

2.2 Digitalisation

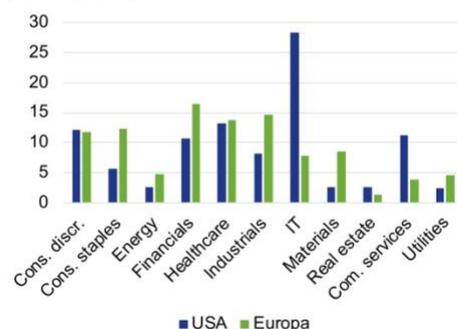
The ‘digital revolution’ has actually been with us for some time already. Various points in time can be regarded as a starting point, for example the rapid expansion of internet access in the 1990s. This would currently put us in our third decade of digitalisation, which prompts the question: Why does it seem like change is particularly fast and pronounced right now? The answer is that this might be because digital technologies are penetrating all areas of our life with increasing intensity. And this process is accompanied by sub-trends and advances in areas such as artificial intelligence and blockchain technology, which very few people really understand but everyone regards as a ‘game changer’. What is undeniable is that digitalisation has brought about huge changes.

Digitalisation has caused huge changes – in markets and for asset managers

The most relevant factor for the capital markets is the dominant position that US tech giants such as Google and some large Asian tech companies have gained. With the exception of Saudi-Aramco and Berkshire Hathaway, all of the ten biggest companies in the world by market capitalisation are technology firms – six of them from the US, the remaining two from China. One implication of this is that digitalisation has shifted the weighting of economic sectors significantly. This is highly relevant for asset managers, not just with regard to the performance of individual companies but also because the mix of sectors in a diversified equity portfolio is heavily influenced by their relative importance for the overall economy. The importance of individual investment regions has also changed considerably as a result of digitalisation. This has been to the detriment of Europe, because large IT companies are relatively few and far between here. At a more granular level, the dominance of the tech sector has many further implications for the capital markets, but a detailed discussion of these goes beyond the scope of this paper. Let us just consider one example that helps to illustrate just how far-reaching the transformation in this field could be. It has been hypothesised that – by virtue of their global presence and monopoly-style position – the biggest tech giants operate in a kind of parallel economic universe in which traditional macroeconomic influences on equity markets have only a limited effect. Union

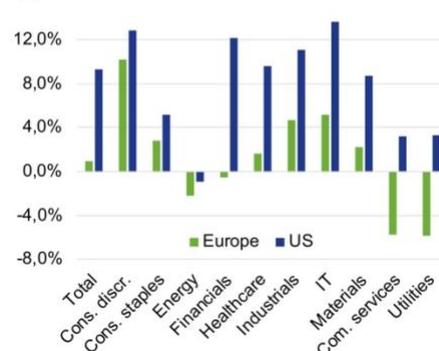
European equity markets: rich in banks but short on IT

Relative weighting of sectors
(percentage share)



Source: Refinitiv, as at March 2021.

Average profit growth since 2010
(%)



Investment will analyse this hypothesis in greater depth as part of its 2021 risk management study.

The coronavirus crisis is mainly acting as a catalyst for digitalisation. One clear piece of evidence supporting this is that the Nasdaq 100 index gained around 48 per cent in value in 2020, the first year of the pandemic, leaving all other major indices far behind. The likes of Amazon have become even stronger and more dominant during the crisis and this will remain very noticeable in the coming years. In addition, there are certain areas of digitalisation that had not really been in the spotlight before the crisis but have now enjoyed a huge boost. These include, for example, the healthcare and education sectors and solutions for working from home.

Which business models are gaining appeal and which are dying out?

What will be the most important topics for the capital markets in the coming years? Naturally, the fundamental question does not change: Which new business models are becoming more attractive as a result of advancing digitalisation and which are dying out? Being able to identify this earlier than other players in the market is an asset manager's bread and butter. This is the type of information that active managers can exploit to generate added value.

Digitalisation takes effect much more quickly than demographic trends

One difference between digitalisation and a more macroeconomic megatrend such as demographic change is that digital innovation is affecting company valuations much more quickly and directly, which makes it more relevant for specific investment decisions. There are a number of further questions that are important: Will governments impose tougher regulation on tech giants or even break them up in order to manage their quasi-monopoly position? Are other companies going to grow to a similar size as the likes of Google? Is Europe going to fall further behind as an investment region? Which areas of innovation, such as artificial intelligence, robotics or block chain, are likely to become more interesting for investors and how quickly?

Interim conclusion

Digitalisation will undoubtedly continue to drive huge transformation processes. But is there still greater change to come than what we have already seen? The answer is maybe, but not necessarily. One way or another, digitalisation is one of the most significant megatrends for the capital markets and more relevant at the level of specific investment decisions than, for example, demographic change. This is due to the fact that digital innovation can affect the success or failure of a company much more quickly and dramatically.

2.3 Deglobalisation

The question of whether the world is going to change tack and 'roll back' globalisation has been coming to the fore, not least since 2018 when Donald Trump embarked on a mission of ripping up trade deals and threatening – or even implementing – protectionist measures. Union Investment has published

two research papers on deglobalisation² and the ‘tech war’³ that examine this question in detail. In this paper, we will therefore limit our analysis to a few key aspects.

Globalisation:
social cost increases
over time

The economic historian Harold James, who appeared as a guest speaker at Union Investment’s risk management conference in November 2020, has studied the possibility of deglobalisation extensively.⁴ In his view, one of the key aspects in this context is that the social cost of globalisation – or, more generally, free trade – often rises over time. This creates growing pressure to take countermeasures – primarily for democratic systems, but also non-democratic states. As patterns go, this is not a new one. In Germany, for example, it triggered a bout of protectionism under Bismarck in the 1870s. Superficially, it also fits Donald Trump’s ‘America First’ approach of opportunistic trade policy and protectionism, ostensibly under the mantle of improving the challenging economic and social conditions in America’s ‘rust belt’. The Trump era has come to an end (for now) and Joe Biden will almost certainly adopt a more diplomatic tone than his predecessor. But he is not expected to perform a radical policy U-turn, in particular on the subject of US-China relations.

Formation of new
‘blocks’ is a game
changer

When it comes to these two superpowers specifically, it is relatively obvious that the economic aspects of trade and technology leadership are ultimately only of secondary importance. Political analysts widely agree that the US is primarily motivated by long-term geostrategic considerations, attempting to put a brake on China’s growing dominance. One could say that what matters is the outcome, not the motivation. If China – the epicentre of global production chains and international trade and a leading high-tech nation – were to be embroiled in a long drawn-out geopolitical conflict, this would have significant implications. It could certainly be a game changer for globalisation, because new blocks and alliances would form as a result, dragging others into the dispute. A good example of this is the pressure that the US is exerting over Europe with regard to Huawei. It may come to the point where Europe will be forced to make a choice between China and the US in terms of trade, at least in certain sectors.

‘Hyper-globalisation’
coming to an end
is not the same as
deglobalisation

Irrespective of the shifts in large power blocks, it does make a huge difference whether we assume that this is simply the end of a period of ‘hyper-globalisation’ (potentially due to geopolitics and populist movements), meaning that global trade may become more ‘selective’ in regional and sectoral terms and stabilise at a lower level, or whether we expect to see ‘deglobalisation’ in the sense of a fundamental and widespread trend reversal that leads to a systematic decline in global economic integration. The latter scenario probably paints too black and white a picture of the situation. It is

² See also our study paper *“Systemschock für den Welthandel: Wie verändert Covid-19 die Globalisierung?”* (‘A systemic shock for global trade – the impact of COVID-19 on globalisation’, available in German only), published in August 2020.

³ See also our study paper *“Vom Tradewar zum Techwar – USA vs. China in der Arena der Hochtechnologie”* (‘From trade war to tech war – the US and China face off in the high-tech arena’), published in November 2020.

⁴ Ausschnitte des Vortrags von Prof. Harold James finden sich

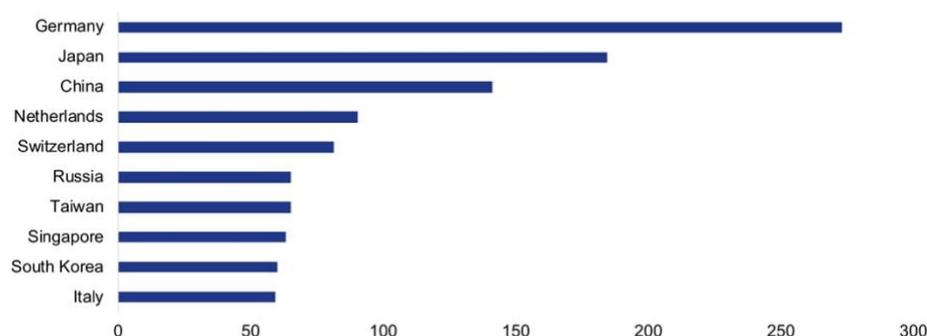
neither foreseeable nor reasonable to assume that the conflict between the US and China will prompt the rest of the world to turn its back on the benefits of global trade and international value chains.

At the end of the day, a sufficient number of countries – especially in Europe and Asia – will probably remain keen to form a ‘coalition of the willing’ for the purposes of international trade. (It should be noted that, despite Brexit and all the political noise, we firmly include the UK in this group of countries.) And ‘special cases’ such as China aside, it should be safe to assume that even the US will not really want to return to a closed-economy model. The new blueprint will hardly be based on North Korea.

The logic behind this hypothesis is simple: It may be true that the social cost of globalisation has become fairly high in many countries. But based on the current degree of global economic integration, the economic and social cost of large-scale deglobalisation would be much higher for many, and not just for export-oriented countries such as Germany.

‘Coalition of the Willing’? Export nations may unite against deglobalisation

Countries with the biggest current account surplus in 2019
(US\$ billion)



Source: IMF, as at October 2020. * Estimate

Does the coronavirus crisis change this assessment? Not fundamentally, but in some specific respects. This is mainly due to two factors. Firstly, the pandemic has made companies acutely aware of the vulnerabilities of global value chains. As a result, many companies will aim to boost their resilience. That does not necessarily mean a decline in global economic integration, but some degree of ‘near-shoring’, i.e. a reduction in the physical distance from production sites and suppliers, seems likely over the medium to long term. A contributing factor in this respect is that increasing levels of automation reduce the pressure on companies to produce in low-wage countries. Secondly, the pandemic has been a wake-up call for countries regarding their access to ‘critical goods’, especially medicines and medical equipment. It seems likely that this area will also see a shift back from globalisation towards a higher degree of self-sufficiency. In summary, similar circumstances apply as in the case of digitalisation. The coronavirus crisis is accelerating certain

pre-existing trends and is causing a few additional shifts and changes, but it is not changing the big picture.

Interim conclusion

Deglobalisation in the sense of a widespread reversal of the trend of the past 20 years seems unlikely. But a variety of geostrategic, social and technological factors, along with the pandemic, will probably cause global economic integration to slow down or even stagnate. The trade environment will also become more selective. To put it simply: We will no longer all be trading everything with everyone. In macroeconomic terms, a lower level of global economic integration could go hand in hand with greater inefficiency and weaker growth. These are typically unfavourable conditions for the capital markets. At microeconomic level, it makes the selection of financial investments more challenging and will likely entail higher volatility, but it could also offer additional upside potential for those who select well. Overall, our scenario therefore does not give cause for profound pessimism in the capital markets.

2.4 Climate change

With regard to our natural environment, climate change will almost certainly cause historic levels of upheaval, although the actual scale of the impact remains to be seen. It is widely accepted that a key factor will be what mitigating action we manage to take and how quickly we take it. From an economic perspective, and also in terms of relevance for the capital markets, there are two dimensions to this topic:

- What does climate change itself mean for the economy and the capital markets, e.g. with regard to the economic impact of extreme weather events, the consequences of fundamental changes in temperature and rainfall patterns in individual regions, droughts and rising sea levels?
- But also, what are the economic and capital market implications of measures to mitigate climate change, be it in the form of government intervention or companies proactively changing course in order to seize opportunities?

At least for the capital markets, the second aspect is currently more imminently relevant than climate change itself. This is simply due to the fact that the actual changes in our climate are only just starting to emerge, while the pressure on governments and companies to take mitigating action has been increasing rapidly. The focus here is naturally on those countries and regions that emit the most greenhouse gases. And among them are some of the world's biggest financial markets, namely the US, the eurozone and Japan. In addition, there is China – the biggest polluter by far in terms of greenhouse gases and also a country with a huge capital market, albeit one that is not yet fully accessible for international investors.

At this point, it is difficult to predict how these countries and regions will manage the transformation process from a 'brown' to a 'green' economy. But it is clear that a number of crucial economic sectors such as energy

What are the implications of climate change and of the measures being taken to mitigate it?

The effects of regulation materialise more quickly than those of climate change itself

generation, transport, the industrial sector, agriculture and real estate construction and management will be acutely affected. Many technologies that will be required are either not mature yet or have not even been invented. For example, what will planes look like in the future and what fuel will they use? The challenge is therefore not merely to achieve the transition to a broadly defined and understood target concept, but also to tackle a variety of 'known unknowns' and probably even 'unknown unknowns' along the way. In any case, the focus will be on innovation and, consequently, on commercial opportunities. The core question for asset managers here is similar to that in the field of digitalisation: Which 'established' companies (e.g. traditional car manufacturers) will manage to transition successfully? Which ones will fail? And which (technologically) innovative new business models (e.g. new car manufacturers such as Tesla) will be boosted by the need to transform?

Political interventions
affect business
models and therefore
the capital markets

However, in a direct comparison with the megatrend of digitalisation, there is an additional dimension of complexity that plays a much greater role in the transformation towards a climate-neutral economy, and that is political agenda setting. Apart from the fact that the capital markets have already become subject to direct 'green regulation' (in the form of the EU taxonomy), policymakers can massively influence the current and future appeal of financial investments through instruments such as emission thresholds and CO₂ taxes in the real economy.

A prominent example is the relatively sudden decision by the German government in 2011 to phase out nuclear energy. In 2010, it had still been approving lifetime extensions for nuclear power plants, but one year later, in the wake of the Fukushima disaster, the government performed a sharp U-turn. The consequences for companies such as RWE and E.ON and their share prices were easy enough to foresee. Today, car manufacturers are facing a similar situation: As more and more countries adopt deadlines after which registrations of new petrol and diesel vehicles will no longer be permitted, impairment losses on production plants for traditional vehicles are stacking up, which in turn affects the market value of these companies.

At present, the political pressure still varies greatly across regions. In the eurozone and Germany, it has increased significantly as a result of the European Green Deal and the German 'climate package'. The US saw little action at federal level under President Trump, but individual states such as California have taken extensive action and some companies have also been very proactive. Joe Biden has made it clear that climate change is at the very top of his list of priorities. Upon assuming office, he swiftly initiated the process for the US to rejoin the Paris climate agreement and announced an extensive package of measures to boost a green transition. China is also gradually providing more clarity about the means and timelines by which it intends to achieve climate neutrality.

But let us return to the original question of how big the economic impact of measures to mitigate climate change is likely to be and how quickly this impact will become tangible. The answer is that this will vary across regions – partly because of different political approaches, but even more so because of

different starting positions. Countries such as Germany face some particular challenges. The German economy is under significant pressure to adapt its energy generation (use of coal as a source of energy), traditional car manufacturers play a very dominant role and the industrial sector generally accounts for a large proportion of value creation. This is an uncomfortable mix quite unlike the conditions in any other eurozone member state. For many countries and regions, the transition may not be quite as daunting. But on the whole, the necessary transformation processes will constitute a profound transformation almost everywhere.

Interim conclusion

Mitigating climate change will require a fairly broad range of measures, both at sectoral and regional level. At the same time, there is great urgency to adapt. Depending on the potential implications of future political frameworks, these conditions could quite easily trigger a genuine transformation in certain sectors of the economy. Over the next two to three decades, a growing number of sectors and regions will become affected. The economic transformation will be substantial and, in some areas, disruptive. The relevance for the capital markets is therefore high, and things will start to change very soon.

3 Interconnectedness and conclusion

Every megatrend has its own effects, but they can also have an amplifying impact on one another.

With regard to the four megatrends of demographic change, digitalisation, deglobalisation and climate change, which are currently in the spotlight of public debate, we have posed the following question: Do any of these trends in isolation have the potential to trigger more than 'normal' economic change and directly impact the capital markets? We have broadly concluded that this would be the case for digitalisation and the fight against climate change. With regard to demographic change and global economic (dis)integration, the outlook is more nuanced and less clear-cut for a variety of reasons. It is also important to mention that certain other megatrends, for example migration, have not been included in our analysis. Migration is, in fact, a good example of the ways in which multiple megatrends combine and interact. It is widely expected that climate change will intensify migration flows around the world. And, as is currently observable in Germany, countries that take in significant numbers of migrants will see this reflected in their demographic structure.

Here are some further examples of ways in which the four analysed megatrends interact:

- **Climate change and digitalisation:** Not long ago, the CEO of Volkswagen, Herbert Diess, highlighted a link between these two megatrends in an interview that has attracted much attention. He predicted that cars would become highly relevant internet-enabled devices. The assumption that changes in the automotive sector were mainly happening in response to climate change is a short-sighted interpretation. These changes are driven not just by the foreseeable obsolescence of internal combustion engines but also by the digitalisation of vehicles. Driverless vehicles, for example,

represent a pinnacle of digitalisation. The meteoric rise of Tesla's share price may be just a snapshot in time and should not be accorded too much importance, but the fact that two megatrends are combining to create momentum in this sector shows that these issues are highly relevant to the capital markets, even in the short term.

- **Digitalisation and demographics:** Many industrialised countries have an ageing population and one of the key issues associated with this demographic trend is diminishing workforce potential. At the same time, it is believed that digitalisation will make many jobs obsolete, for example through robotics and artificial intelligence. From an analytical standpoint, it would be an oversimplification to say that the two trends will cancel each other out. But it does mean that simple causalities, which would be indisputable in a non-digital environment ('fewer workers, less growth'), need to be considered more carefully in a world of constantly advancing digitalisation.
- **Climate change and deglobalisation:** In the context of the EU's deliberations on the 'Green Deal', an idea was raised that could stoke the flames of emerging protectionist tendencies – namely, a 'carbon border tax'. The logic behind this idea is that it would offer countries or regions that make greater efforts than others to reduce emissions, for example through a CO₂ tax, a way of compensating their domestic companies for competitive disadvantages compared with external companies, at least with regard to potential imports. The carbon border tax is just one of many climate-related issues that could trigger international disputes. Some are already predicting that the next major source of discord following the trade war and the tech war will be a 'climate war'. Conflicts could also arise in connection with scarce resources that are required for 'clean' technologies, e.g. for the production of high-voltage batteries for electric vehicles. Combating climate change requires a maximum degree of international cooperation and coordination. Disputes that could promote deglobalisation tendencies would be counter-productive in this endeavour.
- **Climate change and demographic change:** In the context of climate change, demographic trends in emerging markets and developing countries are much more relevant than those in industrialised countries. After all, it is the former that will see continuing population growth. According to UN estimates, the global population will increase by around 26 per cent by 2050, from currently 7.7 billion people to around 9.7 billion. All else being equal, this is bad news for the climate, because more people need more energy, food and transport.
- **Deglobalisation and digitalisation:** Our earlier observations regarding recent deglobalisation tendencies were focused mainly on the production and trade of goods. In the service sector, global economic integration is generally still less advanced for a number of reasons. But there are some examples of services that have become globalised, for example call centres that have been off-shored to other countries (without callers being aware of this). As a result of the possibilities that digitalisation opens up, the

significance of national borders and language barriers will (continue to) diminish in certain service industries – especially IT and ‘big tech’. The coronavirus crisis has offered a glimpse of what is possible when it comes to the crunch. Whether this could lead to ‘globalisation 2.0’ remains to be seen, but we will certainly see some developments in this direction. This would constitute a countertrend to stagnating economic integration in the goods sector.

We could continue the list of examples. But the cases we have presented should illustrate sufficiently that individual trends can, naturally, not be viewed purely in isolation and that it is important to consider their interaction with other trends. The effect of this interaction can be neutralising or accelerating and may be beneficial or detrimental, depending on the individual circumstances. In any case, it increases the level of complexity and therefore the unpredictability of the overall trajectory.

So, is it even possible to answer our original question of whether the megatrends discussed in this paper have the potential to bring about an epoch-defining economic transformation? In other words, is a long list of foreseeable or, at least, conceivable substantial changes enough to support the hypothesis that we are on the brink of a monumental economic transition? After all, we still do not really know how these trends are going to interact, which positive or negative effects they may generate and what the bigger picture might look like in, say, 2050. If we apply the benchmark of scientific rigour, then no, we are not really in a position to answer this question. And yet, it seems to be more than just intuition suggesting that this is the direction we are heading in. There are simply too many coinciding factors. At the end of the day, it would be more surprising if the coming decades did not – in hindsight – stand out as a period of major economic transformation. For an active asset manager, this may not have a huge impact on the day-to-day business. But it is highly relevant as a strategic scenario, for one simple reason: The higher the intensity of change, the more opportunities will arise for those who select their investments carefully.

Contact

Published by: Union Investment Institutional GmbH
Weissfrauenstrasse 7
60311 Frankfurt am Main
Germany
Tel: +49 (0)69 2567 7652
Fax: +49 (0)69 2567 1616
institutional@union-investment.de
www.institutional.union-investment.de
www.union-investment.com

Research & text: Dr Jörg Zeuner
joerg.zeuner@union-investment.de

Dr Heinz-Georg Palm
heinz-georg.palm@union-investment.de

Cover picture: KitiphongPho30/Shutterstock.com

Disclaimer

This document is intended for professional clients only. All information contained in this document has been obtained from the Company's own sources or from publicly available sources deemed to be reliable. However, the author accepts no liability for this information being up to date, accurate or complete. The information presented and explained in this document is based on the author's assessment at the time it was produced and on the current legal and tax position, which is subject to change without prior notice.

The content of this customer information does not constitute a recommendation and is not a substitute for the Bank's personal investment advice or for personal tax advice from a suitably qualified professional. Although Union Investment Institutional GmbH has created this document with due care and attention, Union Investment assumes no liability for the information therein being up to date, accurate or complete. Union Investment accepts no liability for any adverse effects or losses arising either directly or indirectly from the distribution or use of this document or its content. Any indices or product names of companies other than Union Investment may be copyrighted or trademark-protected products or brands of these companies.

All information, illustrations and explanations are presented as at **15 March 2021** unless stated otherwise.