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Megatrends

A research study looking at structural shifts in the global economy and how they affect our investment thinking



Capital at risk. The value of investments and the income from them can fall as well as rise and are not guaranteed. You may not get back the amount originally invested.

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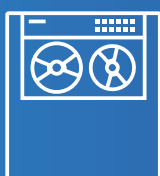
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Megatrends change the world

It's almost impossible to contemplate life without electricity. Yet we only need to go back as far as the late 19th century, to the rapid advancements in electrical engineering, to identify one of the most significant megatrends of all time.

With inventions such as the lightbulb (Thomas Edison), the induction motor (Galileo Ferraris), and the electric transformer (Ottó Bláthy), along with many, many others, electricity became the driving force behind the Second Industrial Revolution, rapidly changing the world around us.

Today we could be on the cusp of an equally ground-breaking development – unleashing the power of data.



Megatrends demand patience

Megatrends rarely creep up on us. They are developments that we know will change our world, but we don't always know how or when. So, when it comes to investing, patience and informed decision-making are key.

Take the dot-com bubble as an example. Investors were right at the time about the future, but their enthusiasm was premature. Technology companies were making no money, and their valuations made little sense.

It has taken nearly 20 years for those businesses to start to deliver on their promises, and some are now very well positioned for the future.



What are megatrends and why are they relevant to investors?



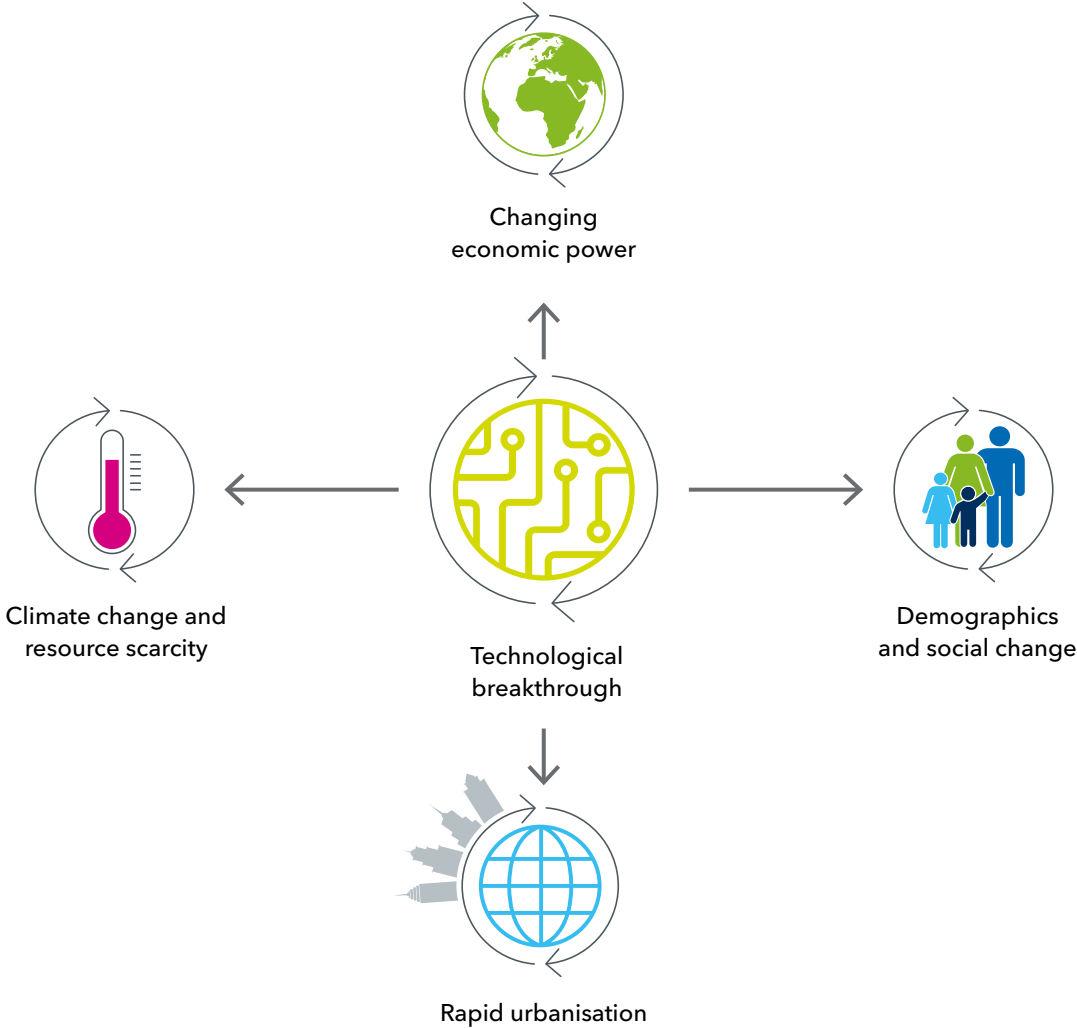
Megatrends – powerful, transformative forces that could change the global economy, business and society – have been affecting the way we live for centuries.

Because of that, they also influence our investment decisions – from the businesses, industries and countries we invest in, to the way we go about finding opportunities.

Identifying the potential for change is a key driver of investment decision-making. Most of these evolutions occur in a cyclical manner and over the short to medium term. Occasionally, though, we're faced with structural shifts that are longer term in nature and have irreversible consequences for the world around us. These are called megatrends.

Cynics might dismiss this as the stuff of think-tanks and policymakers. But we believe the awareness of megatrends in investment processes offers real insight and helps us to identify investment opportunities, which may ultimately provide the potential for attractive risk and return profiles.

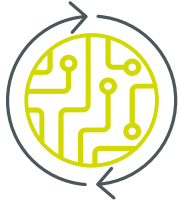
The five megatrends shaping our investment thinking



‘Technological breakthrough’ is a catalyst for other trends while also being key to resolving many of the global issues we face.

The interconnectivity that characterises the world today means that none of these megatrends exists in isolation; when the trends collide and overlap, new investment themes appear.

The following pages discuss these trends in more detail.



Technological breakthrough

60%

of all occupations could see

30%

or more of their constituent activities automated.³

The rapid advancement of technology, especially that of artificial intelligence and machine learning, is arguably at the centre of all megatrends. According to Klaus Schwab, Founder of the World Economic Forum, we're amid a fourth industrial revolution, which will become known as the digital revolution.¹

The impact

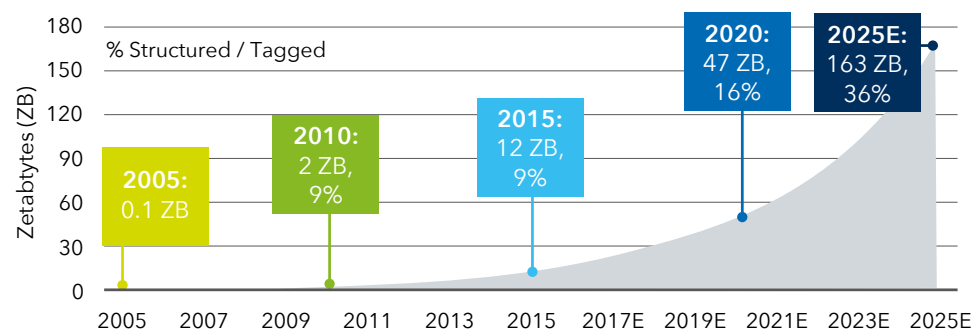
The pace of change is exponential, not linear

The extent and pace of technological change is likely to have wide-reaching implications across almost all industries. People will be replaced with machines, and machines, robotics and AI will learn faster than humans.

Data is the new oil

Data is the key enabler of this fourth industrial revolution. Indeed, it's hard to imagine how powerful it could become. Jack Ma, the founder and executive chairman of Alibaba, likens data to the discovery of electricity. He said, "The world is going to be data. I think this is just the beginning of the data period."²

Information created worldwide = expected to continue accelerating



Source: IDC Data Age 2025 Study, April 2017, sponsored by Seagate (3/17)
(Note: 1 petabyte = 1MM gigabytes, 1 zeta byte = 1MM petabytes).

¹ CNBC, Marguerite Ward, June 21 2017. Accessed at: <https://www.cnbc.com/2017/06/21/jack-ma-this-is-what-to-study-if-you-want-a-good-job-in-the-future.html>

² Information Age, Nick Asmail, April 05 2017. Accessed at: <http://www.information-age.com/data-forecast-grow-10-fold-2025-123465538/>

³ McKinsey Quarterly, July 2016. Accessed at: <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/where-machines-could-replace-humans-and-where-they-cant-yet>

The total amount of global data is expected to increase tenfold by 2025,⁴ the majority of which will be created and managed by business.

Disrupting the labour market

One thing is for sure - the fourth industrial revolution looks set to do more than just disrupt the labour market. Many repetitive jobs can already be done by a machine, but with the rise of Artificial Intelligence, human expertise can now be learned and mastered by a system. Yes, this means that certain jobs will be replaced by machines, but it also means that the potential for new and emerging industries and opportunities is greater than ever before.

Data security

Data breaches and hacking episodes are already rife in the connected world - the recent Facebook scandal being a good example of this. With a significant increase in connectivity and potentially billions more insecure devices, data security will be the difference between success and failure for many businesses.

Technology start-ups will replace traditional manufacturers

'Old' industries like appliance and car manufacturers are facing a serious situation - they either invest in the next era, or risk obsolescence. The CEO of Trimble (U.S. automation company) said that "companies that don't invest in automation now, will not exist in 5 years' time". The race for 'edge' through technological advantage is on, and the incumbents will have to fight to hold their position.

The outlook

In many respects, when standing on the brink of such rapid and significant change, it's very hard to predict

the future. Even policymakers and governments find it almost impossible to keep abreast. Here are just some potential implications:

The emergence of the 'Internet of Things'

By the year 2020, our world will be even more connected to the internet. Our cars, coffee machines, fridges and central heating will all be controlled from our tablets and smartphones. To put this into context, Gartner⁵ estimates that in 2014 there were 7 billion 'things' connected by the internet. By 2020, that will rise to 26 billion.

Improved standards of living through robotics and AI

As robots and artificial intelligence take on more jobs, costs should decrease, and more people will be able to afford better products. At the same time, dramatic improvements could be made to infrastructure, and transport costs might plummet.

Healthcare improvements

People will live longer and better lives, as healthcare technology improves patient outcomes and eradicates certain diseases. This will mitigate some of the issues of long-term care we discussed in the previous chapter.

"Thriving in this new world requires the best people, the best computing systems and the best algorithms - all working together. It's not "either / or." It's "and."

JOSEPH KOCHANANSKY, HEAD OF THE ALADDIN PRODUCT GROUP

⁴ McKinsey Quarterly, July 2016. Accessed at: <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/where-machines-could-replace-humans-and-where-they-cant-yet>

⁵ Gartner Newsroom, February 07 2017. Accessed at: <https://www.gartner.com/newsroom/id/3598917>



Demographics and social change

Changes in global demographics (world population, density, ethnicity, education level and other aspects of the human population) will bring about significant social change, and therefore challenges and opportunities, for both government and business. This megatrend underpins other structural shifts, such as technological development and shifting economic power. While the changes will vary by region, they will have a profound effect on local and global markets and societies.

The impact

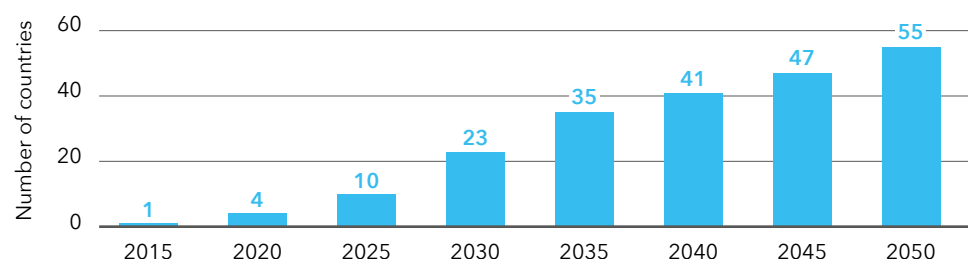
There will be many more people in the world

According to the UN, the global population is forecast to increase by over 1 billion by 2030⁶, with most of this growth coming from the emerging markets. By 2050, the UN estimates that 80% of the global population over the age of 60⁶ will be in countries that are currently deemed to be 'less developed'.

An ageing population

Japan is the only country in the world where 30% of the population is over the age of 60. The UN's latest demographics report forecasts that, by 2050, this will be the case in 55 countries.⁶ People will be living longer in retirement, which will result in the need for large-scale changes in government policy. This will also create a strain on healthcare services and providers, with many nations enforcing laws to ensure the elderly are properly cared for.

Number of countries with >30% population aged over 60, 2015-2050



Source: United Nations World Population Prospects: The 2015 Revision; as of July 2015.

⁶ United Nations, June 21 2017. Accessed at: <https://www.un.org/development/desa/en/news/population/world-population-prospects-2017.html>

“There are already more over-65s in Asia than there are people in the United States. In fact, by 2042—in just a quarter of a century—there will be more over-65s in Asia than the populations of the Eurozone and North America combined.”

SOURCE: DELOITTE⁷

A global retirement savings gap

According to analysis by the World Economic Forum (WEF)⁸, the retirement savings gap across eight major economies is growing by \$28 billion* every 24 hours and could reach \$400 trillion* by 2050 – around five times the size of the global economy today.

Producing fewer children

As the graph overleaf shows, we’re having fewer children – particularly in wealthier and educated sections of society. This potentially has far-reaching consequences for business, including lower productivity, less labour-force participation, and less investment growth. Younger generations will be increasingly burdened with the expectation of looking after the elderly, which in turn could further reduce productivity.

The outlook

The impact of changing demographics is far-reaching. From the demand for products, to changes to the workforce and family structures. While many businesses are particularly adept at identifying the threats and opportunities of such change (they don’t, after all, happen overnight), governments may find the process more challenging, particularly if it means making unpopular policy changes that could influence voters.

Here are some of the key changes that may impact investors in the medium to long term:

Healthcare spending

In the U.S. alone, healthcare spending is set to rise by 8% of GDP each year between now and 2040. That’s around \$3,400 billion* every year.⁹

Pension income solutions will increase in importance

There will be a renewed focus on saving for retirement and finding effective ways of drawing an income when people retire. As a result, there could be a greater need for financial help, and the rise of robo-advice solutions.

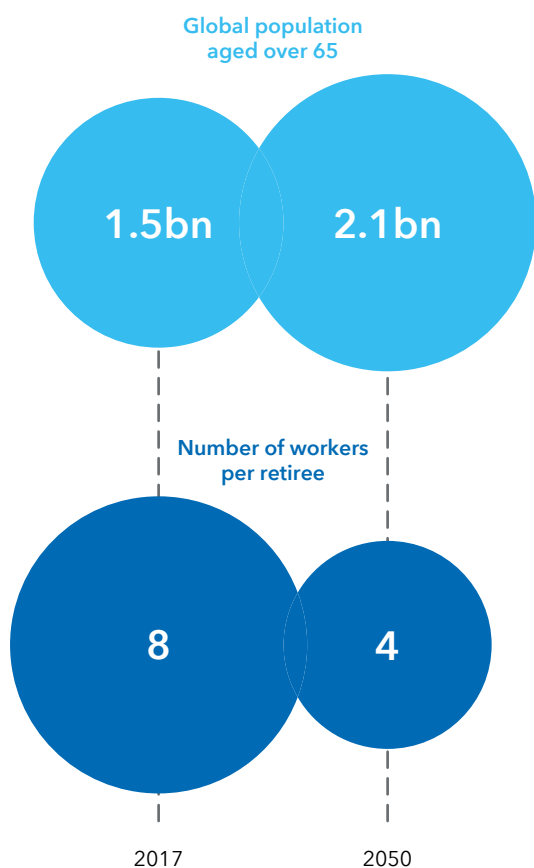
* Figures shown in US\$

⁷ Deloitte, Third Edition, September 2017. Accessed at: <https://www2.deloitte.com/insights/us/en/economy/voice-of-asia/sept-2017/demographics-executive-summary.html>

⁸ World Economic Forum, Peter Vanham, May 26 2017. Accessed at: <https://www.weforum.org/press/2017/05/global-pension-timebomb-funding-gap-set-to-dwarf-world-gdp/>

⁹ World Economic Forum, Klaus Schwab, January 14 2016, <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

An ageing population will have a dramatic impact on our workforce



Source: Mercer/ World Economic Forum/ Aegeon, 2017. Accessed at: <https://raconteur.uberflip.com/i/947115-workplace-pensions-special-report-2018/7> in May 2018

Replace people with robots

As populations age, it becomes increasingly likely that businesses will use technology to plug the shortfall in labour supply. Robots are more productive (they don't sleep, get sick or need performance reviews, although they may have technical problems). As a result, there will be a greater need for skilled jobs such as data scientists.

Consumer preferences are changing the food industry

Consumers are increasingly focussed on what they eat, how they are eating it and how it is produced; creating significant changes in the food supply chain. For instance, organic foods sales in the U.S. has risen 224% from 2005 to 2016.¹⁰ Fresh food is being preferred over processed foods and products with specific health related benefits, such as avocados and berries, have seen outsized growth. Consumers want their food to be more convenient, resulting in more online delivery, meal-kit solutions and convenient snacking options at supermarkets.

¹⁰ Statista 2018, Organic food sales in the United States from 2005 to 2016, Accessed at: <https://www.statista.com/statistics/196952/organic-food-sales-in-the-us-since-2000> in May 2018



Shifting economic power

In less than a generation, emerging markets and developing economies have gone from being producers of goods and trading hubs for developed countries, to becoming an important destination for consumer goods and services in their own right. They now account for nearly 80 percent of global economic growth, and 85 percent of growth in global consumption – more than double their share in the 1990s.¹¹

The impact

China will be the new global superpower

Two centuries ago Napoléon Bonaparte said, “China is a sleeping giant... when she wakes, she will move the world.”¹² How right he was. Only 15 years ago, China’s economy was one tenth the size of the U.S. economy. If it continues to grow as predicted, it will be bigger than the U.S. economy by the late 2020s.¹²

As a result, and as an example of the urbanisation megatrend, China expects to have 200 cities with a population of over one million people by 2025.¹² To tackle overcrowding in Beijing, China is building a new city from scratch 100km southwest of the capital. Initially it will be double the size of Manhattan and is expected to become twice the size of New York and Singapore.¹³

Global demographics will change

In 2016, Asia’s population was estimated at 4.4 billion, having quadrupled in size during the 20th century. As the graph overleaf shows, it is forecast to grow to over 5 billion people by 2050.¹⁴

Asia benefits from a wealth of resources, and has an ecological variety which makes it well-placed to support this growth. As a result, we can expect to see further economic growth across this region.¹⁴

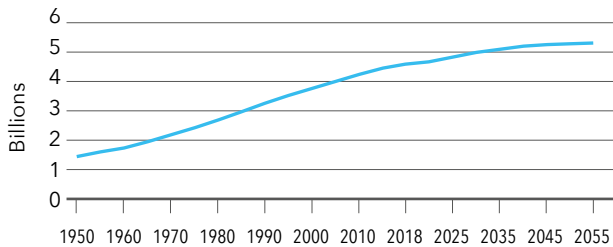
¹¹ Voice of Asia, Third Edition, September 2017. Accessed at: <https://www2.deloitte.com/insights/us/en/economy/voice-of-asia/sept-2017/demographics-executive-summary.html>

¹² McKinsey, February 2009. Accessed at: <https://www.mckinsey.com/featured-insights/urbanization/preparing-for-chinas-urban-billion>

¹³ China Daily USA, April 03 2017, New area to be ‘historic development’. Accessed at: http://usa.chinadaily.com.cn/epaper/2017-04/03/content_28783856.htm

¹⁴ Asia Population 2018, November 14 2017. Accessed at: <http://worldpopulationreview.com/continents/asia-population/>

Asia population growth: 1950 - 2055



Source: United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, custom data acquired via website

Shift in investor preferences

Traditionally investors preferred the relative safety of developed economies, and particularly the U.S., believing they offered longer-term sustainable growth potential. Emerging markets offered tactical opportunities that came with increased risk, but potentially greater reward. We're already seeing a shift towards emerging markets in investment portfolios and this is likely to accelerate as China makes equities more accessible to foreign investors and improves their global trading policies.

The outlook

Population growth is at the heart of the shift in economic power. The influence of emerging and developing economies will mean huge changes for business, society and the way we invest.

Opportunities for investors to benefit from these rapid changes means that the small allocations to these areas of the globe in investment portfolios could swell in the coming years.

From west to east

Despite some challenges for the Chinese economy driven by debt levels and property market valuations, among other things, the potential long term growth of the Chinese economy relative to the U.S. and Europe looks likely.

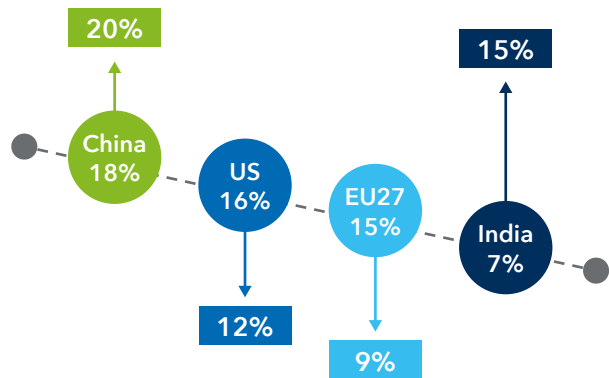
China is already on a path to usurp the U.S. as the world's leading superpower. When it does, political agendas, global trade and the sphere of influence are likely to shift towards Beijing from Washington.

Mandarin could become the setting language

The continuing liberalisation of the Chinese economy means the assumption that the world speaks English will likely become a thing of the past.

The U.S. and Europe will steadily lose ground to China and India

Share of world GDP (PPPs) from 2016 to 2030



Source: IMF for 2016 estimates, PWC analysis for projects to 2050

Chinese business growth proves unstoppable

China now boasts at least 100 unicorns (private companies with a \$1 billion* valuation),¹⁵ and by the end of 2019 it is forecast to be the largest user of the international patent system.¹⁵ It currently lies in second behind the U.S.

An impressive six million enterprises were registered in China last year, up from 2.5m in 2013.¹⁵ The fastest growing sectors included science and technology, entertainment, sport and finance, whilst the number of mining, electricity and gas companies showed a slight decline.¹⁶

* Figures shown in US\$

¹⁵ China Driver International Patent Applications to Record Heights, Geneva, March 2018. Accessed at: http://www.wipo.int/pressroom/en/articles/2018/article_0002.html

¹⁶ Financial Times, Tom Hancock, April 11 2018. Accessed at: <https://www.ft.com/content/16094eb4-3d61-11e8-b9f9-de94fa33a81e>



Climate change and resource scarcity

16
of the
17

warmest years
on record have
occurred since
2001²⁰

The impact of climate change has been discussed for some time now. Barely a day goes by without major coverage of it in the press, and it can be difficult to separate the real issues and challenges from headline-making conjecture. Here we provide our view based on recent research, which gives greater detail on the effects of climate change and insight into the potential outcome:

The impact

Increased strain on the planet's resources

The global population is expanding rapidly and becoming increasingly prosperous. This is leading to significant demand for energy, water and food, which is putting a strain on the traditional, finite resources of the planet. According to The United Nations Food and Agriculture Organization (FAO), the global population will surpass 9.1 billion by 2050, at which point they predict the world's agricultural systems will not be able to supply enough food for everyone.¹⁷ And the UN projects that the global demand for fresh water will exceed supply by 40% in 2030, with some cities, like Cape Town, already suffering from 'water stress'.¹⁸

The world is heating up

The average surface temperature of the planet has been on an upward path since the late 19th century and this trend looks set to continue.¹⁹

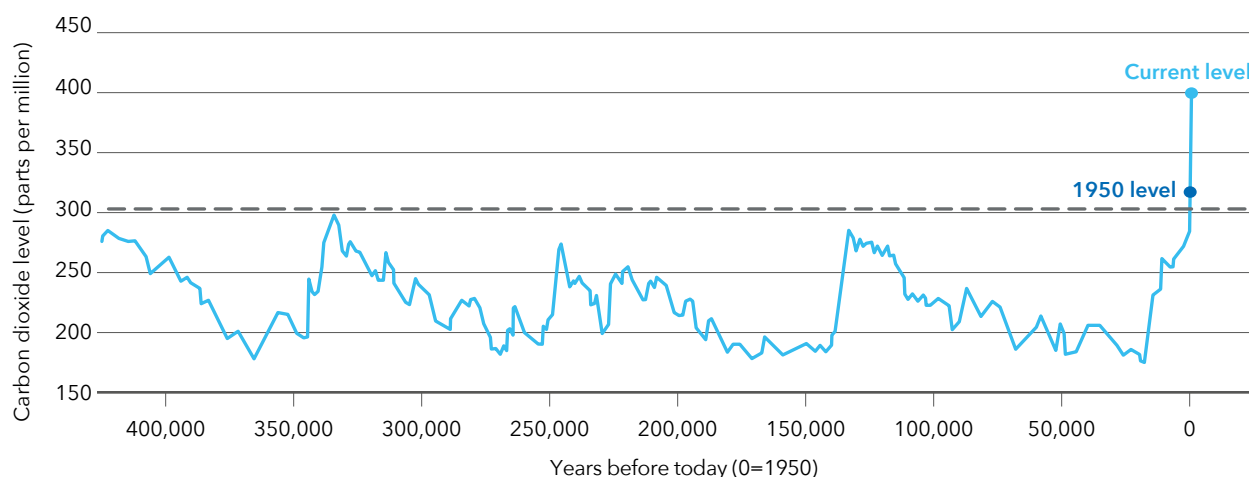
¹⁷ Global Citizen, Tess Sohngen, August 30 2017. Accessed at: <https://www.globalcitizen.org/en/content/world-running-out-of-food-by-2023/>

¹⁸ BBC, February 11 2017. Accessed at: <https://www.bbc.co.uk/news/world-42982959>

¹⁹ NASA. Accessed at: <https://data.giss.nasa.gov/gistemp/graphs/> in May 2018

²⁰ NASA, January 18 2017. Accessed at: <https://www.giss.nasa.gov/research/news/20170118/>

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.

Increased emissions

The human practice of burning fossil fuels is thought to be the primary cause of global warming. Carbon dioxide and other gases are released and trapped within the atmosphere, which in turn means heat can't escape. As the graph shows,²¹ atmospheric carbon dioxide levels have rocketed since the time of the industrial revolution and show no sign of abating.

Average temperatures are forecast to rise by more than two degrees before 2100,²² creating significant and irreversible damage and increasing strain on global resources. A study by Pricewaterhouse Coopers (PwC)²³ estimates that this two-degree threshold could be reached as early as 2036.

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.²⁴

"Curbing carbon emissions requires significant spending on green infrastructure and a reduction in fossil fuel subsidies. This creates large investment opportunities in areas that attract capital or industries at risk of disruption."

ISABELLE MATEOS Y LAGO
BLACKROCK INVESTMENT INSTITUTE

²¹ NASA. Accessed at: <https://climate.nasa.gov/evidence/> in May 2018

²² NOAA. Accessed at: <https://www.ncdc.noaa.gov/monitoring-references/faq/indicators.php> in May 2018

²³ PwC. Accessed at: <https://www.pwc.co.uk/issues/megatrends/climate-change-and-resource-scarcity.html> in May 2018

²⁴ NASA. Accessed at: <https://climate.nasa.gov/evidence/> in May 2018

The outlook

The impact of global warming should not be underestimated. Rising temperatures could eventually have a significant impact on crop yields, causing food prices to surge, which in turn could impact poorer communities. At the same time, coastal areas will be increasingly susceptible to regular flooding as sea levels rise.²⁵

This is a global problem, and is further exacerbated by other megatrends, such as urbanisation and the significant growth in consumption in emerging markets. The UN believes that the changes required to adequately address the issue 'have no documented historical precedent'²⁶. Some of the changes identified will indeed require a step-change in consumer behaviour and the development of new technologies to replace existing resources and infrastructure.

More produce, less inputs

In order to meet the increased food demands of the future, the agricultural industry will need to continue to innovate to become more productive with less resources and inputs. Technology is playing a key role via the rising adoption of precision agriculture. Precision variable rate technologies such as one that can detect weeds with sensors and spot sprays could slash herbicide usage by up to 95%.²⁷ McKinsey published that with a 20-40% adoption rate for precision, agriculture yields could be boosted by 10-15% globally by 2025.²⁷

Utilisation of clean energy

Sustainable energy sources are increasing in importance as the rhetoric condemning fossil fuels continues and changes in commodity consumption occur. But change is also about using energy more efficiently in everything we do.

Goodbye to cars as we know them

As tariffs are placed on internal combustion engine vehicles, experts predict that by 2040 we will all be driving electric vehicles.²⁸ And while the idea of driverless cars still feels like science fiction, the UK Government has set a target of having the first autonomous cars on the road by 2021,²⁹ with companies such as Daimler planning 'full production of autonomous vehicles by the early 2020s'.³⁰

Beijing

As China becomes a new superpower (see Shifting Economic Power), it has increased global responsibility.

Beijing became the first city in China to be coal-free for heating and electricity.³¹ It has also spent \$1.3 billion* to convert its 70,000 car taxi fleet to electric power.³²

* FIGURES SHOWN IN US\$.

²⁵ United Nations, June 21 2017. Accessed at: <https://www.un.org/development/desa/en/news/population/world-population-prospects-2017.html>

²⁶ UCASA. Accessed at: "https://www.ucsusa.org/global_warming/impacts/effects-of-tidal-flooding-and-sea-level-rise-east-coast-gulf-of-mexico in May 2018

²⁷ Farm Journal Ag Tech, Margy Eckelkamp, June 02 2018. Accessed at: <https://www.farmjournalagtech.com/article/blue-river-see-spray-tech-reduces-herbicide-use-90>

²⁸ BBC, Theo Leggett, September 19 2017. Accessed at: <https://www.bbc.co.uk/news/business-41268513>

²⁹ BBC, Rory Cellan-Jones, November 20 2017. Accessed at: <https://www.bbc.co.uk/news/technology-42046561>

³⁰ Handelsblatt Global, Markus Fasse, January 09 2017. Accessed at: <https://global.handelsblatt.com/companies/daimlers-driverless-future-673931>

³¹ China Daily, March 2017. Accessed at: http://www.chinadaily.com.cn/china/2017-03/19/content_28603569.htm in May 2018

³² World Economic Forum, Dom Galeon, March 2017. Accessed at: <https://www.weforum.org/agenda/2017/03/beijing-is-converting-its-fleet-of-70-000-taxis-to-electric-power>



Urbanisation

The rise of the mega city

In 1990 there were only 10 cities in the world with a population exceeding 10 million - the so-called 'megacities'. Today the number of worldwide megacities has nearly tripled to

28³⁴

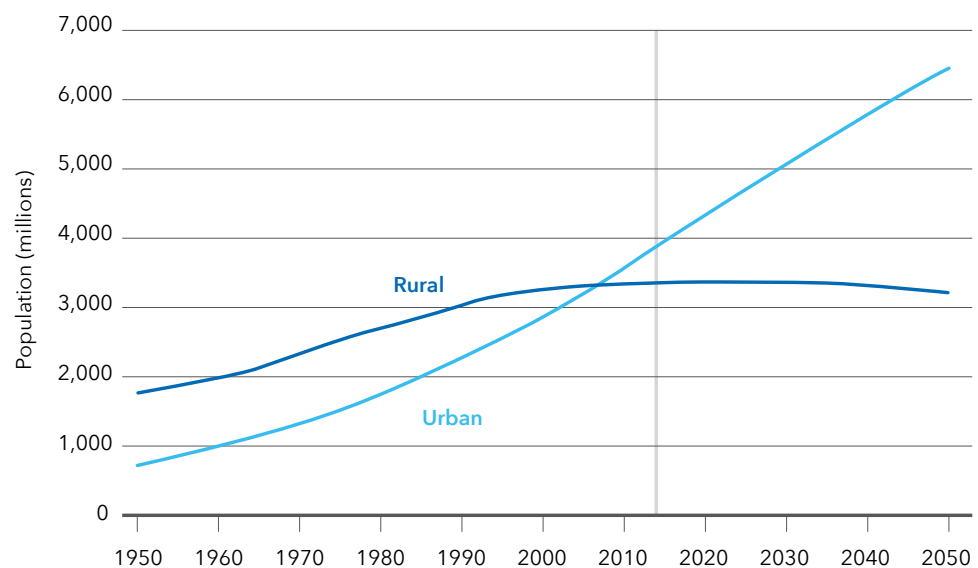
Perhaps somewhat ironically, as we become better connected, and the world becomes a smaller place, our populations are increasingly concentrating themselves in cities and large urban areas. This will further drive technological advancement and impact climate change, having its own influence on other megatrends.

The impact

There's a massive migration to cities underway

Globally, more people live in urban than rural areas, and as the graph below shows, that trend looks set to continue. In 1950, 30% of the world's population lived in urban areas, and that's forecast to increase to 66% by 2050.³³

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>

³³ Hing, E, Hsiao, C. U.S. Department of Health and Human Services. State Variability in Supply of Office-based Primary Care Providers: United States 2012. NCHS Data Brief, No. 151, May 2014

³⁴ McKinsey Disruptive Technologies Report 2013, Berenburg Agricultural Technology: Harvesting Returns Report, October 2017

Self-fulfilling prophecy

In the U.S., the patient-to-primary care physician ratio in rural areas is 39.8 physicians per 100,000 people, compared with 53.3 physicians per 100,000 in urban areas.³⁵ This uneven distribution of physicians has proven to have an impact on the health of the population. With better healthcare outcomes likely, urban populations consequently grow faster than rural populations organically (without migration) as people are motivated to migrate towards them.

At the same time, urban areas tend to have better employment opportunities, education and access to social and cultural activities. This makes them more attractive places to live; it is easier for businesses to flourish. In China, for example, the urban per capita income is more than double the rural figure, according to the National Bureau of Statistics.³⁶

The outlook

These large-scale shifts in population lead to both opportunities and challenges for society. The requirements of future urban populations will be remarkably different to the cities of today, with citizens demanding connectivity to everything - every device, every entity and every object. Wireless connectivity will be paramount to improving quality of life in cities.

Here is what else it could mean for urban life:

New infrastructure

Mass migration will mean the need for new infrastructure and services. Transport infrastructure and networks will require upgrades due to the dominance of autonomous vehicles and the greater concentration of people.

No car ownership

A lack of space and the rise of autonomous cars will mean fewer people will own a car, preferring to use 'summon-able' services instead.

Healthcare systems will have to change

As population density grows to unprecedented levels, existing healthcare systems will need to be radically overhauled to deal with this influx. Traditional hospitals will come under significant strain if they do not utilise new technologies available to them.

Personal security will be a focus

With higher crime rates in cities than rural areas, governments will employ elevated levels of surveillance on citizens in cities, increasing connectivity means that every activity is logged and monitored.

'Smart Cities' emerge

Cities will emerge, driven by modern urban populations that embrace technology to improve the efficiency of infrastructure and services.

More than half of the world's population now lives in towns and cities, and by 2030 this number will swell to about 5 billion. Much of this urbanization will unfold in Africa and Asia, bringing huge social, economic and environmental transformations.

UNITED NATIONS POPULATIONS FUND
(UNFPA)*

* UNFPA, October 03 2016. Accessed at: <https://www.unfpa.org/urbanization>

³⁵ United Nations: World Urbanisation Prospects - the 2014 Revision. Accessed at: <https://esa.un.org/unpd/wup/Publications/Files/WUP2014-Highlights.pdf>

³⁶ Xinhuanet, January 18 2018. Accessed at: http://www.xinhuanet.com/english/2018-01/18/c_136905784.htm

Megatrends at a glance



Technological breakthrough

- Machines will learn faster than humans
- Personal data will be a valuable commodity

60%³⁷

Nearly two-thirds of all occupations could see a third or more of their constituent activities automated.

Megatrend in action

- Traditional consumer goods produced by technology companies
- The global economy should grow as the world becomes more productive
- Technology will enable solutions to climate change and population problems



Demographics and social change

- Labour shortage
- Demand on healthcare
- Changing consumer demands

1bn³⁸

The global population could increase by over 1 billion by 2030, and by 2050 a third of the population of 55 countries will be over 60 years old.

Megatrend in action

- Substantial healthcare spending will create huge opportunity in this sector
- Robots will replace people to plug the labour gap
- People will need more money to fund a lengthy retirement

³⁷ McKinsey Quarterly, July 2016. Accessed at: <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/where-machines-could-replace-humans-and-where-they-cant-yet>

³⁸ United Nations, June 21 2017. Accessed at: <https://www.un.org/development/desa/en/news/population/world-population-prospects-2017.html>



Shifting economic power

- Emerging markets will overtake developed markets, taking a greater share of investor’s money and gaining global influence

2030

China could become the new world superpower by 2030, with India rivalling the U.S. by 2050.³⁹

Megatrend in action

- The political sphere of influence could shift from Washington to Beijing
- Businesses could become more powerful than countries



Climate change and resource scarcity

- Crop failure
- Widespread flooding
- Destroyed habitats
- Energy shortage

5.8°C

If predictions are correct, by 2100 the average surface temperature of the planet will have risen 5.8 degrees since the late 19th⁴⁰ century, and the planet’s resources will become increasingly scarce.

Megatrend in action

- Western diets will become increasingly plant-based
- Renewable energy will fully replace fossil fuels
- Technological advancement will yield man-made materials



Urbanisation

- Space and accommodation will become more of an issue in major cities

66%

Two-thirds of the world’s population will live in urban areas by 2050. In 1950, only 30% lived in urban areas.⁴¹

Megatrend in action

- A whole new city infrastructure could be required
- Car ownership will become obsolete
- The healthcare system will need to change

³⁹ The World in 2050. Will the shift in global economic power continue? PWC, 2015. Accessed at: <https://www.pwc.com/gx/en/issues/the-economy/assets/world-in-2050-february-2015.pdf>

⁴⁰ IPCC. Accessed at: "<https://www.ipcc.ch/ipccreports/tar/wg1/008.htm>" \l "figspm5" <https://www.ipcc.ch/ipccreports/tar/wg1/008.htm#figspm5>. in May 2018

⁴¹ Hing, E, Hsiao, C. U.S. Department of Health and Human Services. "https://www.ruralhealthweb.org/NRHA/media/Emerge_NRHA/PDFs/db151.pdf" State Variability in Supply of Office-based Primary Care Providers: United States 2012. NCHS Data Brief, No. 151, May 2014.

Conclusion

It's almost impossible to 'conclude' a paper on megatrends. We're arguably living through one of the most significant periods of change in the history of our planet. The sheer pace of technological advancement will far outstrip any change we have experienced before, and these megatrends will continually evolve, with some becoming obsolete as others emerge.

One thing we can be sure of is that structural change will impact and influence the direction of everything we touch - from the future of economics and business, to global demographics, the environment, politics, lifestyle and finance.

We think there's potentially significant value in aligning portfolios to these longer-term structural trends. The future will be full of megatrend-related change - some of which will present significant challenge, while others will yield opportunity. The only way to prepare for this is to stay informed and open-minded.

As the business landscape adapts and changes, investors must focus on the opportunities presented, while making rational decisions that are well-thought-out. A knowledge of the trends, their breadth, interconnectivity and potential effects can add value to an investment portfolio.

The world will adapt because of these trends, and our portfolios will too. Studying megatrends is just one way of keeping our eye on the horizon, so that we can be confident we're making the right choices for our clients.

About BlackRock

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* Figures shown in US\$.

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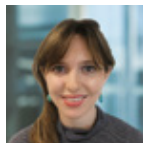
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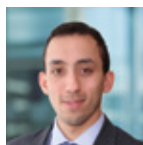
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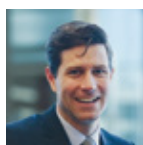
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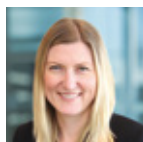
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