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STRATEGIST VIEWS

DEEP WATER WAVES

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Deep water waves originate in depths of around 200 metres[1] or more. They start out wide and accelerate rapidly, twisting and changing as they brush the contours of the seabed. They become intertwined with others and form bigger waves. The slope of the beach and the features of the seabed can either calm or exaggerate the force, current and speed of deep water waves. The extent of their power is hard to see from the surface and we can easily misunderstand the potential impacts.

That is a striking parallel with the long-term drivers that face investors. We typically react to the impacts we can foresee on the surface, with the logical misattribution of the drivers beneath. Powerful 'waves' are sweeping away established assumptions before them, fundamentally altering the economic, political and public policy foundations for asset prices. Accelerated by COVID-19 and intensified by socioeconomic pressures, climate change and geopolitics, these forces will exert themselves on every facet of investment portfolios for years to come. Meanwhile, the struggle between supply- and demand-side economics is changing, with a direct impact on the outlook for many countries. The relationship of these factors is one of interdependence, not dependence.

This paper explores the interplay between them and their likely impact on investment outcomes in the next decade.

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EXECUTIVE SUMMARY

THE DEMOGRAPHIC WAVE

Global growth is set to slow to below its long-term trend of 3.45%[2] over the next generation.

The countries that have driven global economic growth over the past two decades are growing older. This leads to reduced output as working age populations shrink; inevitably it increases the liabilities of older populations, especially in a scenario of longer life expectancy. The ratio of dependents to working age citizens will rise, despite longer working lives, implying higher taxation to cover higher costs and the increased requirements for healthcare investment. As a higher proportion of resources is gradually dedicated to a non-productive section of the population, this acts as a drag on economic growth. Potential productivity growth appears unlikely to be enough to offset the ageing demographics.

National borders will continue to harden, as anti-immigration sentiment persists or grows in many countries, leading to significant negative implications for lower income countries that depend on remittances.

Migration would typically have been the answer to the ageing workforce in developed countries; it is relatively quick to implement measures such as quotas, especially for semi- and lower-skilled workers. These workers take up the slack from those retiring and pay taxes immediately, thus also replacing lost government revenue. However, many countries are now set against the prospect of more migration. COVID-19 seems to have sharpened this attitude. In the next decade, the implied economic costs of this posture may become painfully apparent in terms of lost productivity and output, unless governments move fast to facilitate significant investment in technology instead. For lower income countries that depend on remittances, this is a disaster, undoing progress in poverty alleviation, education and development.

THE TECHNOLOGY WAVE

The next decade will see an urgent and widespread boom in investment in innovation across all economic sectors. It will be in both private and public sectors, with much of it driven by geopolitical imperative, not just economic value.

Driven by national security as much as economic considerations, the wealthy nations at least appear set to urgently invest in technological innovation. The use of automation will accelerate across all sectors. Widespread adoption requires urgent deployment of certain enabling technologies such as 5G, but also accelerating the implementation of artificial intelligence (AI) and machine learning applications across sectors and the development of quantum computing. In most cases, this requires new or updated legislation to account for transparency of algorithms, safety and fundamental rights. This adds a layer of complexity that arguably only matters in democracies. These technologies' use in service sectors has the potential to revolutionise the structure of the job market in advanced economies, which have become more service-sector driven. The disadvantages are the capital requirements and the relatively long lead time to reaping the resultant boost to productivity, but the geopolitical struggle between the United States (US) and China will be an important additional driver beyond economic value considerations.

THE DEBT WAVE

The tension between inflation and deflation will continue, but the calculus has changed. Longer term, control of inflation trumps economic growth, but the resolution will vary by country or region.

From Volcker to Powell,[3] this struggle incorporates economic debate, but is now accompanied by the creation of a new, conspicuous political bloc focused on the priorities of the senior population, which are typically inflation, healthcare, and law and order. In countries with already declining populations, fiscal incentives to try to boost fertility rates are increasingly complemented by a drive to change economic and social welfare policy, straining many sovereign finances to the breaking point.

COVID-19 has exacerbated socioeconomic inequality in many countries; progressive and redistributive taxation will be prioritised globally, unorthodox economic experiments will be attempted, and *Big Government* is back.

After the first global pandemic in a century, existing trends have accelerated sharply. Foremost is the general malaise of democracies at their embedded social and economic inequalities, which were exacerbated by COVID-19. This factor, along with the growing pressure on sovereign balance sheets from the extent of stimulus in 2020–2021, drives many of the discussions on economic policy today. One of the inevitable outcomes is the proliferation of unorthodox theories, such as Modern Monetary Theory (MMT). MMT says monetarily sovereign countries which spend, tax, and borrow in a fiat currency that they fully control, are not operationally constrained by revenues when it comes to federal government spending. In truth, it seems only one country has a track record of conducting a version of MMT: Japan. But Japan is a unique situation: a wealthy country whose institutional savings pools hold most of the country's sovereign debt. The only other country that could continue to extend its sovereign debt ratios significantly is the US, which benefits from its position as an attractive issuer and the position of the US dollar in the global financial system. For the rest, write-offs are impossible; low rates are imperative, and older voters have little interest in debt repayment. Meanwhile, many governments aspire to be part of the solution, providing more material for the debate on the rise of 'European' social market economics at the expense of 'orthodox' neo-classical economics.

THE GEOPOLITICAL WAVE

Great Game[4] geopolitics is set to increase its influence on investment outcomes over the next decade, as the confrontation between the US and China plays out, with asymmetric cyberwarfare the most likely scenario.

Until an accommodation is reached, the 'social distancing' underway between the giants of global growth now appears irreversible and it will set parameters for investment in most sectors. Technology is clearly the immediate and most intense battle ground. Fossil fuels and green energy, metals and ores, even aspects of financial services will all be impacted by increasing government involvement on national security grounds as the great powers jockey for position. Uncertainty around the willingness of the US to come to an ally's aid is more urgent when the most likely scenario is a concerted cyber campaign.

Economic polarisation between nations and regions will increase. After the pandemic, wealthy countries may feel compelled to renew their commitments to multilateral organisations like the World Bank and the International Finance Corporation (IFC)[5] as mechanisms to help low-income countries. But the development gap remains and is growing, so migration pressures remain.

Many middle- and low-income countries will struggle with the declines in foreign direct investment (FDI) and increases in unemployment as multinationals redeploy their supply chains and adopt automation in a meaningful way. For most of these countries, their relatively poor educational attainment levels are obstacles to adapting their economies. This limitation suggests clear investment opportunities in education, online services and, of course, businesses related to broadband infrastructure. Since local governments may lack the funds and the project management experience, they require collaboration—likely with the IFC and the World Bank, who will be redoubling their efforts in this regard. China, meanwhile, has not only redoubled efforts to project soft power via vaccine diplomacy but also via the use of infrastructure investment, with a particular focus on technology and communications infrastructure. For the countries concerned, this is a welcome development. Within nations, governments will provide investment opportunities via incentives in previously disadvantaged regions that are politically expedient. Governments will also direct credit decisions to facilitate specific types of investment in particular regions. It means that investors should be aware that the strings are being pulled by governments and that traditional returns criteria may not be relevant.

THE CLIMATE CHANGE WAVE

Climate change will increasingly exacerbate border tensions, threaten agricultural production and heighten social stresses in many regions. This process also heightens the existing divide within countries: e.g. rural/urban; coal region vs. solar region.

In developing countries, the population is still growing fast, but local institutional capacity remains limited and arguably unfit for the forthcoming challenges. Many poor countries were already struggling to feed, educate and provide healthcare services for their citizens before COVID-19. They now are faced with the prospect of social unrest driven by a combination of poverty, unemployment and inequality. The loss of jobs and revenues as foreign companies reconfigure their supply chains and invest in automation is an existential threat for some. At the same time, water shortages, irregular rainfall and more frequent heatwaves conspire in many of the world's poorest regions to drive their fast-growing populations towards the cities in search of better conditions. The multilateral agencies of the United Nations (UN) are long established and well-placed to help, assuming the wealthy countries follow through on their funding promises; it is in everyone's interests to ensure the worst outcomes are avoided.

THE INVESTMENT CONCLUSION

Companies that are demonstrably good operators and especially good corporate citizens are already developing a valuation premium over their peers, as the definition of 'quality' in investment terms widens.

Companies will feel the pressure to change at almost every level—from heightened competition for workers and investing in technological innovation, to increased requirements to demonstrate sustainability credentials, to navigating more intrusive legislation against a backdrop of climate change and geopolitical strains—boards and executives will require a wider set of skills and experiences to be able to succeed. The traditional divide by

developed and emerging markets increasingly looks artificial, as country specifics dominate, selectively offset by what could be called *management alpha*, meaning management quality, evidenced by companies that are not only good operators, but also good corporate citizens, skilfully preparing their companies for ever-higher investor expectations.

From an asset allocation perspective, historical biases around asset class returns, volatility and overall risk management would need to be re-oriented. For example, if interest rates remain lower for longer and demographics are pointing to a larger number of dependents, selecting appropriate safe havens that provide income may require a more creative use of global options outside of an investor's home country. Incorporating a wider definition of 'quality' that includes such factors as environmental, social and governance (ESG) will be necessary to enhance both sides of traditional 60/40 portfolios.[6] Alternative vehicles can also offer differentiated exposures to these larger themes as well as play an increasing role in diversifying traditional portfolios as risk reducers, income enhancers and alternative income providers.

THE DEMOGRAPHIC WAVE

There is a broadly accepted school of thought regarding the importance of population structure as a driver of economic development. The United Nations Population Fund definition[7] holds that there is a demographic dividend, i.e., a period of accelerated economic growth that may occur when a country has a growing population of workers, because they are productive generators of economic wealth. Clearly, these new entrants into the job market need to be educated, healthy and able to access decent employment. That then enhances productivity, which drives growth. When these conditions are met, periods of sustained economic growth usually follow.

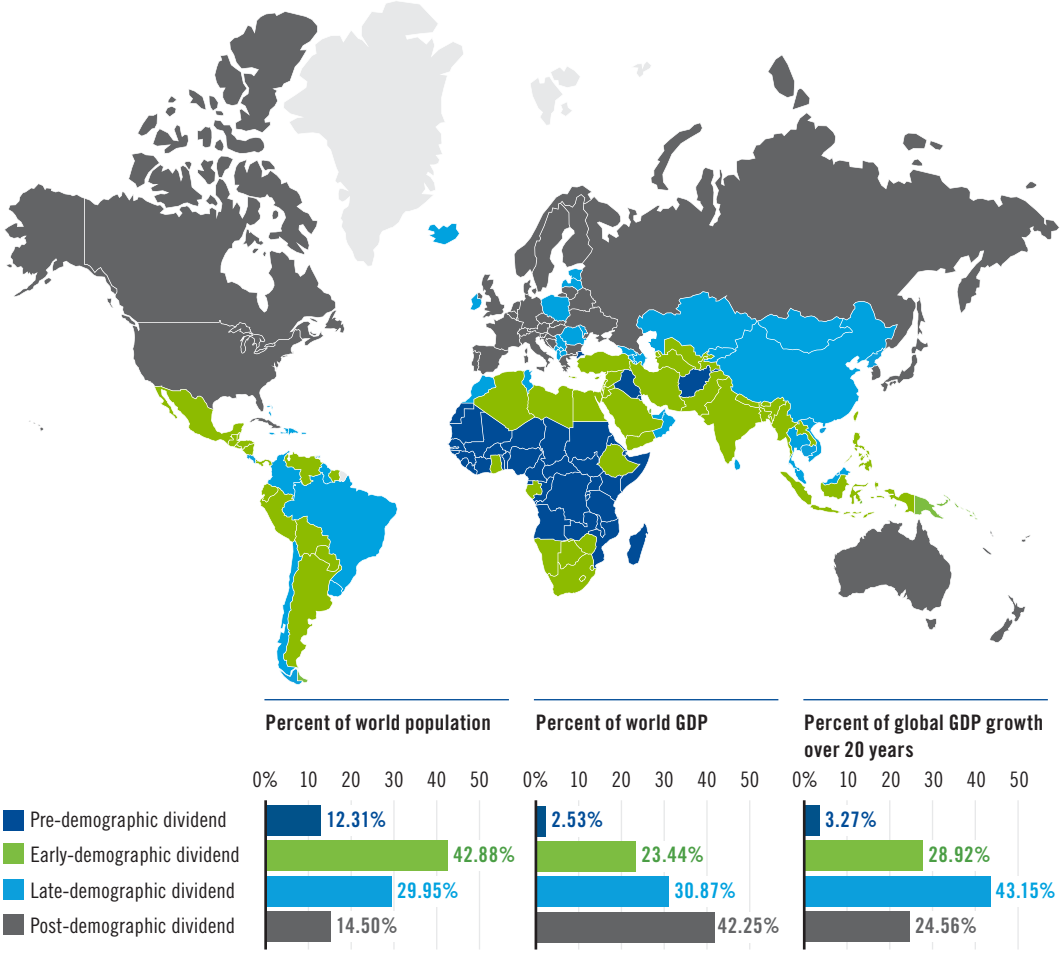
The world can be divided into four groups as measured by how far countries are from their 'sweet spot' moment of demographic dividend. Each country's demographic starting point, the strength of its institutions, the quality of the country's long-term policy planning and the decisiveness of its government will dictate to what extent this represents an exciting opportunity or an insurmountable challenge.

The World Bank places countries in the following categories:

GEOGRAPHICAL DISTRIBUTION OF DEMOGRAPHIC DIVIDEND

Exhibit 1: The four stages of the demographic dividend cycle

As of 2019



Source: World Bank.

Note: 2019 estimates. The World Bank classifies Russia as Late Demographic Dividend, but its age group distribution and fertility rate are typical of the countries classified as Post Demographic Dividend.

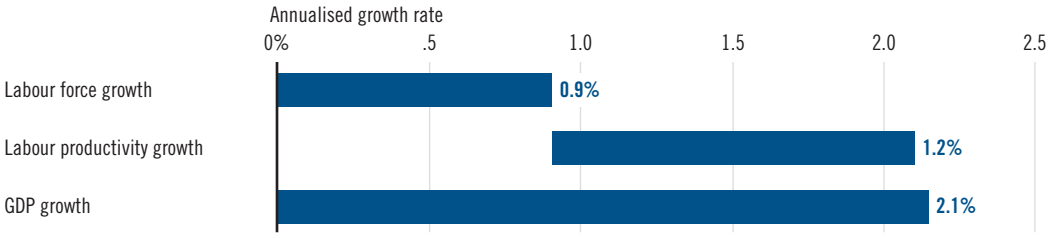
For investors, the main point is the countries that represent the largest contributions to global economic growth are those with the ageing populations, which likely will result in slower economic growth in the future. As the working age populations shrink despite extending working ages, and the pension age cohort increases, governments will try to find solutions to the anticipated slowdown in economic growth.

As a point of reference, the chart below demonstrates the importance of net labour force growth as a contributor to gross domestic product (GDP) growth.

LABOUR FORCE GROWTH CONTRIBUTED ABOUT 40% OF THE GDP GROWTH AMONGST OECD COUNTRIES

Exhibit 2: Contributors to the annualised GDP growth of OECD countries during 1995–2019

As of 2019



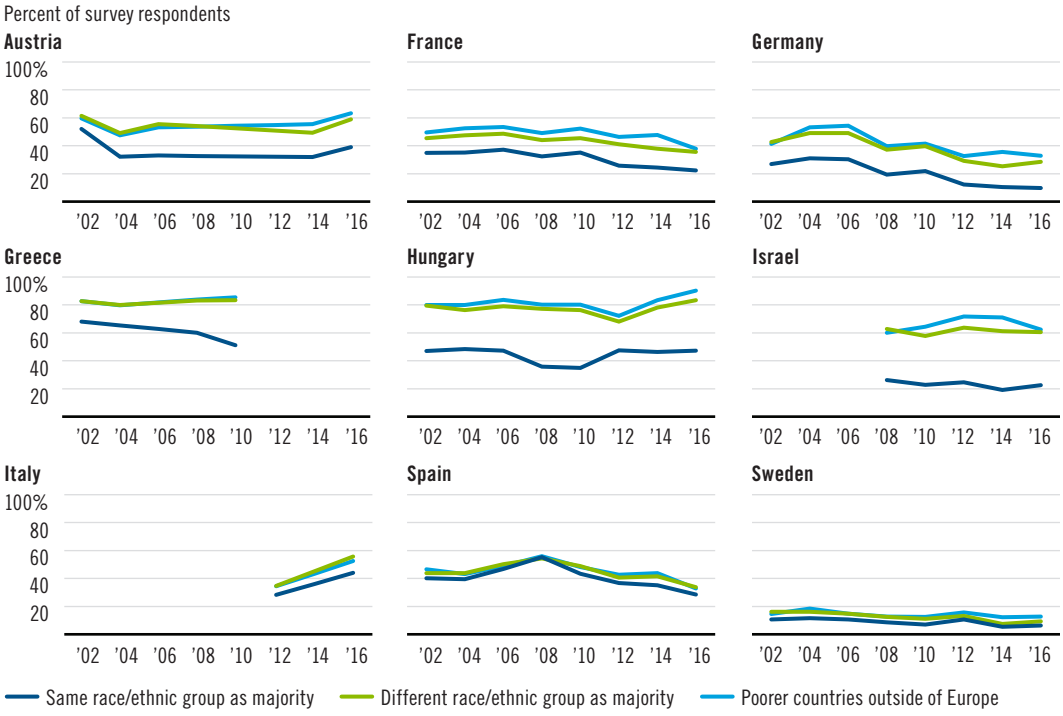
Sources: Analysis by Franklin Templeton Investment Institute, OECD, World Bank, Macrobond. The growth rate is an annualised calculation of the change in the total labour force, labour productivity index and the GDP Index over the period 1995–2019.

In the European Union (EU), a 2019 European Commission (EC) survey[8] suggests that attitudes to migration across the union are remarkably stable over time. The shrinkage in the labour pool would historically have been addressed via increased migration. Today however, there would appear to be significant opposition to large numbers of migrants across virtually every affected country. In Europe, there appears to be overwhelming preference for immigrants who can assimilate socially, whilst race and religion are considered less important. The below graphic from the same EC survey[9] reflects the percentage of respondents who want 'few' or 'no' immigrants and their attitude towards three sources of immigration.

EUROPEANS TEND TO PREFER IMMIGRANTS WITH SIMILAR CULTURAL/RELIGIOUS BACKGROUNDS

Exhibit 3: Percentage wanting few or no admission of different types of immigrants, as opposed to many or some.

As of 2016



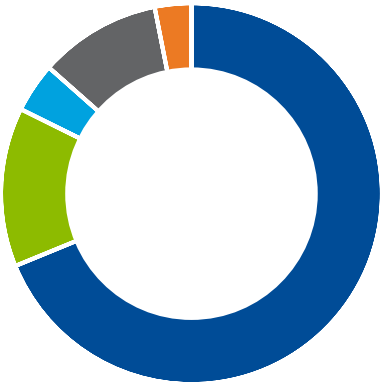
Source: European Social Survey. The data is based on the European Social Survey that is conducted every two years. Three pertinent questions from the survey regarding Europeans' attitudes towards immigrants were selected with each having four options: allow many/some/few/none immigrants. The survey conducted in 2018 did not provide these specific questions and hence, the charts have data until 2016 only.

In the US, the Biden administration is reviewing the previous administration's policies but, in any case, most of the green cards issued tend to be for family members of existing citizens, as shown in the chart below, from Homeland Security[10]:

MOST IMMIGRANTS RECEIVE GREEN CARDS BECAUSE OF FAMILY TIES IN THE UNITED STATES

Exhibit 4: Admission categories for US lawful permanent residents

Fiscal 2019



Family & relatives-sponsored preferences	709,904	69%
Employment-based preferences	139,458	14%
Diversity	43,463	4%
Refugees and asylees	106,911	10%
Other	32,029	3%
Total	**1,031,765**	**100%**

Source: US Department of Homeland Security. The admission categories of the immigrants are as per the classification provided by the US Department of Homeland Security.

INVESTMENT CONCLUSION

The economic implications of the demographic wave are clearly visible, but they are not unavoidable. There is no doubt that the liabilities attached to older populations will continue growing. The constituent companies of the Standard & Poor's 500® (S&P 500) Index of US stocks, for example, have a total pension deficit of US$271 billion.[11] Given the low probability of increased migration, private sector companies will likely react by investing in innovation and potentially in the continuing education of their workforces. Best-in-class management teams in any sector or country will drive policies that support their stakeholders beyond simply earnings growth; the related entities represent a significant and growing investment opportunity set. Allowing for cultural and wealth disparities between countries, consumption patterns generally will change. For example, there may be a boom in labour-saving innovations in healthcare services and convenience. Cruise liners may grow faster than areas tilted more towards youthful consumption, such as ski resorts. However, the key will be the relationship between savings and investment. Will people save more for retirement in the expectation that their own lives will be longer? Perhaps this expectation also would lead to more measured consumption in retirement? Either way, if trend growth is slowing, these behaviours could lead to lower interest rates. The evolution of savings and investment will drive real interest rates, real exchange rates and even returns on investment. Demographics is not destiny, but it can set parameters.

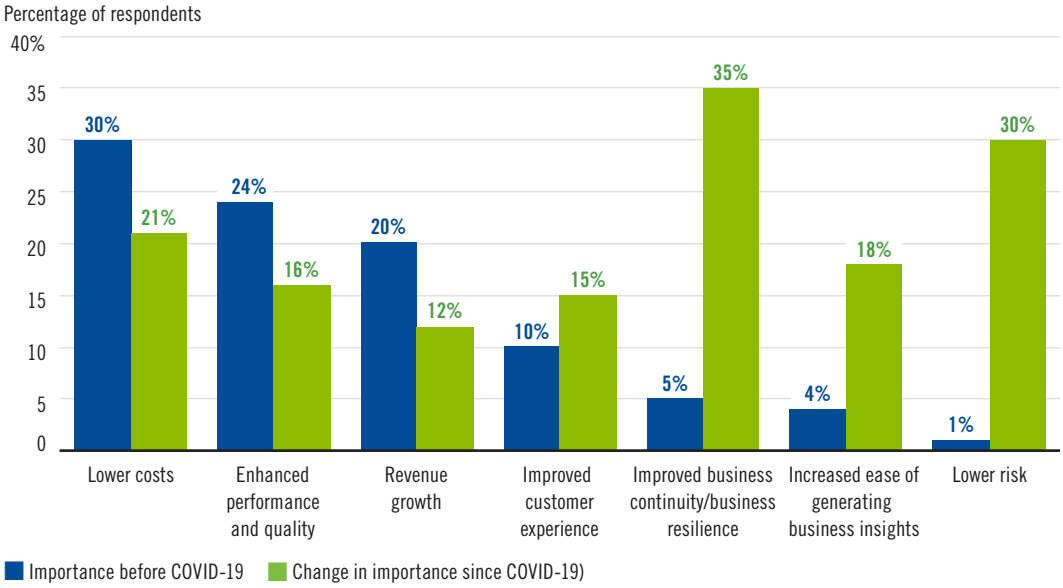
THE TECHNOLOGICAL INNOVATION WAVE

In 2020, companies learned to value automation as a source of resilience, risk reduction and high-quality management information. This alignment of need and interest points to a veritable investment boom in technology. It will certainly play out over the next decade in increased levels of automation, particularly in labour intensive and generally lower skilled sectors of the economy; but it will also see the swift deployment of AI and machine learning to disrupt, disintermediate and enhance existing business models in every industry. The key technical bottleneck is likely to be the global shortage of semiconductors—an essential building block of technology—which may well take up to five years to resolve. As a result, the semiconductor global supply chain is already being reconfigured by geopolitical drivers.

The pace and intensity of investment in automation and other areas of innovation will depend on each country's resources and policy framework. Clearly, developed economies are better placed to absorb large numbers of robots to replace retiring workers. This is because they have a better functioning policy environment and institutional strength, and a pool of workers with generally higher average educational attainment and skillset. Those less developed, lower income countries with untested or weak institutions and a less educated workforce will require significant help from multilateral organizations such as the World Bank, the IFC and the various UN agencies to have a chance of adapting to this dislocation. Of course, the loss of jobs will challenge societies in every country, pitting rural against urban, coal producing area against renewable energy beneficiaries—a test for governments, the private sector and society itself.

IMPACT OF COVID-19 PANDEMIC ON AUTOMATION GOALS ACROSS ORGANISATIONS

Exhibit 5: Which automation goal was the most important prior to COVID-19 for your organisation? How has that changed?



Source: Bain Automation Survey 2020 (n=500). Change in importance equals the number of respondents who find it more important minus the number of respondents who find It less important, divided by the total number of respondents; other automation goals not included.

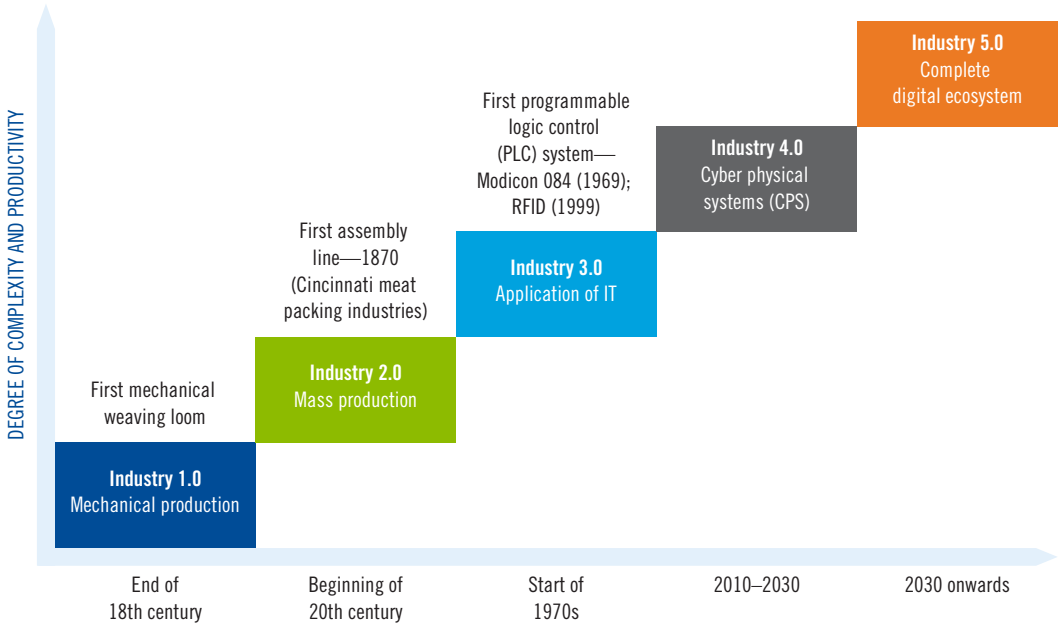
The 'just in time' supply chain philosophy of the last 40 years has been great for operating margins, until there was a supply disruption. For example, if only one component required for the assembly of an automobile does not arrive in time, the production line stops. Hence, the arrival of 'just in case' supply chains. The auto manufacturers may be the least affected by automation in the very short term, since theirs is the industry with the widest existing use of automation on the assembly lines. The nature of their relationships with parts suppliers is also important: the manufacturers build into their supply contracts clauses that make the supplier responsible (and liable for) any assembly line stoppages.

In other industries, the positive impact of automation is more meaningful. Automation is becoming an increasingly common solution that brings a lot of advantages into a variety of different sectors. Outside manufacturing, areas that can benefit in significant ways include agriculture (smart or precision farming), retail, healthcare, customer service, finance, public sector administration, etc., all of which can benefit from a boost in productivity. The key differences from past cycles will be the speed of bringing technological breakthroughs and new inventions to market and the degree to which the government is involved in overriding classical economic value calculations in the name of national security.

The much heralded fourth industrial revolution may finally be here, promising unparalleled access to knowledge and increased processing power, supported by technological breakthroughs in fields such as AI, robotics, the Internet of Things (IoT), 3D printing, nanotechnology, augmented and virtual reality (AR/VR), and quantum computing.

FOURTH INDUSTRIAL REVOLUTION IS COMING

Exhibit 6: Industrial revolution timeline



Sources: Statista, Deloitte, PWC.

With the added geopolitically-induced impetus to diversify supply sources away from a single country (China), there is an effort to relocate supply to other countries, and to shorten supply lines.

The short-term impacts are discernible on migration and remittances; in a post-COVID world where nationalism is on the rise in most countries, voters do not want higher numbers of migrants. With popular consent withheld, governments will want to emphasise their credentials by closing loopholes for any but the highest qualified. So, for the wealthy countries, the answer is massive investment in innovation, including 5G (as an enabling technology), automation and machine learning. If successfully implemented, the integration of robotics can provide a one-off boost to productivity and gradually act as a disinflationary pressure.

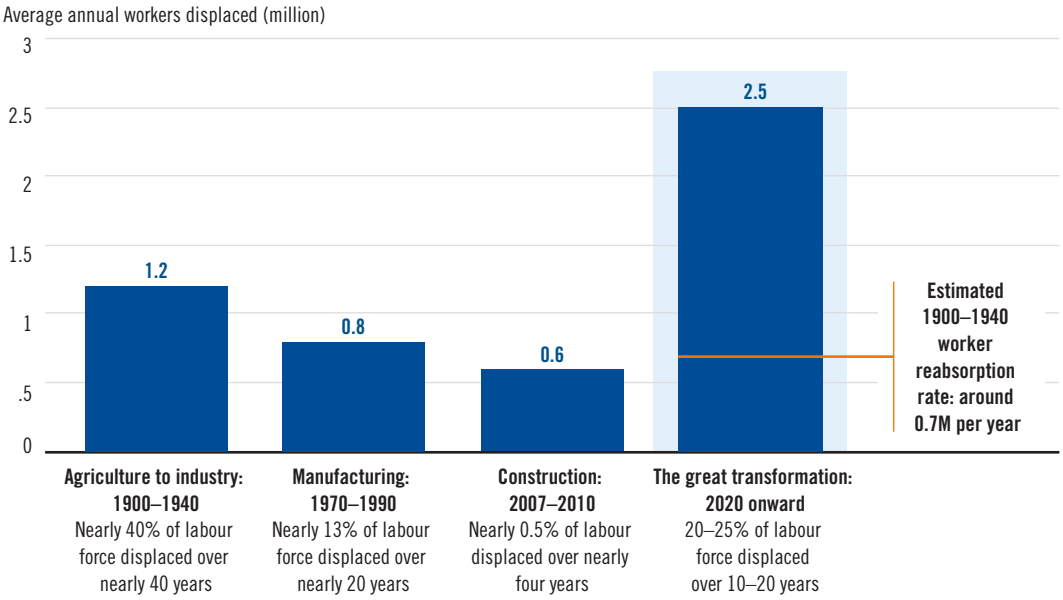
For the low-income countries with still 'favourable' demographics, this situation presents a serious challenge. One of the reasons is affordability; another is the educational attainment deficit. In many developing countries the proportion of the educated and skilled workforce is very small; semi-skilled workers may not have the ability to work alongside, or indeed supervise robots on an assembly line.

So, what of the sacrifice of existing jobs?

US SERVICE SECTOR AUTOMATION COULD DISPLACE LABOUR TWO TO THREE TIMES MORE RAPIDLY THAN PREVIOUS TRANSFORMATIONS

Exhibit 7: Average annual workers displaced, scaled to the size of the 2016 total labour force

1900–2020 and onward



Sources: US Census Bureau, US Bureau of Labor Statistics, Bain Macro Trends Group analysis (Labor 2030: The Collision of Demographics, Automation and Inequality, Karen Harris et al., Bain & Company, 2018, page 6).

Reabsorption rate calculated based on estimated average annual reabsorption of displaced agricultural workers from 1900 to 1940.

These trends will probably widen the gap between the high- and low-income countries; the likely unavoidable impact of the geopolitical tensions between China and the US would exacerbate this divide as they trigger a move to redesign supply chains: for example, the availability (and increasing affordability) of dependable robots in manufacturing may provide economic grounds for a 'reshoring' of plant and machinery, thus removing a significant source of FDI.

Furthermore, what migration is possible will be increasingly limited to those with high-level skills that are in demand in the host country, thus perpetuating the damaging brain drain from the developing countries. Finally, this comes at a particularly bad time, as the middle-income groups in these countries have been hollowed out by COVID-19, reversing impressive progress in women's educational attainment and workplace participation in the process.

INVESTMENT CONCLUSION

Clearly, the after-effects of COVID-19 will continue to reverberate across the world in terms of the requirement for investment in national healthcare infrastructures, in the diversification and resilience of relevant supply chains, and in dealing with the huge numbers of citizens affected by longer-term health issues, including mental health, potentially draining productivity and structurally increasing healthcare costs. And this becomes another area of technological investment and disruption.

At a sectoral level, there is almost too much choice. The principal beneficiaries of this scenario appear to be: healthcare (remote and bespoke) and healthcare security; asset management, insurance and fintech; data management, e-commerce and cybersecurity; energy transition, alternative energy and European Union (EU) Green Deal; robotics, semiconductors, IoT, cloud and AI; as well as logistics, electric vehicles and even food production. The biggest impact of the 'innovation wave' likely will be felt in the boost to productivity provided by the relatively easy rollout of automation in the most underpenetrated industries and countries. One potentially underappreciated side effect of this drive to 'digitalise' will be to demonstrate an increasingly outdated convention in asset management: labelling 'developed' and 'emerging' markets; it should be a question of first identifying the best-in-class companies and then being clear-eyed on the limitations of the countries where they are operating. In many cases, the window of opportunity for essential reforms is less than five years and governments just don't typically move that fast.

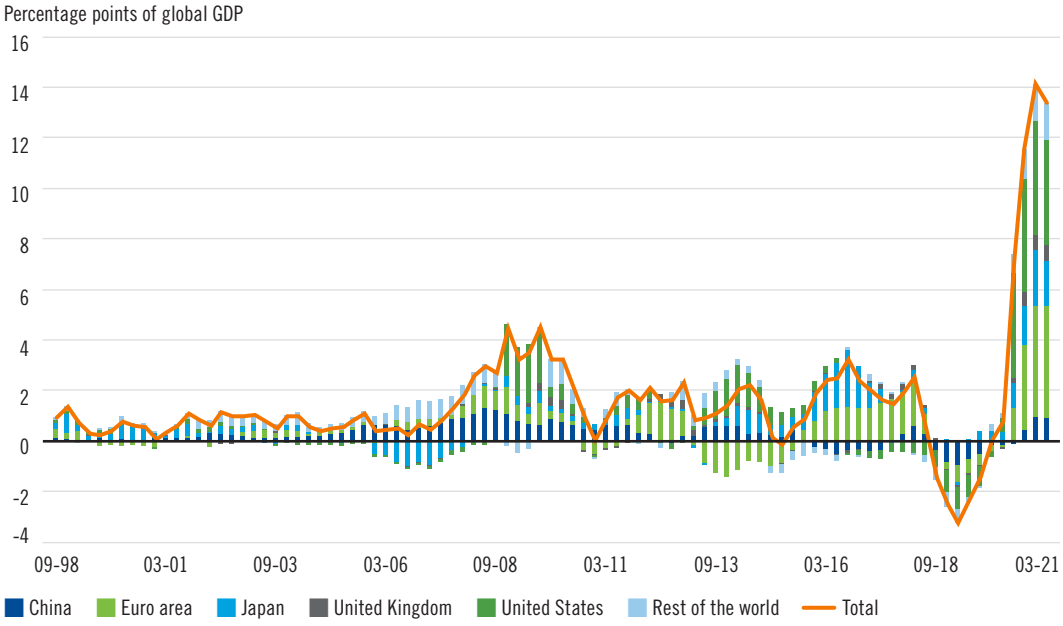
THE DEBT WAVE

Innovation comes at a cost, of course. But governments around the world have dedicated unprecedented amounts of fiscal stimulus to the immediate fallout of lockdowns and economic damage. Most countries are now in a place of very limited headroom for debt issuance; a large number have suffered downgrades in their sovereign debt ratings since March 2020, with many losing coveted and hard-earned status. The immediate impact is clearly higher refinancing costs, which for most governments is economically and politically unbearable. The reckoning has been delayed by central bank asset purchases and excess savings. Policy has become more and more extreme—some point to Japan as the model.

CENTRAL BANKS HAVE CREATED A FAVOURABLE LIQUIDITY ENVIRONMENT

Exhibit 8: Liquidity injections by central banks

As of 31 March 2021



Sources: Analysis by Franklin Templeton Investment Institute, RBA, BCB, StatCan, PBoC, Central Bank of Denmark (Danmarks Nationalbank), ECB, Central Bank of Iceland, RBI, BOJ, BNM, BANXICO, RBNZ, Bank of Norway (Norges Bank), QCB, CBRF, SAMA, BOK, Riksbanken, Central Bank of Taiwan, TCMB, BoE, Fed, IMF, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

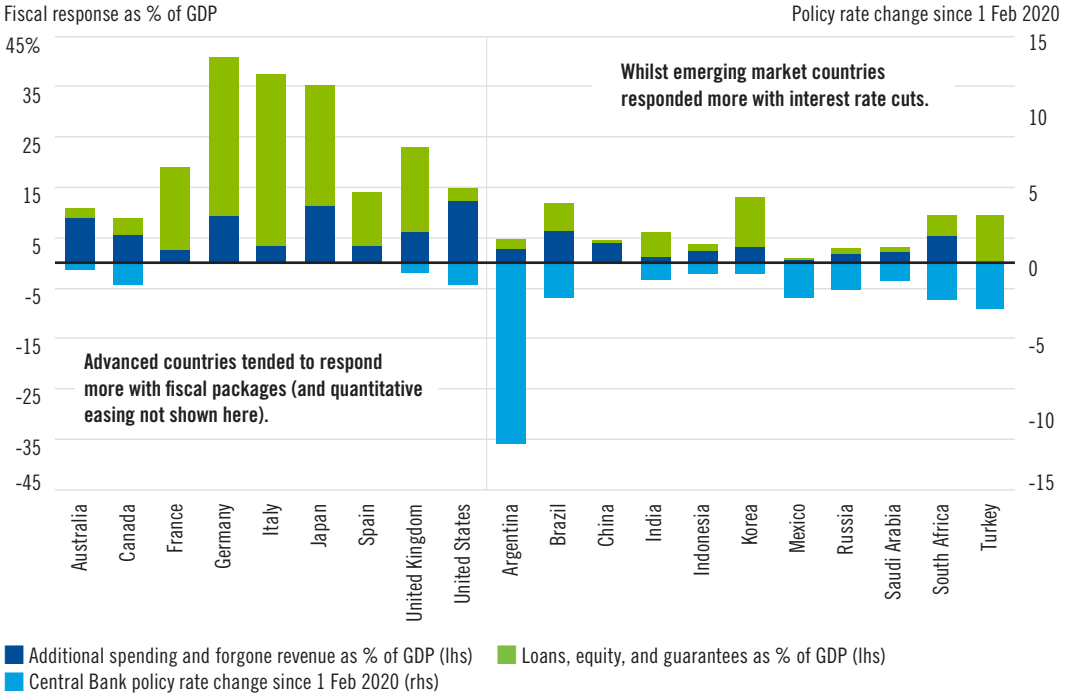
The use of debt as both a policy tool and a more efficient means of managing the cost of capital (both for companies and individuals) has become more pronounced over the past 40 years. Since 2008, central banks have been a steady provider of liquidity, but this had started to taper from 2018 until the COVID crisis arrived.

The resulting response has been more than 3.5 times what was seen in the immediate response to the global financial crisis (GFC) of 2008–2009, with regional variations, as the developed world tended to be more fiscally focused whilst the emerging markets relied primarily on monetary policy.

GOVERNMENT RESPONSE TO COVID-19 VARIED GLOBALLY

Exhibit 9: COVID-19 government response by G20 countries

As of 30 June 2020



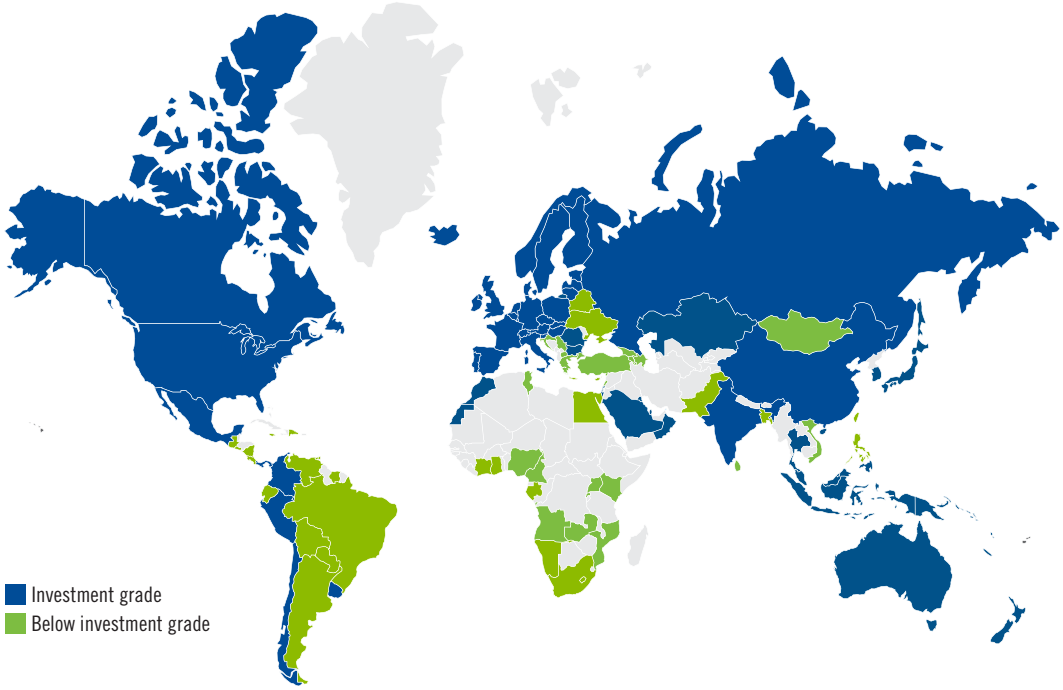
Sources: Analysis by Franklin Templeton Investment Institute, IMF, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

The policy bifurcation between developed and emerging market countries can be partly explained by past experiences (e.g., Mexico in 1995, Asia in 1997) and partly by the differing sovereign credit conditions around the world. Whilst most countries are considered investment grade, the story is more nuanced when comparing the actual ratings. The impact of directional moves up and down the ratings outlook spectrum is affected by numerous factors and has real implications on the cost of future debt issuance.

THE CREDIT RATING LANDSCAPE HAS MUCH VARIATION

Exhibit 10: Sovereign credit—S&P local currency rating

As of March 2021



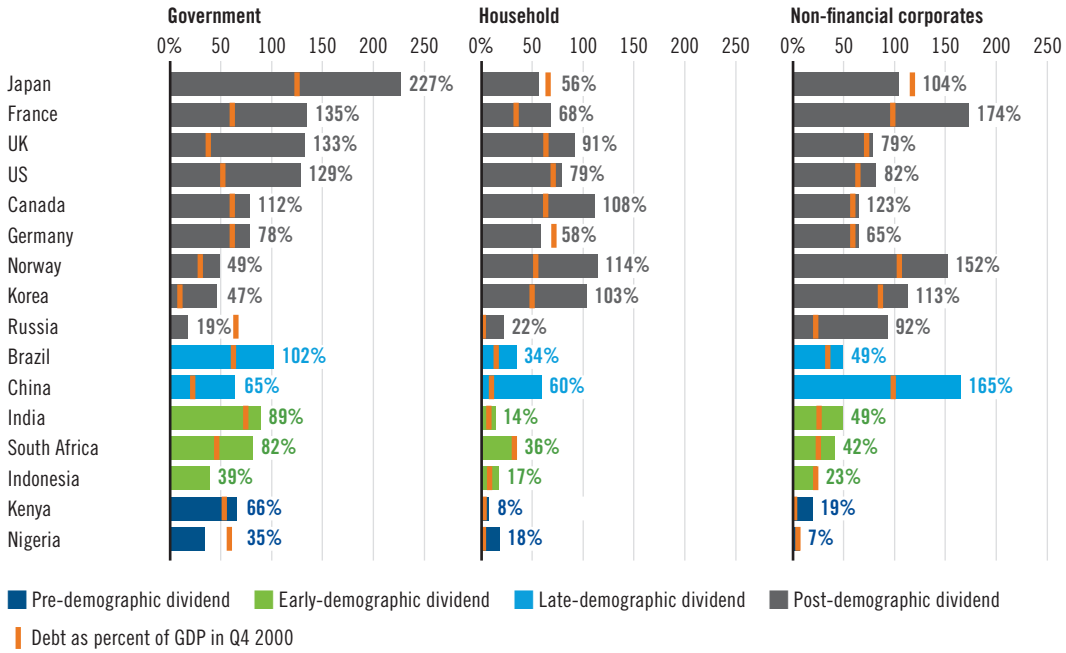
Sources: Bloomberg, S&P Global Ratings. Important data provider notices and terms available at www.franklintempletondatasources.com.

Another way this bifurcation can be explained is by examining the composition of debt around the world between governments, households and corporations. Broadly speaking the developed world has embraced debt at higher rates whilst the emerging world has not reached the same levels relative to GDP, particularly within consumer or government borrowing. Developing countries have relatively limited space to manoeuvre.

IS THIS AN OPPORTUNE TIME FOR MORE UNORTHODOX POLICIES?

Exhibit 11: Debt as percent of GDP

4Q2020 vs 4Q2000



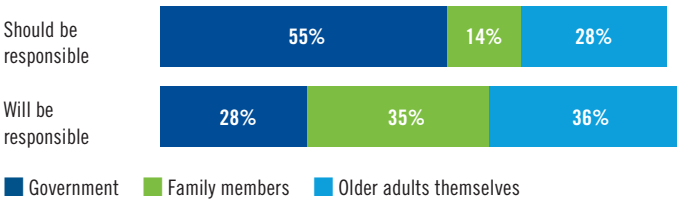
Sources: Analysis by Franklin Templeton Investment Institute, IIF Global Debt Monitor.

For the fastest-ageing countries, the outlook for debt levels looks particularly bleak. These charts from PEW Research surveys are reminders of the urgency, given predominant expectations that government is the solution.

MANY SAY GOVERNMENT SHOULD PLAY MAJOR ROLE IN FINANCING LONG-TERM CARE FOR OLDER ADULTS; FEW THINK THAT WILL BE THE CASE

Exhibit 12A: % saying 40 years from now _____ should/will be mostly responsible for paying for the long-term care older Americans may need

As of 23 December 2018



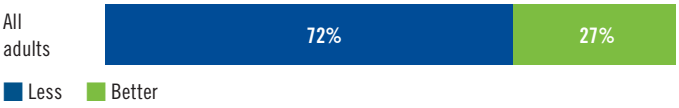
Source: Pew Research Center: Survey of US Adults conducted 11–23 December 2018. "Looking to the Future, Public Sees an America in Decline on Many Fronts".

Note: Share of respondents who didn't offer an answer not shown.

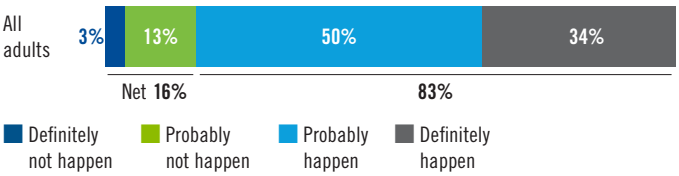
MOST SAY OLDER ADULTS WILL BE LESS FINANCIALLY PREPARED FOR RETIREMENT IN THE FUTURE

Exhibit 12B: % saying, 30 years from now, adults ages 65 and older will be _____ prepared financially for retirement

As of 23 December 2018



% say by 2050 most Americans will work into their 70s to have enough reserves to retire



Source: Pew Research Center: Survey of US Adults conducted 11–23 December 2018. "Looking to the Future, Public Sees an America in Decline on Many Fronts".

Note: Share of respondents who didn't offer an answer not shown. Figures may not add to subtotals due to rounding.

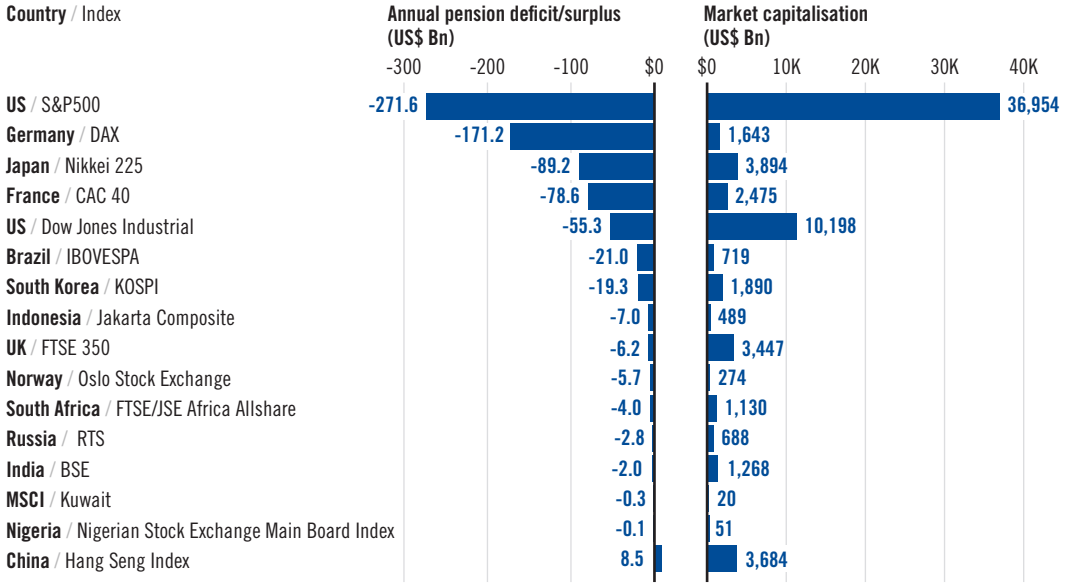
PENSION LIABILITIES

One of the more obvious impacts of an ageing population is the expectation that there is a commensurate growth in a country's pension liabilities. A complication for investors is that countries have different definitions, reporting standards and levels of transparency. We sought an insight by calculating the aggregate pension deficit/surplus of the companies that are constituents of widely-used country stock indices.

PENSION LIABILITIES

Exhibit 13: The aggregate pension deficit/surplus for the principal stock market index constituents in selected countries

As of 30 April 2021



Sources: Analysis by Franklin Templeton Investment Institute, Bloomberg, FactSet.

THE POLICY CONUNDRUM

Is this an opportune time for more unorthodox policies? The demographic-driven pressures driving lower interest rates seem aligned with governments seeking to keep refinancing costs down. For most countries, the amount of new debt taken on in this way is so significant as to essentially use up any room for manoeuvre they might have had pre-pandemic. The debt pile will be the annoying relative at every family gathering; there is no way to pay it off, no chance to write it off, but a higher incentive to keep interest rates low.

In this environment, many finance ministers may be pressed to consider 'netting off' their countries' household savings against total debt when talking to ratings agencies and international investors. After all, Japan has been dealing with extreme demographics and lacklustre economic growth for decades; the country's massive savings surplus would seem to have been a factor in its ability to continue issuing debt.

Many governments are simply laden with debt and ill-equipped to plan repayment. Understandably, this situation leads many to consider unorthodox policies, such as Modern Monetary Theory (MMT). There appear to be no champions of MMT in the capital markets (although equities would appreciate the boost), but it could be argued that Japan has practiced a form of MMT for the last thirty years, allowing it to sustain a seemingly unlimited issuance of government bonds and broadly satisfying the requirements of its large cohort of older voters, if not international investors.

So, what exactly is Modern Monetary Theory, or MMT?

In the current economic, geopolitical and social environment, there has been a growing chorus calling for more creative solutions from policymakers. The economic construct called Modern Monetary Theory (MMT) has garnered increasing attention, and can be broadly described as follows:

- Taxation and bond issuance are not the preferred way to pay for government spending.
- If a country can print its own currency, it should simply print more when it is needed.
- Taxation is important to help rein in spending, thus keeping inflation in check.
- Using regulatory means to influence private credit creation, speculation and fraud are more effective than monetary policy (interest rate adjustments).
- A job guarantee for every adult citizen that is set at a rate that does not induce inflation. This helps maintain wage stability when the economic environment forces people out of work.
- Budget deficits are expansionary because the government is not holding surplus capital, thus allowing it to circulate in the economy.

Traditional economists have exhaustively critiqued and largely dismissed MMT as a sustainably viable path. These criticisms centre primarily on the idea that MMT cannot effectively control inflation because it overestimates the power of fiscal solutions and underestimates the impact of monetary policy.

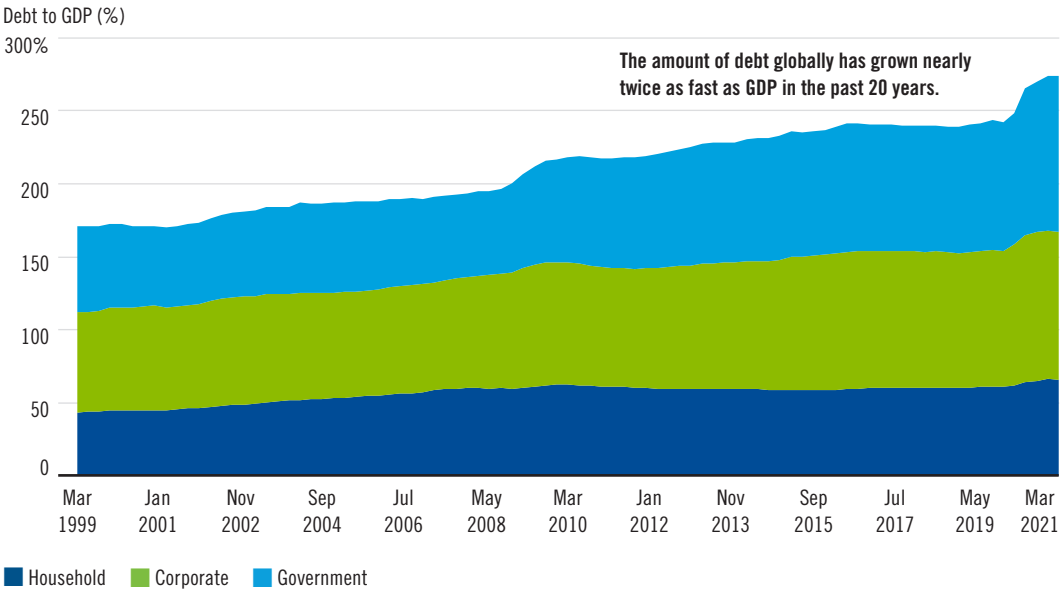
The current environment provides fertile ground for the debate on MMT because of the interplay between consumer, corporate and government behaviour. For example, declining interest rates have spurred increased money supply in the form of all types of debt globally, as shown in Exhibit 14.

What makes this possible in Japan? They have an older population with a focus on inflation rather than economic growth, little appetite for migration and a generalised fondness for robotics. This situation is affordable because the country has a lot of domestic savings pools which can be dedicated to buying and holding government bonds. Anecdotally, Japan's central bank holds 45%[12] of the JGBs (Japanese Government Bonds) in issue. In practice, no other country can pull this off. Only the US could potentially implement a version of this arrangement, as it has ready buyers for US Treasuries and because of the role of the US dollar, which reinforces this position. Given the political, cultural and demographic situation of the country, however, it seems unlikely that Washington would choose this route.

THE COMPOSITION OF DEBT GLOBALLY CREATES DIFFERENTIATED POLICY CHOICES

Exhibit 14: Total global debt to GDP

As of 31 March 2021



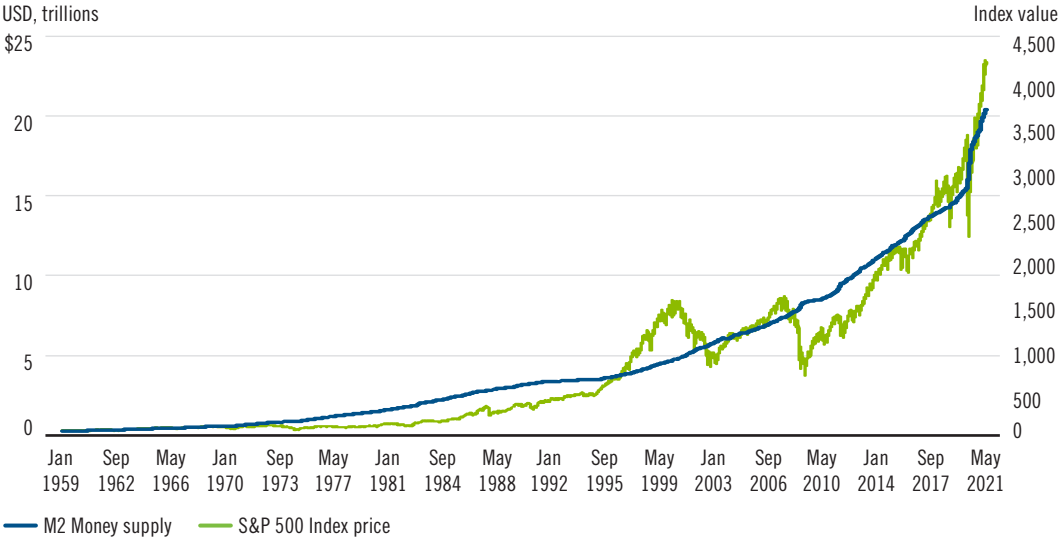
Source: IIF. Important data provider notices and terms available at www.franklintempletondatasources.com.

Exacerbated during the pandemic, this additional capital formation has coincided with prolonged asset appreciation.

INCREASED LIQUIDITY HAS PARALLELED EQUITY MARKET APPRECIATION

Exhibit 15: United States: Money Supply vs. S&P 500

As of 31 March 2021



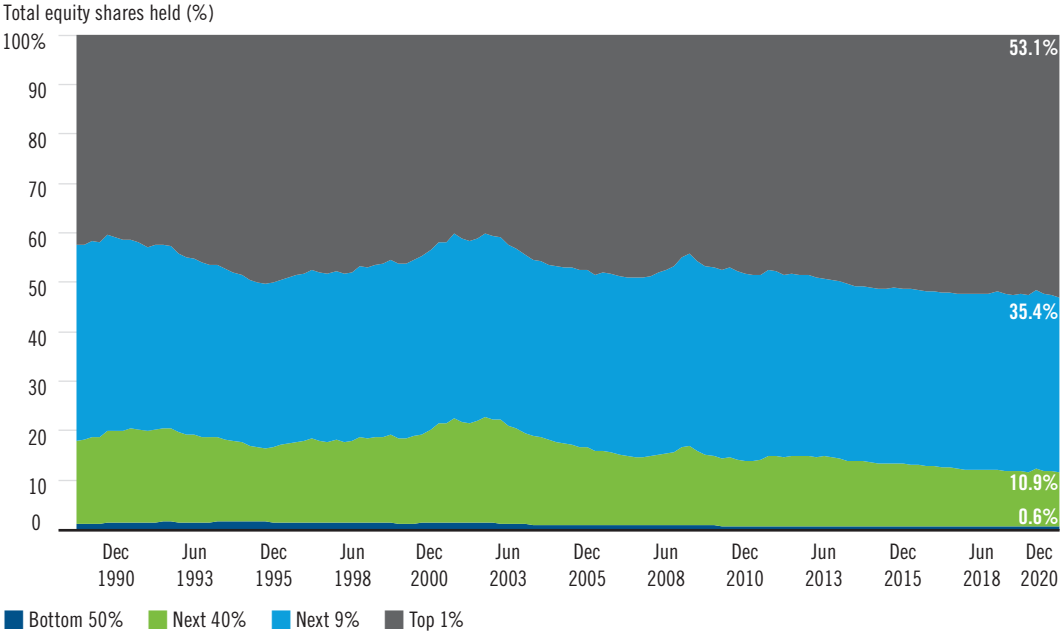
Sources: Fed, SPDJI, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

This asset appreciation has contributed to a widening wealth gap (see Exhibit 16), which has helped give rise to populist movements around the world. Unsurprisingly, this has helped the top 10% of wealth holders increase their share of equity ownership, and consequently reap the rewards over recent years.

WIDENING WEALTH GAP IS CREATING SOCIOECONOMIC AND POLITICAL SHIFTS

Exhibit 16: United States—Share of equity ownership by wealth

As of 31 December 2020



Sources: Federal Reserve, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

In other words, the aggregate experience of each country may have improved but the gains have narrowed to a smaller proportion of the population. This will alter the political landscape and future policy choices of elected officials, impact the spending and savings patterns of individuals depending on demographics, and dictate how corporations allocate capital.

The recent experiences of the US, Japan and the EU have demonstrated that if interest rates remain low, large issuances of debt can sustain aggregate growth without inducing the type of inflation that impacts the average citizen.

With this experience, the leap towards simply using printing presses more liberally may not be a large one. In addition, the transition of governments towards directly tackling the employment side of this divide *(just as the US Federal Reserve is considered to have dual mandates focusing on inflation and employment)* whilst maintaining accommodative monetary policies seems to be a reasonably positive solution for all constituencies and would be a marked shift from the orthodoxy of the last 40 years that has prioritised capital formation.

INVESTMENT CONCLUSION

Investors understand very well the potential fallout of the world's build-up of debt, but seem unlikely to be pricing it in, especially as interest rates are broadly expected to remain low for the foreseeable future and there is no expectation of the debt being called in. Large stocks of debt are sustainable only if inflation remains subdued or if 'financial repression'[13] is deployed. It would be prudent to expect this to happen. Banks, insurance companies and potentially even pension plans may be mandated to hold larger fractions in government debt. There will doubtless be attempts by governments to introduce unorthodox policy, although probably not via wholesale adoption of MMT.

Unfortunately, this question remains unresolved for now. If inflation accelerates beyond the central bankers' assumptions, we do not know at what point they would press the button marked 'achieve price stability at any cost.'

THE TAXATION WAVE

Adam Smith noted in his *Wealth of Nations* (1776) that when projects which are beneficial to the whole society may not be maintained by those that are most immediately benefitted by them, the funding for said projects must come from the 'general contribution of the whole society.'

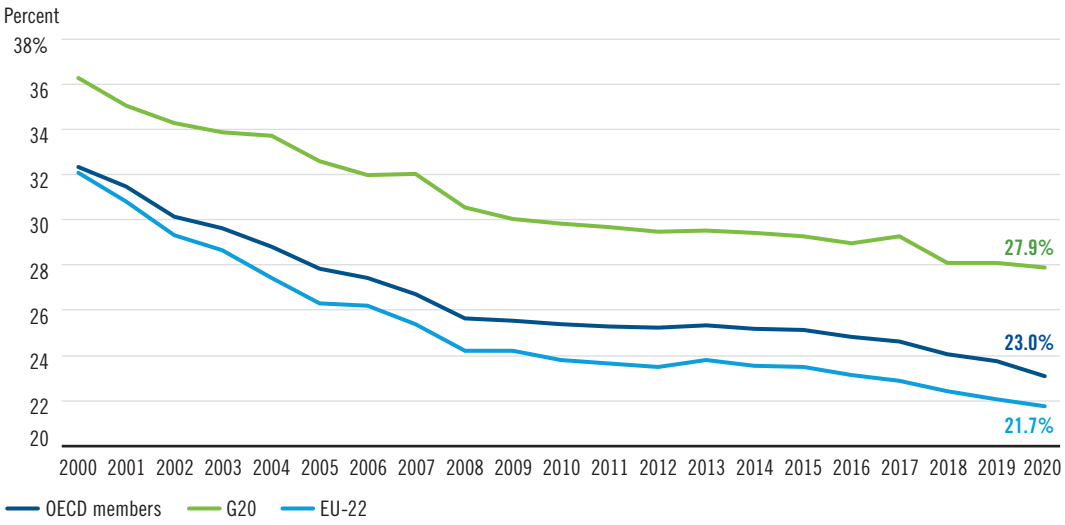
It appears that views on taxation are at an inflection point in many countries and are likely to materially evolve as societies confront the pressures of demographic change, job market dislocation due to automation, and debt as they seek to mitigate the threats posed by inequality and global climate change. Driving much of the discussion around how best to confront these issues is a revived acknowledgement of and interest in policy solutions, specifically tax policy.

The importance of tax revenues for governments has been inexorably rising. The Organisation for Economic Co-operation and Development (OECD) average for tax as a percentage of GDP stands at 33.8% for 2019.[14] For reference, the UK is around the OECD average, whilst the US is at 24.5% of GDP, probably because this number does not account for state-level taxes. Even before the pandemic, tax revenues had become priorities for most governments.

CORPORATE INCOME TAX RATES HAVE DECLINED

Exhibit 17: Average statutory corporate income tax rates

2000–2020



Sources: Analysis by Franklin Templeton Investment Institute, OECD, Macrobond. Data visualisation design inspired by the Tax Database Key Tax Rate Indicators Update Note, as published by the OECD. The averages are unweighted averages. The EU-22 average includes all EU countries that are members of the OECD. The G20 average includes all G20 countries, excluding the EU.

There are three immediately discernible strands of the debate: Progressive taxation of income, corporate profit taxation and the use of tax incentives generally.

PROGRESSIVE TAXATION

For governments that cannot attempt a form of MMT (literally most governments), then taxing wealth instead becomes more palatable, more realistic and even more in tune with the popular mood. In the GFC, Main Street essentially paid for Wall Street's excesses—so now the shoe is on the other foot—this time Main Street is the priority.

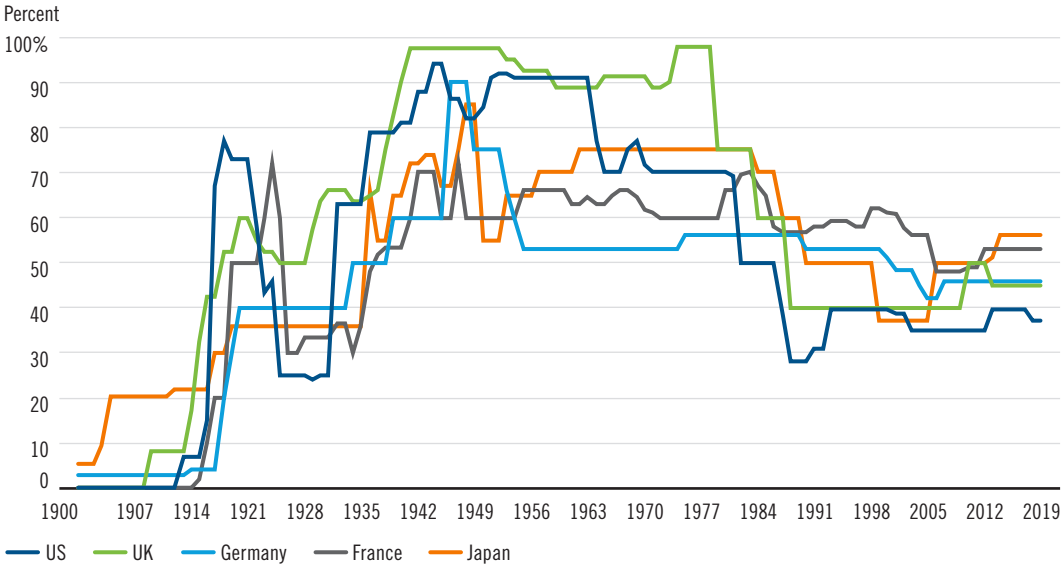
Personal income taxes in many developed countries were characterised by low or no progressivity in the pre-World War I period, and in some cases, there was no personal income tax at all. Top income tax rates then increased to finance the two world wars and spending during the Great Depression and have remained above pre-war levels since. Whilst there is some variation across countries, there was movement towards reduced levels of income taxation and progressivity from the late 1970s to the late 1980s.

In the US, the top personal income tax rates were reduced in 1964 (from 90% to 70%), 1982 (50%), and again in 1988 (28%). The 1988 reduction coincided with a tax increase in the lowest marginal rate. The highest marginal tax rate likewise fell in the UK in 1979 and 1988.

STATUTORY TAX RATES WERE MOST PROGRESSIVE MID-CENTURY, ESPECIALLY IN THE UNITED STATES & UNITED KINGDOM

Exhibit 18: Top statutory tax rate on personal ncome

1900–2019



Sources: T. Piketty, Capital and ideology, HUP 2020. The estimated rates are based on both national and sub-national personal income taxes.

We have two relatively recent examples of a wealth tax being implemented in France: from 1982 to 1986 and again from 1988 until 2017. The wealth tax was set at around 1.4% on fortunes over US$14 million. The revenues were disappointing, largely because thousands who fell into that category simply moved abroad. The so-called supertax launched by Prime Minister François Hollande in 2012, during the austerity that followed the GFC, was a 75% levy on incomes of over €1 million. This ended up proving a political point, rather than raising revenues. Several high-profile French people publicly revolted—iconic actor Gerard Depardieu took on Russian citizenship and billionaire Bernard Arnault allegedly became a Belgian national. The tax was withdrawn after two years.

Perhaps the cost of moving domicile was not high enough. Moving to Belgium means still being able to travel freely and have business interests in the EU, until the EU harmonises its taxation policies and thus raises the penalty for non-compliance. Most countries cannot raise the cost of non-compliance to this type of measure with confidence and in any case the rich already have their capital safeguarded in tax havens via corporations and trusts that guarantee nondisclosure. If such a policy were to be implemented in the US, it might arguably be more effective given the cost of not operating in this big market begins to look high enough to matter. In the US specifically, there is some evidence that the termination of the state and local tax deductions from federal taxes is leading to some 'emigration' as wealthy people choose to move residency to a lower taxation state (some states have no income tax).

TAXING THE MULTINATIONALS AND TECHNOLOGY GIANTS

The OECD, which has been overseeing multilateral talks on corporate taxation, set 2020 as the deadline to come up with an agreement on tax treatment of multinationals and tech giants. The G20 (or Group of Twenty) recognised the growing anger at perceived tax avoidance internationally by these companies and tasked the OECD in June 2019 to develop a 'Unified Approach' amongst its 134 country members. Today, the world's tax system for multinational companies looks completely out of date, having been set up in the 1920s, on treaty-based principles and relevant to manufacturers, with no provisions for service sector companies or those with intangible assets that are easy to move around geographically. The system favours the countries hosting headquarters and tax havens at the cost of countries where profits are generated. The US has been a reluctant reformer historically because most of these companies are American and it has not helped that the subject matter of international corporate law is horrendously complicated. However, the Biden administration appears to be committed to breaking the logjam, proposing a minimum tax rate to be globally agreed. The G20 will discuss the proposal at their next meeting in October 2021.

More broadly, it seems logical to expect progressive dividend taxes and higher capital gains taxes in the future. Corporations pay more in corporate income tax, which probably means they are incentivised to invest more; boards may consider it preferable to spend more money on the business than hand it over to the tax man.

And that is another potential driver for higher spending on technology, as outlined above.

TAX INCENTIVES

Governments will likely continue to try to find incentives that result in attracting FDI and encouraging job creation. But for many, the highest long-term priority is attempting to reverse the decline in the birth rate; there is a long history of tax breaks and subsidies for families with three or more children, with Hungary and Poland the most recent examples. However, there is no evidence that these policies work, as most people (fortunately) do not decide to have children for tax reasons.

In the next decade, as electorates become increasingly restive, the issue of inequality within countries will become a higher priority for governments, leading to changes in the philosophy of taxation systems in many regions, from a purely functional mechanism for government finance to a more purposeful method for the explicit redistribution of wealth.

For investors, it is abundantly clear that corporate taxation is on the rise and that loopholes provided by transfer pricing[15] will be closed and the use of tax havens will be rendered unattractive.

INVESTMENT CONCLUSION

As European countries have demonstrated, the most effective (and efficient) tax is on consumption, not income nor wealth. Income and wealth taxes are relatively easily evaded across the globe, value added tax (VAT) at the point of consumption is not. However, the drive to redress the income inequalities for citizens remains and strengthens, as governments use taxation policy tools to produce results relatively quickly.

There seems to be a broad consensus in the G20 to finally establish a minimum corporate tax rate, which will play well to domestic audiences, but may end up being more relevant for private sector companies' future investment plans, rather than necessarily produce significant additional tax revenues for governments. The most important legacy, if this initiative is realised, will be to eliminate competition for FDI on tax grounds, thus accelerating the move to 're-shore'[16] supply chains for reasons of resilience.

Investors have understandably focused on headline corporate tax rates and the implications for earnings. But given that chief financial officers appear to be good at minimising effective tax rates, it is hard to argue that this represents a mechanism to generate alpha over time—much better to maintain focus on fundamental earnings power and valuations.

THE GEOPOLITICAL 'GREAT GAME'[17] WAVE

In the next decade, geopolitics is set to become more, not less influential in the shaping of investment returns, as the areas of confrontation between the US and China continue to expand, covering more economic touchpoints. Unless the two can find some accommodation that supports the normal functioning of the international system, they will each line up their respective teams. Many countries will not be able to resist the call, because of their geographical proximity and economic linkages, like Mexico to the US, or Pakistan to China. Meanwhile the rest of the world is in limbo, pressured by both sides and trying to remain neutral. For third party countries, the pressure to choose sides will become intolerable, resulting in significant economic pain in many cases.

WHAT ARE THE GAME PLANS OF THE MAIN PLAYERS?

United States

Washington, DC, has actively dismantled the historic accommodation of 'sceptical cooperation' with China. The one view that now enjoys bipartisan support is that China is a 'bad actor.' Regardless of the economic cost, the US has consistently sought to block the development of Chinese technology hardware and software and invested significant political capital in pushing third countries to follow suit. Even with a new presidential administration, this route now looks to be the way forward. It may seem counterintuitive, but there is no rush to reduce tariffs, even those on intermediate goods (which effectively make US products less competitive), at least whilst the US economy continues to grow. It is more likely to be a policy option for a rainy day.

The economic links between China and the US look to be reduced to exporting 'plain vanilla' commodities, such as soybeans, as virtually any technological or industrial export could potentially be labelled as sensitive for national security reasons. However, the power of US industrial lobbies remains strong—the American Chamber of Commerce (AmCham) in China has over 900 companies that would likely try to keep Europeans from gaining market share in China; so, the disassociation may not be absolute.

Further, the US is highly likely to continue to press allies and third countries to join the effort to isolate China and continue to levy sanctions[18] on Chinese companies. Australia, New Zealand, Canada and the UK are members of the Five Eyes intelligence sharing alliance with the US and are already committed to the US camp. For Mexico, it is a done deal, such is the country's economic dependence on the US. It is harder to persuade the EU to fall in line, as the Europeans are predominantly instinctive multilateralists that would prefer to set their own parameters on their relations with China, barring significant missteps by Beijing. In the Indo-Pacific, the Trump administration tried to relaunch the so-called Quad, a loose (until now) security dialogue comprising the US, Australia, India and Japan, as a fledgling anti-China alliance, but it is not clear that the will exists for this in India and Australia. The only common element they all share is a general concern about China and that is simply not enough. The group will continue to meet at a ministerial level and make noises about freedom of navigation in the Indo-Pacific, but this does not look like another NATO (North Atlantic Treaty Organization) in the making.

Key unanswered questions on the minds of other countries regarding US foreign policy are:

1. Will the US come to the aid of Taiwan, the Philippines or, indeed, NATO ally Finland if their security is threatened?
2. And will it come to their aid in the event of a concerted cyberattack, which appears more likely?

Ambiguity only raises the perceived risk, and the market consequences could be disastrous.

Meanwhile, the Public Company Accounting Oversight Board (PCAOB) has been unsuccessful at obtaining an agreement with the Chinese authorities to secure access to the audit records of Chinese companies and in the current climate, the nuclear option has been presented: The Securities and Exchange Commission (SEC) would prohibit trading in any shares of which the company's auditor has not faced a PCAOB inspection for three consecutive years. This exercise would require the companies to disclose whether they are owned or controlled by a governmental entity. The Senate has presented Congress legislation to write this into law, with bipartisan support. Chinese law sets limits to disclosure and currently prohibits Chinese accounting firms (including local affiliates of international firms) from sharing audit documentation on companies, on national security grounds.[19]

Effectively this places all Chinese companies with ADRs (American Depositary Receipts[20]) on notice, with the real prospect of China becoming another country on the long-established Iran–Sudan list.[21] This would clearly limit the investable universe for US-based asset owners. It could potentially be made a condition of trade deals or defence pacts, in that the third country signing with the US must disavow relations with China. This is perhaps the most far-reaching impact for investors in the short term, although the investment world likely would quickly identify parallel mechanisms to get around the problem.

China

Put simply, Beijing's game plan is to grow wealthier and assume its rightful role as the 'Middle Kingdom' it once was. Zhongnanhai, the seat of the leadership of the Chinese Communist Party, particularly wants to prove that its brand of communism can and does provide the structure to deliver a responsive government, a clean environment and economic wealth. The words *social justice* appear to mean *stability* and this can be enforced, if necessary.

In some ways, the restructuring of the domestic Chinese economy away from manufacturing and towards services renders the US tariffs less effective. Since 2013, Chinese GDP growth has increasingly been driven by the services sector and domestic consumption. The move to urbanise and raise the living standards of the rural population is set in place and the confrontation with the US will not derail it.

The bruising trade wars have served to silence the moderate factions in Zhongnanhai, leaving the podium to the strident nationalists who advocate a harder-line policy stance with the US that has been dubbed 'wolf warrior diplomacy.'

BELT AND ROAD

The country's game plan likely will be to double down on the buildout of the Belt and Road Initiative (BRI) and to accelerate the recruitment of beneficiary countries to the Chinese side. That means cementing access to those markets, integrating Chinese companies into those economies, establishing secure long-term supplies of raw materials, resources and agricultural products, whilst taking steps to encourage adoption of Chinese technical and technological standards. This is a space that is easy for Beijing to fill, as it places no conditions on governance or human rights standards; at the same time, Western donors have actively avoided the traditional 'hard' infrastructure projects like roads, railways and ports, for fear of ESG liabilities down the line, as well as being unable to match Chinese pricing. Given the paucity of alternatives for many of these countries and the promise of reflected glory for governments seen to be bringing in investments, it would be logical to assume the majority accept and become integrated into Beijing's sphere of influence. There are currently 126 countries[22] on that list, but the most compelling example is Pakistan, a strategically located nuclear power.

THE CHINA-PAKISTAN ECONOMIC CORRIDOR[23] (CPEC)

The CPEC[24] commitment covers energy, transport and logistics, health, education and water supply. So far, 5,320 megawatts of generating capacity (31% of target) and 2,548 kilometres (km) of highways (36% of target) have been delivered at a cost of US$10.8 billion. There are a myriad of projects including 4,122 km of railways and a series of industrial zones on the plans which, if delivered, would transform the country by 2030.

CHINA-PAKISTAN ECONOMIC CORRIDOR PROJECTS, IF DELIVERED, WILL TRANSFORM THE COUNTRY BY 2030

Exhibit 19: The China-Pakistan Economic Corridor (CPEC)

Sources: CPEC official site, Government of Pakistan.

One of the more interesting subplots of CPEC is an attempt to increase the use of the Chinese renminbi (RMB) as an international currency. This is a push from Islamabad, not Beijing—it stems from IMF constraints, dwindling US dollar reserves and persistent current account deficits. China recently doubled its RMB Currency Swap Agreement with Pakistan to 40 billion yuan. It has been reported that this arrangement has been replicated for 19 other countries[25] on the BRI. It is not clear at this point how successful this effort might be, as most private businesses prefer dollars or euros and there is a limit to the amount of goods that countries like Pakistan can buy from China.

The CPEC has proved to be the shop window used by Beijing to demonstrate what it can do to help countries that sign up to the BRI.

REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP

Apart from its focus on the BRI countries, China has been the key sponsor of the Regional Comprehensive Economic Partnership (RCEP), which went live in November 2020. In trade and geopolitical terms, this is China's answer to the Trans-Pacific Partnership (TPP). There are 16 members: Australia, Brunei, Cambodia, China, India, Indonesia, Japan, Laos, Malaysia, Myanmar, New Zealand, Philippines, Singapore, South Korea, Thailand and Vietnam. Together, they account for US$25 trillion in GDP. This group will enjoy continued growth of volumes and value of trade, whilst becoming ever more closely aligned to Beijing in the geopolitical sphere, building on World Trade Organization (WTO) rules.[26] On completion, RCEP will be staggering in size and breadth. It covers 3.5 billion people and 33.3% of world GDP.

Tariffs are relatively high in this part of the world, so there is a high likelihood of a swift uplift in economic activity in the region. US, UK and European companies will automatically find themselves at a commercial disadvantage, not only because of the tariffs they will still have to negotiate, but also because there will probably be government encouragement for member countries to favour those from the RCEP peers.

INVESTMENT CONCLUSION

Companies will find themselves disadvantaged in certain markets, depending on where their headquarters is located. In others, categorised as 'friendly' markets, these same companies will find their competition evaporating and margins widening. Supply chains will continue to be reconfigured to adapt to the changing geopolitical realities as well as to improve their resilience after the pandemic. Countries will have to make do with a narrower set of financing alternatives and export markets open to their companies.

Many low-income countries will suffer from the restrictions on migration, triggering a real and immediate reduction in remittances, with negative impacts on their sovereign financials. Since most are members of the BRI, it seems clear that they will probably gravitate to China's sphere of influence, becoming embedded via the installation of Chinese communications, specifications and norms. It is unclear at this stage how well they will do as a result.

THE CLIMATE CHANGE WAVE

Climate change is a systemic risk and unlike many other risks, climate change is a risk that cannot be hedged. It presents major challenges to the global economy and the health and well-being of nations around the world. As a systemic risk it therefore requires a system-level approach to address the challenges presented.

Climate-related risks present themselves to investors in three principal ways: physical risks, transition risks and their geopolitical implications.

Physical risks manifest in the increasing severity and frequency of climate and weather-related events. These events can severely damage property and other infrastructure, disrupt business supply chains, impact agricultural output and more broadly can lead to loss of life and migration. This can have a material impact on asset values, corporate profitability and public finances.

Transition risks are associated with the pivot towards a carbon-neutral economy, which will require significant structural changes to the economy. The transition to a low-carbon economy implies a fundamental transformation of energy generation and consumption away from a dependence on hydrocarbons. This transformation will directly or indirectly impact every sector of the economy and for investors will necessitate a reassessment of a wide range of asset values and the creditworthiness of some borrowers. The transition to a lower carbon economy will also present investors with opportunities related to companies that produce goods or services that contribute to or benefit from these changes, for example in building energy efficiency, renewable energy and carbon-neutral transportation. Investors have the tools to measure the preparedness of investee companies for these and collateral risks.

The primary and secondary geopolitical and socioeconomic impacts can affect all geographies but are more pronounced in low-income countries where central government finances are weak, natural disaster planning is sub-optimal and the effectiveness of institutions is uneven. Unfortunately, these are also many of the countries that are likely to experience the most serious physical impacts of climate change.

For investors, these considerations are central, as they will have a potentially short-term and direct impact on the cash flow generation and growth of investee companies in many countries. At first sight, this implies restriction of valuation potential and hence investment returns; but on closer examination, there will be a significant release of capital as the oil companies shrink—they historically have been big consumers of capital on a constant basis. Renewable energy is economically more attractive as the long-term replacement cost is merely maintenance capital after installation; no need to drill a new well in expensive and challenging operating environments such as deep water or inside the arctic circle.

There are many potential transmission mechanisms, but at the simplest level it is likely to be via regulatory or taxation changes to finance palliative action or to compensate segments of society and business. Or it could be via population movements and subsequent erosion of economic conditions.

The physical impacts of climate change manifest themselves in many ways including increasing air and sea temperatures, rising sea levels, changing rainfall patterns resulting in more severe floods and droughts, and increasingly frequent extreme weather events. It exacerbates countries' structural weaknesses, such as poor sovereign financials, healthcare security or low capacity for emergency response—extreme weather events interfere with the normal process of government policy making and become the focus for social unrest, prejudicing governance. This also places a strain on governments' ability to deliver on promises and forces policy reprioritisation. Finally, climate change can augment tensions between countries, over water, air, pollution or environmental degradation.

One example of this can be found in the origins of the Syrian civil war, when successive years of drought destroyed the livelihoods of rural farming communities, leading the people in those areas to migrate to the cities in search of relief and better opportunity. It could be argued that this migration inflamed an already tense society living under an oppressive regime.

Water is a driver of risk of geopolitical conflict in areas where river basins lie across national borders. There is an increasing unreliability of water supplies where a combination of historically poor governance, fast population growth and changing weather patterns have conspired to drive these factors higher. Egypt, for example, has major concerns about the Grand Renaissance Dam under construction in Ethiopia on the Blue Nile, only 40 kilometres from the Sudanese border. India and Bangladesh are similarly concerned that China's need for freshwater resources in the north of the country might one day mean that Beijing's know-how in water diversion is applied to the Brahmaputra River. What is more, Pakistan and India have not yet reached a level of comfort over the 1960 treaty covering access to the Indus river. Clearly, there are many multinational organisations working to ensure these tensions are minimised, but these concerns have not gone away.

The case of India provides an entirely different background of a plural, established democracy currently on the path to facing significant challenges which do not appear to be on investors' radars.

In any case, it is important to be clear-eyed about the constraints of different countries' structural positioning (sovereign financials, geo-economic strength, healthcare security, demographic challenges, etc.).

INVESTMENT CONCLUSION

Climate change is finally being accorded the attention it requires. There is clarity on direction but not on the mechanism, the pace and the efficiency of progress by countries and companies. This is understandable, as the key information missing for investment decision makers is the policy detail from governments and regulators as well as the innovation outcomes that would come predominantly from the private sector.

The greatest excitement (and uncertainty) is generated by the innovative solutions that have not yet been established. There are myriad ideas and investors broadly have the experience, the general knowledge, and the patience to deliver investment returns and improve lives at the same time.

Three large-scale, regional climate-change investment opportunities appear to be in view in the next decade. They are in the US, the EU and China. The first two will be relatively open and transparent, whilst the Chinese opportunity will require judicious selection from foreign investors, given the different modus operandi in Beijing. The US opportunity is significant, but for the moment it carries political uncertainty and is still at an embryonic phase.

The clearest and most promising is the EU; it has become a trailblazer in terms of setting benchmarks, specifications and standards, just as it has in the context of global trade in goods and services. Underpinned by its status as one of the largest consumer markets in the world, Brussels is leading in the policy areas governing carbon taxation, carbon trading and offset. The EU's Green Deal[27] represents a Marshall Plan[28]-scale project to effectively restructure the economies of the 27 member states to the tune of several trillion US dollars. In the detail of this collection of initiatives, investors will find opportunities in many sectors and technologies. And as tends to happen in these situations, the opportunity set grows as relevant supply chains and raw materials are considered.

Inevitably, the development of climate change-related policy and its implementation is going to remain lopsided for some time. This is unhelpful, as the field is relatively new in finance; we lack the experience and expertise, and in some cases the data, to quantify climate change risk. Logically, this implies many of the factors involved are misunderstood or even ignored, which means that valuations do not adequately reflect the inherent risks. For investors, this is an opportunity, as situations will be both under-priced and over-priced; we will find 'green' stocks whose valuations overestimate their relative positioning and 'dirty' stocks with underappreciated qualities or improving trajectories. Our expectation is that this market inefficiency will persist in the longer term and thus thoughtful, patient investors can use this to their advantage.

CONCLUSION

For investors, these scenarios imply an uneven and often asymmetric risk/reward ratio in their investment portfolios in the coming decades. It seems clear that most developed countries will choose to continue to enact fiscal stimulus for as long as possible, whilst voicing a desire and intention to maintain inflation at low levels—reference point: Japan. Arguably China and South Korea could be on a similar path.

Consequently, interest rates will probably remain lower for longer and the innovation investment boom will drive productivity and returns for a sustained period. Although the drivers of these changes are relevant globally, the permutations of the precise impacts of these themes will vary by country; each country is at a different point to start with and each one has different strengths and weaknesses with which to confront these pressures. The urgency lies in the need for each national government to recognise that the outcome for their country in the next generation will depend entirely on the policies enacted in the next three to five years.

Investors and asset owners need to be aware of the many moving parts and the variety of impacts on their own investment outcomes. These will vary in speed and intensity, as well as direction. And in the background, the ever-present specific risks derived from climate change and geopolitics must be treated as prisms through which to analyse their portfolios.

What could derail the scenario described in this paper?

The likelihood of the big waves not materialising or proving to be less powerful than stated appears low. The reactions to these waves on the part of governments, corporations and society could be different. This paper has sought to identify potential outcomes based on logic and knowledge of the forces involved; illogical or even counterproductive policies can never be ruled out. The area of highest forecasting uncertainty is the evolution of social pacts across geographies and this could become a determinant of policy responses. The growing cohort of over 65-year-old voters may become the most effective voting bloc in setting the boundaries to the pact. Finally, relatively small deviations in forecasted outcomes can exaggerate the expectation gap.

From an asset allocation perspective, historical biases around asset class returns, volatility and overall risk management would need to be re-oriented. For example, if interest rates remain lower for longer and demographics are pointing to a larger number of dependents, selecting appropriate safe havens that provide income may require a more creative use of global options outside of an investor's home country. Incorporating a wider definition of quality that includes such factors as ESG will be necessary to enhance both sides of traditional 60/40 portfolios. Alternative vehicles can also offer differentiated exposures to these larger themes as well as play an increasing role diversifying traditional portfolios as risk reducers, income enhancers and alternative income providers.

Principal beneficiaries of this scenario appear to be: healthcare (remote and bespoke), healthcare security and hygiene; asset management, insurance and fintech; data management, e-commerce and cybersecurity; energy transition, alternative energy and EU Green Deal; robotics, semiconductors, IoT, cloud, AI and electric vehicles; as well as logistics,

food production, sustainable physical infrastructure, education and skills; water and resource scarcity, etc. But investors also should recognise that high returns may be available in optically unattractive sectors, assuming investee companies adopt sustainable policies to improve their business models.

The traditional approach to developed and emerging markets will seem increasingly outdated; it's now a question of identifying the countries that are best placed to deal with these fast-moving waves. That requires a clear-eyed view of the essential characteristics they need to have. Intellectual property will be a significant advantage, so countries with the strongest legal systems and deepest capital markets will likely do better—innovations that work out get protected for longer and pay-offs are therefore bigger, whilst mistakes get written off more quickly, meaning that capital will be allocated more effectively/less wastefully, at least in principle. This could be countered by deployment of state funding and legislative support, where national security considerations supersede orthodox economic value considerations.

The educational attainment of the population and the precise ageing profile are also determining factors, as is the extent of social cohesion. Society needs to buy into a new social compact, accepting higher taxation whilst expecting improved education, vocational training and healthcare services. Finally, the country's level of preparedness for the impact of climate change and its positioning on the global geopolitical chessboard are key determinants.

The better-prepared group is populated mainly by high-income countries, including Denmark, Norway, Sweden, Switzerland, Israel and the Netherlands. For the middle- and low-income countries, this scenario is very challenging, but we would expect South Korea and Estonia to be relatively best placed. Ultimately, policy decisions taken in the next five years will determine the ability of each country to deal successfully with these waves. In the following pages, we test the readiness of selected countries.

For more detail, view the companion piece—Deep Water Waves Country Scorecards.

Endnotes

1. Source: US National Oceanic and Atmospheric Administration—"What is the deep ocean?"
2. Source: International Monetary Fund (IMF), World Economic Outlook Database, April 2021—annualised real global GDP growth from 1996–2021.
3. Paul Volcker was the 12th Chair of the Federal Reserve. Jerome Powell is the current Chair. The two men are often referred to as personifying two schools of monetary policy—Volcker is remembered as waging war on inflation, whilst Powell has been more relaxed, focusing instead on unemployment.
4. Refers to the nineteenth century struggle between Great Britain and Russia to try to fill the vacuum created by the political decay of Islamic Asia. The Russians refer to it as *Bolshaya Igra* and it started from Constantinople and ranged to Persia, Afghanistan and the rest of Central Asia.
5. The International Finance Corporation is a member of the World Bank Group, dedicated to advancing economic development and growing the private sector in developing countries.
6. The traditional mainstay of investment strategy has been to invest 60% of the portfolio in relatively higher risk/higher return equities and to dampen volatility with 40% in fixed interest.
7. Source: UNFPA—United Nations Population Fund. Demographic Dividend, 2016.
8. Source: EC publication "Public Attitudes on Migration—Rethinking how people perceive migration" 1 April 2019.
9. Source: Ibid.
10. Sources: 2019 Yearbook of Immigration Statistics, US Department of Homeland Security, September 2020.
11. Franklin Templeton, Bloomberg, FactSet, 30 April 2021.
12. Ministry of Finance, Japan, 31 March 2021 and Bank of Japan, 31 March 2021.
13. Financial repression occurs when official policies direct to government use (and usually at below-market rates) funds that would otherwise go to other borrowers—Source: IMF June 2011.
14. Source: OECD, Revenue Statistics 2020 Tax revenue trends in the OECD. 2020.
15. Transfer pricing refers to the prices charged as units of a corporation buy and sell between them. Multinational companies can manipulate this internal 'transfer pricing' to move profits to low tax jurisdictions.
16. Refers to the relocation of supply chains back to the home country, usually with increased automation of production, after decades of offshoring to take advantage of cheaper labour costs abroad.
17. Refers to the nineteenth century struggle between Great Britain and Russia to try to fill the vacuum created by the political decay of Islamic Asian powers, including the Ottoman empire and Persia. The Russians refer to it as Bolshaya Igra and it started from Constantinople and ranged through Persia, Afghanistan to the rest of Central Asia.
18. Source: US Department of State Press Release: US Imposes Restrictions on Certain PRC State-Owned Enterprises and Executives for Malign Activities in the South China Sea, 26 August 2020.
19. China's 2017 National Intelligence Law holds that the government is the ultimate arbiter of disclosure and states that citizens and companies have a duty to cooperate with state intelligence and security agencies.
20. ADRs are stocks that trade on U.S. exchanges but represent shares in a foreign corporation.
21. The Iran-Sudan list refers to a list of prohibited companies that do business with Iran and Sudan and certain other countries, which are designated as state sponsors of terrorism by the US State Department. Pension plans in the US must comply with these prohibitions.
22. Source: Xinhua Net. BRI Participation countries reap benefits after 6 years' joint construction, 14 September 2019.
23. CPEC official site, Government of Pakistan.
24. Source for map: CPEC Factbook 2019—Government of Pakistan Ministry of Planning Development & Reform p11.pdf
25. Source: Xinhua Net. BRI Participation countries reap benefits after 6 years' joint construction, 14 September 2019.
26. Sources: Martin Currie, The World Bank.
27. Source: The European Commission—A European Green Deal: Striving to be the first climate-neutral continent.
28. The Marshall Plan was a US sponsored investment plan deployed after WWII to rebuild European countries after the destruction of the war and to reduce the influence of their communist parties.

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