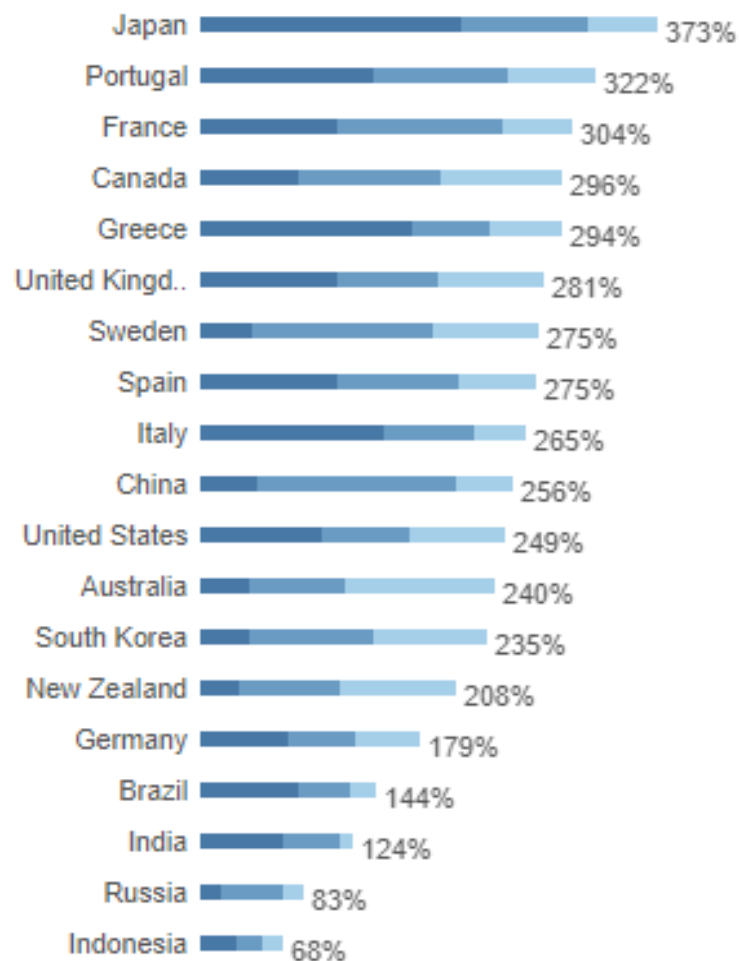
1. **Public debt** – bonds and bills issued by the government to investors
2. **Company debt** – bank debt and securities issued to investors
3. **Household debt** – mostly bank debt

An excess build-up of debt can lead to default problems if the borrower cannot service the debt, or the collateral drops in value or the lender is unwilling to refinance the debt

A build-up of excess debt in any one category is dangerous for the whole economy because if one sector gets in trouble the other sectors will be called upon to 'bail them out'

For example: if households or companies start defaulting the government will provide support, if government debt levels are too high it will seek to sell assets to the private sector and/or raise taxes on companies and households

# Total Debt/GDP per country, 2017



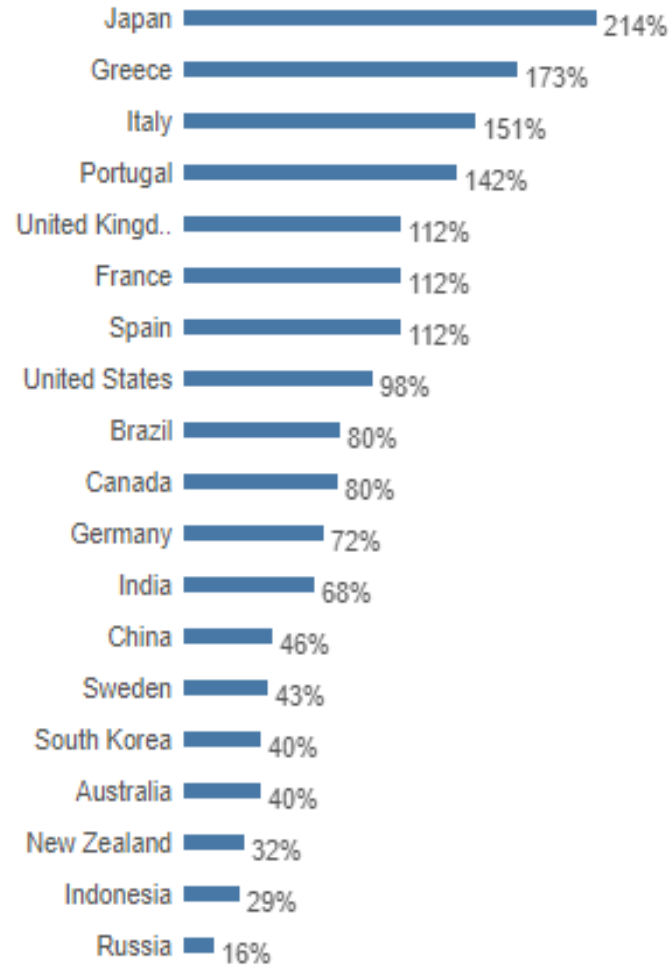
This chart shows the total debt of each country as a % of GDP

Japan, Portugal, France, Canada and Greece have the highest total debt levels in the G20

Emerging economies have generally low total debt levels, with the exception of China

Source: McKinsey Global Institute

# Public Debt/GDP per country, 2017



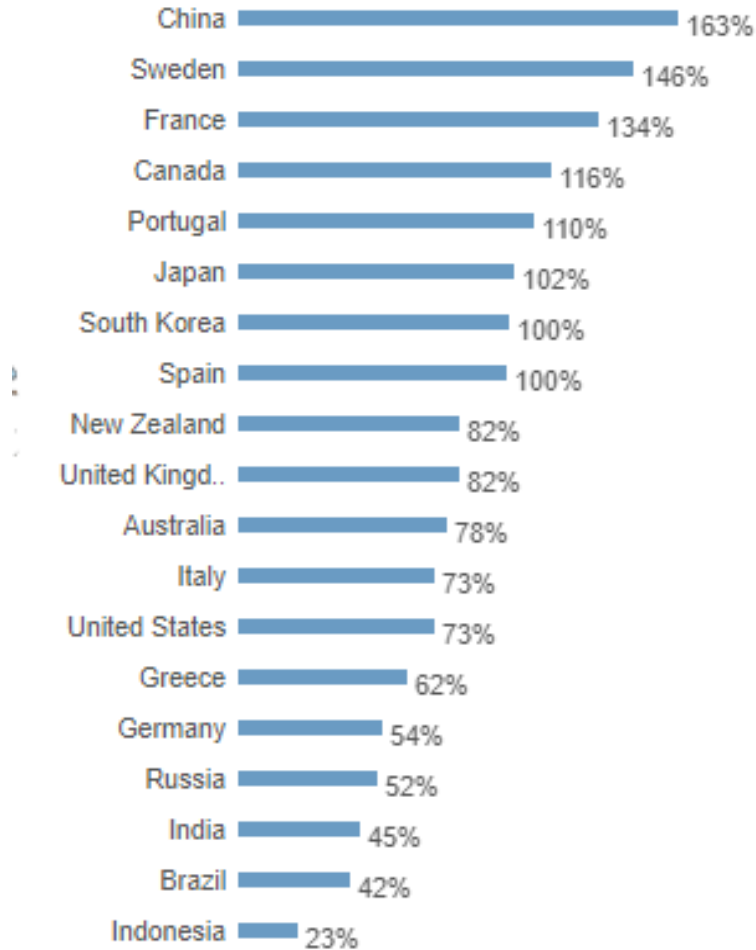
This chart shows the Public debt of each country as a % of GDP

This is the most concerning chart, as it leaves less room for the government to provide support to other sectors and increases the likelihood of new taxes

Japan and European countries feature at the top of this list

Source: McKinsey Global Institute

# Company Debt/GDP per country, 2017



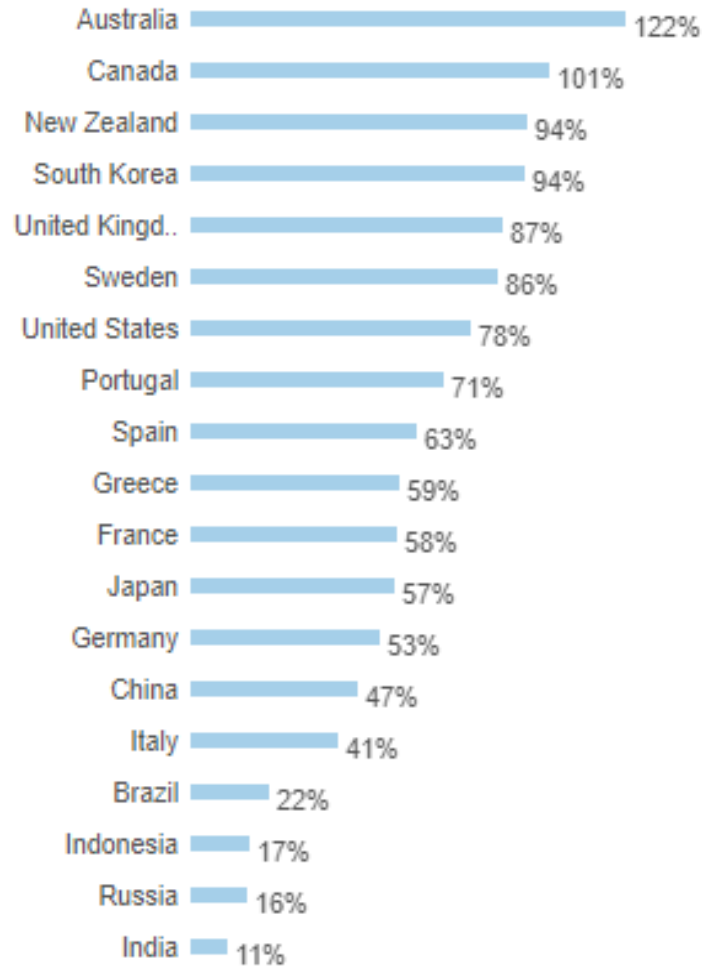
This chart shows the Corporate debt of each country as a % of GDP

Countries with high corporate debt could require the government to help recapitalise the banks or the corporate sector (depending on the type of corporate debt) in a global recession

While China has moderate Public Debt, its largely state-owned corporations have high debt levels which may require the government to bail them out in a downturn

Source: McKinsey Global Institute

# Household Debt/GDP per country, 2017



Source: McKinsey Global Institute

This chart shows the Household debt of each country as a % of GDP

As we all know, Australia leads the G20 in this area, along with Canada and NZ

High household debt means consumers are very sensitive to interest rates, any increase in rates will see consumption fall

In addition, the Banks are at risk because nearly all of this debt is Bank debt

In turn, the Government will be called to bail out the Banks, if Households start defaulting in a downturn



# Rising debt - does it matter?

After a period of austerity, post the GFC, the mood has changed to one of fiscal stimulus and rising debt levels, once again

There are some mitigating factors which may keep a debt crisis at bay:

1. Central Banks have discovered a new tool called 'quantitative easing' whereby the Central Bank buys the bonds of the government driving down interest rates and reducing refinancing risk (it is also called money-printing and the price to pay is that one day the country's currency may crash).
2. Japan's debt pile is often downplayed as supporters point out that Japan holds substantial public assets and that the debt is mostly domestically held and the cost of debt is very low (this may be true but the central bank is accumulating a rising proportion of Japan's public debt (currently 41%), if the central bank monetizes all its debt, then surely the currency will be at risk).

# Rising debt - does it matter?

3. Greece, Italy and Portugal are members of the European Union where they are supported by other European countries and the ECB (true but this is causing tensions because Italy want to provide a fiscal stimulus package but is being restricted by the EU).
4. China's debt is mostly domestically held and the Chinese government can delay defaults and hide bad bank debt, similar to what Japan did after the 1990 property crash (true but trying to cover up bad loans leads to credit quality issues and lenders and investors become reluctant to lend or invest, hence Japan's lost decade of growth post 1990).
5. Each country has assets which need to be taken into account. These assets will offset much of the debt (this maybe true but many of the assets may not be able to be liquid enough to pay down debt and many governments have unfunded liabilities, like future healthcare and pension costs which are yet to be taken into account).

# Rising debt - does it matter?

6. The debt won't ever be repaid. It doesn't matter as long as it is serviced by the borrower. (This could be true but every time the debt comes up for refinance the lender will reassess credit quality and collateral, there is a risk at some point that the lender will ask for a higher interest rate (credit spreads expand) or simply refuses to refinance (in this case the borrower could default) because the debt burden is too high. The borrower becomes under increasing pressure to prove their credit quality, particularly if income growth and/or asset prices turn negative).

# Rising debt - Investment Implications

**Interest rates to stay low** - high debt levels implies interest rates and inflation should stay low for two reasons:

1. the ability to leverage demand has already been taken, future capacity to borrow is more limited; and
2. higher interest rates will quickly reduce disposable income and deflate asset prices, hence higher inflation and interest rates are unlikely to be sustainable.

**Watch out for any spike in interest rates** - this is probably a warning sign of credit quality issues, e.g. Italian bond yield is 2.77% vs German bond yield of 0.10%

**QE weakens currencies** - where a country's central bank is buying up public debt and other debt securities be wary that its currency will have downward pressure

**Rate of debt accumulation matters** - be wary of rapidly rising debt levels in any debt category e.g. China's total debt/GDP has increased from 145% to 245% in 10 years, Australia's household debt/GDP has increased from 100% to 120% in 10 years

# Rising debt - Investment Implications

Japan, China and parts of Europe seem to be the most at risk of debt issues

Australia has high household debt but low to moderate public and corporate debt

Australian households are very sensitive to the cash rate hence it is unlikely to move higher in a sustainable manner



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# Thank You

Bill Keenan 

0403534426 

[bill.keenan@bluebirdportfolios.com.au](mailto:bill.keenan@bluebirdportfolios.com.au) 

[www.bluebirdportfolios.com.au](http://www.bluebirdportfolios.com.au) 