



The coronavirus transformation

How the pandemic is slowing down globalization and accelerating digitalization

Thieß Petersen und Christian Bluth

The megatrend report “The coronavirus transformation” examines central changes to the megatrends of globalization and digitalization as a consequence of the Covid-19 pandemic. It also illuminates interactions between these megatrends that are particularly affected by the crisis and demographic change, and effects on our economic and societal systems. Finally, it brings up five theses concerning the future of the megatrends.

I. Megatrends – what is it about?

A megatrend is a long-term process of societal, economic, and political change with a significant impact on a larger number of areas of life, including the spheres of work, consumer and leisure behavior, health, education, cultural identity, and political participation.

This report focuses on globalization and digitalization as megatrends that were particularly affected by the coronavirus crisis. At the same time, however, we illuminate relevant interactions with demographic change. These megatrends have an individual and combined influence on other megatopics such as climate change, which are no less relevant. This kind of trends changes

the lives of people around the world, albeit with different effects on different regions and groups.

Globalization is the increasing economic, political, social, and cultural integration of countries and people around the world. Economic globalization affects the international division of labor and border-crossing trade in goods, services, capital, labor, technology, and knowledge.

Digitalization concerns the global distribution of information and communication technologies, including networking and acceleration tendencies that set off considerable changes in the political, social, cultural, and economic structures of societies.

Demographic change refers to the changing size and structure of the population. This change has three causes: birth rate, life expectancy, and global migration.

II. Pandemics – the effects of the coronavirus pandemic on the global economy

The global economic crisis wrought by the Covid-19 pandemic is the third great economic depression in this century, following the burst Dotcom bubble in the early 2000s and the Lehmann bankruptcy in 2008/09. The first two crises originated in a speculative bubble that burst, leading to an abrupt reduction in the demand for goods and services. In contrast, a pandemic is an exogenous shock that causes not only a loss of demand but also disrupts production at the same time.

The effects of a combined demand and supply crisis in nearly every economy around the world are reason for concern. The expected global GDP collapse will be higher than it would in an economic crisis where only demand reduces. This also makes it higher than it was in the global recession following the Lehman bankruptcy in the fall of 2008. To further aggravate the situation, the global economic environment had already suffered before the outbreak of the pandemic (Brexit, trade disputes between the USA and China, USA

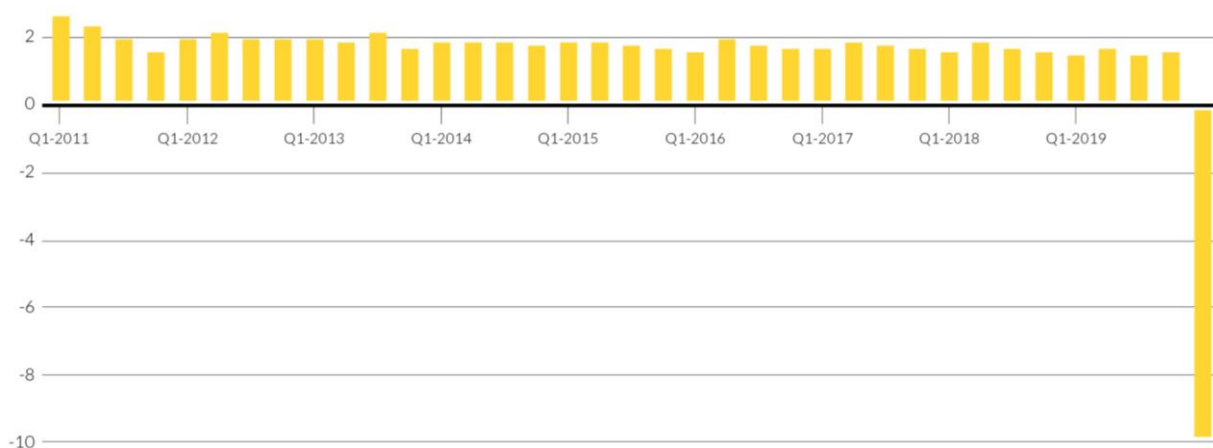
threatening to impose punitive tariffs on EU products, etc.).

The scope of the economic losses feared is reflected in a comparison between GDP developments in 2009 and the expected rates of change for 2020 (Fig. 1). Global GDP dropped by only 0.1 percent during the Lehman bankruptcy. For 2020, however, the International Monetary Fund (IMF) expects a global GDP reduction approaching five percent in its forecast from June 2020. Germany is also expected to experience a stronger loss of growth in 2020 than it did in 2009 (7.8 percent as compared to 5.7 percent).

Its large scope is not the only thing that will make the current global economic crisis more difficult to overcome than the two depressions preceding it. The available monetary and fiscal policy measures are less effective here than they would be if only demand was in crisis. The already-low interest rates and the severity of the economic damage will require much greater economic stimulus packages from the governments around the world than the situation in the wake of the Lehman bankruptcy did. This will continue to drive up unavoidable state debt to cover the necessary support measures, without which a long-term economic collapse with considerable social tensions would threaten.

FIGURE 1:
The Covid-19 crisis causes massive economic collapse in China

Changes to the real GDP in China, Change in percent as compared to the previous quarter



Source: OECD.Stat (data called up on May 14th, 2020).

It has not yet known whether massive economic depression and sharply rising debt, not only for governments but also in companies, together will send the financial market into crisis. Some stabilization is provided by most central banks announcing that they would buy government and corporate bonds on the securities markets to strengthen the financial markets. The interaction of monetary policy thus supporting the expansionary fiscal policy probably is a major reason why most stock exchanges recovered quickly from a massive price collapse. However, this monetary policy is not entirely harmless, as it feeds gigantic amounts of money into the economic system, providing the monetary basis for new speculative bubbles.

The Covid-19 pandemic is far from over. It is probably going to take years before its economic and social damage can be healed. In light of the severity of the economic crisis and the enormous efforts required to manage and mitigate it, one thing should be clear already: this momentous event will change our economic lives for the long term. Where megatrends are concerned, we expect two developments to become particularly relevant: digitalization of the economy, which has been accelerated further by the Covid-19 pandemic, and a shortening of global value creation chains.

III. The Covid-19 pandemic as a catalyst for the digitalization of the economy

The Covid-19 pandemic with its impact on the economy can serve as an additional incentive for companies to make greater use of digital technologies. This may not be able to reduce susceptibility to crises in all areas if another epidemic or pandemic occurs, but at least in many of them (Petersen 2020). The pandemic-related reduction of demand may be battled by a shift to online trading at least in some segments. Digital solutions can also counteract the health-related absences of workers to mitigate the supply crisis. Remote work is a measure intensely used in this context.

Another response to the experience of the Covid-19 pandemic with a target rather for the medium term is increasing use of machines, robots, and other digital technologies in production. By re-

placing human labor, automation reduces dependence on it. This trend is already in full swing since digital technologies bring about considerable productivity increase that reduce costs. Using such technologies to increase resilience against crises in production now acts as an additional incentive. However, not all industries and companies have the same opportunities to use digital technologies to reduce their vulnerability to crises.

New social tensions may grow from this (also: first edition of the Megatrend Report, Bertelsmann Foundation 2019, pp. 61 et seq., 72 et seq.). While producers of physical goods can resort to online trading, this is not an option for many forms of social consumption, and in particular tourism. The providers of such consumer activities (and their employees) are, therefore, subject to a greater risk of losing income from the ongoing, and any future, pandemic. The situation for social consumption is aggravated since, in contrast to physical products, it is difficult or even impossible to catch up with the loss of consumption due to the epidemic, increasing the economic harm to companies and employees in these industries.

The ability to work from home is also unequally distributed across society. In particular in the area of personal services, such as hairdressing and large parts of the health and care sector, this form of work is not an option. For economic policy this means that anyone who is unable (or only partially able) to use digital technologies as a factor to stave off crisis must receive support in the form of sufficient funding to secure their income in the event of a renewed crisis.

In addition to such product- and activity-related differences, divergent financial capacities for company investments must be considered: Those already using digital technologies and able to weather the economic crisis reasonably well can increase their advantage by further investment in robots, machines, and software. Companies weakened by the Covid-19 crisis due to a lower degree of digitalization do not have such opportunities. The digital divide that always affects a company's employees is, therefore, gaping open.

Progressing digitalization not only strengthens crisis resilience but also reduces the costs for border-crossing trade. Though internationally

competitive companies can increase their exports and employment this way, competitive pressure from foreign providers increases as well. This accelerates the structural change throughout the economy and may lead to income loss for certain regions or persons (Fig. 2).

IV. The Covid-19 pandemic and the future of “Made in the World”

The Covid-19 pandemic has caused great disruption among the trade and production networks. Lockdown measures have led to short-term production and demand issues in many countries around the world. Companies are looking for ways to render their production chains less susceptible to crisis in order to promote resilience, i.e. the ability to survive an acute crisis well and to recover quickly thereafter. The pandemic will probably end up acting as a catalyst for reorganization of global production networks. The coronavirus significantly increases the need to react to old and new megatrends alike.

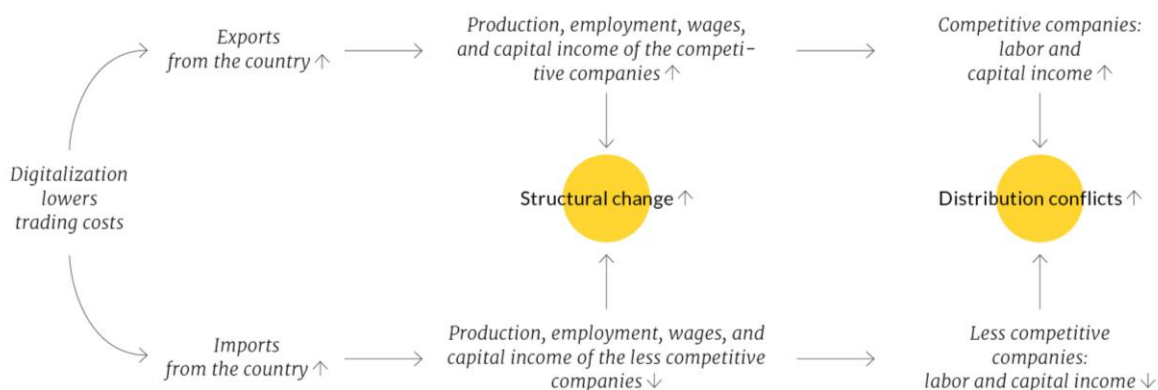
It has become the normal for us to live in a world of border-crossing value creation chains. From an economic perspective, such a detailed division of production steps is sensible to make production particularly efficient. This coin has a flip side, too. Many industrialized countries were already showing increasing anti-globalization tendencies before the Covid-19 crisis. While attitudes towards trade and globalization remain positive in

general, their details reflect public concerns (Fig. 3) for a variety of reasons. A considerable proportion of the population feels insufficiently protected from potential negative effects of globalization by their respective national governments (Bluth 2018). The crisis may cause this tendency to increase.

These dependencies caused by specialization of production networks may also have some strategic use (“Weaponized Interdependence”, Farrell and Newman 2019). The relevance of economic dependencies was particularly evident when production and delivery issues caused by lockdown measures imposed by trading partners appeared in the early weeks of the Covid-19 pandemic. Export bans on medical goods and, to a certain extent, food further complicated things. This reflects a geo-economic globalization increasingly displacing conventional liberal globalization. In this form of globalization, trade policy no longer pursues the primary goal of increasing prosperity. Instead, it is targeted at expanding political influence.

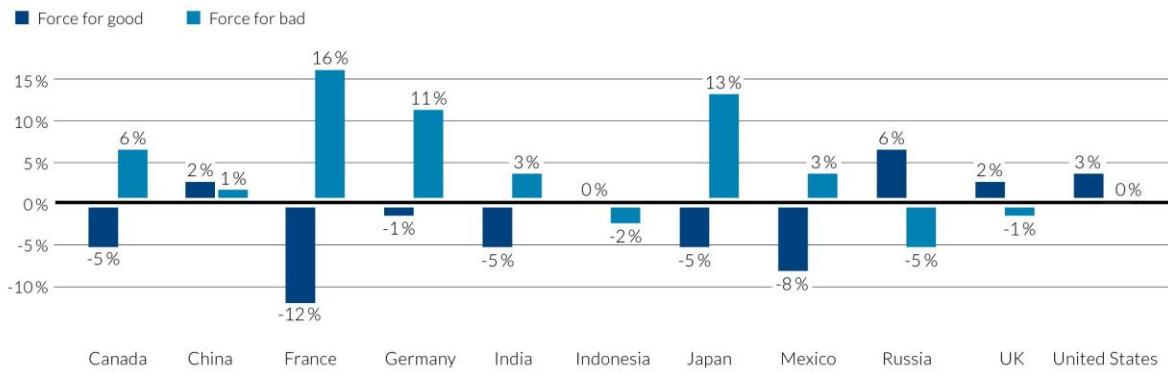
Change to the trends towards increasing automation of production and customization of products probably would have caused a shift in the structure of international value creation chains even without strengthening of the geo-economy and the appearance of Covid-19. Labor costs obviously are not the essential factor for the choice of production site when production is

FIGURE 2:
Progressing digitalization accelerates structural change



Source: Own illustration.

FIGURE 3:
National Globalization attitude change between 2018 and 2020



Source: Arregui Coka and Rausch 2020.

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subject to a high degree of automation. Other factors, such as “time to market” and the availability of good, and in particular digital, infrastructure grow more relevant. The nature of production changes at the same time, moving away from producing a large number of goods for an expected demand, and towards small batches to match the actual demand at hand.

Covid-19 most likely is not going to remain the last pandemic. We must expect that progressing urbanization and increase in prosperity, combined with a high level of international mobility, will make epidemics another new megatrend. This increases the need to establish resilient systems. Stockpiling is one option, though difficult to implement in practice. It is impossible to predict what goods will be needed in what quantities during future epidemics. The situation is similar concerning the availability of production capacities. Once again, the capacities required are not clear in advance. Diversification of risk is a better strategy. The target here is not to be dependent on a specific supplier or region, but to have the broadest possible network of supply capacities.

“Just in Time” has long been the slogan of modern production. Stocks were considered an unnecessary cost factor and production was optimized for greatest efficiency. The Covid-19 crisis now makes the weaknesses of this system visible. One likely consequence of this is that companies are going to focus less on maximizing efficiency and more to securing resilience by implementing some kind of “buffer”. This may take

the form of production overcapacity, stock-keeping, diversification, reduction of supply chains, and modernization. “Just in Case” is going to replace “Just in Time”.

V. Five theses regarding the future of megatrends

We believe that the developments described above result in five central tendencies in the future development of digitalization, globalization and demographic change:

1. The question of digital sovereignty is growing more important

An entity is digitally sovereign if its digital dependencies are the result of choice and thus can be altered at will. This entails that the entity in question is free to implement policies that reflect its values and targets within its social, economic, and regulatory policy areas. The core challenge for digital sovereignty in Europe is, therefore, reducing its dependence on third parties when it comes to digital technologies and business models. In light of the acceleration of digitalization, and the resulting structural change, the question of digital sovereignty becomes more urgent than ever. Europe should see the pandemic as a wake-up call and drive digital change actively and in a value-based and targeted manner in order to reduce critical dependencies on third parties. Such a “smart resilience” can lead to an increase in European competitiveness and opportunities for Europeans in all walks of society to enjoy its fruits.

2. International division of labor is increasingly under pressure

Efficiency and cost minimization used to be essential aspects in the design of international division of labor. Since reliability of supply will likely still be a relevant issue in future, we expect a tendency towards further diversification of value-creation chains and increased inventory-building. However, efficiency loss is the price to be paid for reducing reliance on supplies from the rest of the world. The partial renationalization of production processes could also trigger a renewed protectionism race. Another problem, finally, is that German companies procure certain input products from overseas either because the corresponding local products are uncompetitive or because certain resources are not locally available. This means that purchasers will continue to opt for currently available, more cost-efficient overseas goods and services even outside times of crisis when such products are no longer imported unless and until the underlying economic outlook is altered. Therefore, re-localization of the production of certain goods, which is expected to minimize risks, will hardly be possible without some form of state support. Diversification of value-creation chains so that input products are purchased not only from one country of origin, but from several, adds, furthermore, to costs.

3. The relevance of vertical industry policy is increasing

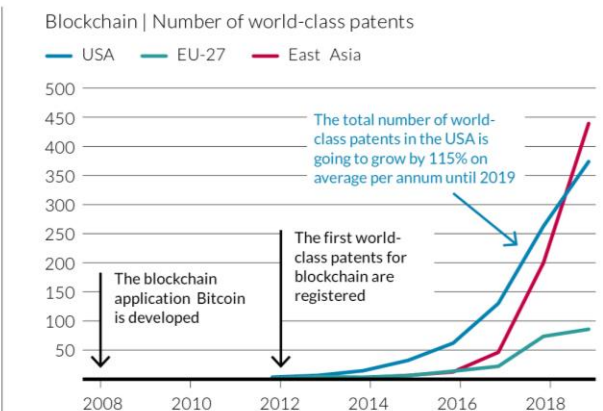
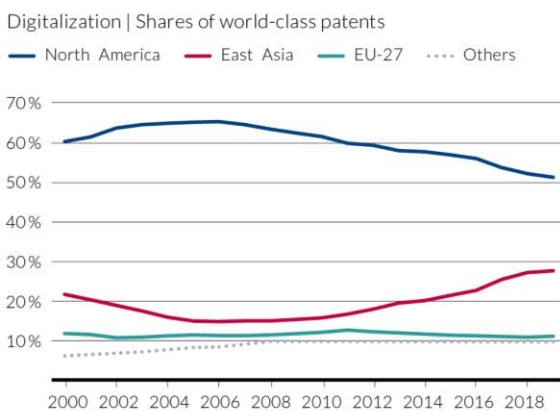
China, the USA, and other nations support key industries with a promising future such as

electromobility, robot technology or biomedicine to a considerable extent with targeted support for selective sectors or technologies (vertical industry policy). If Germany and Europe have no desire to fall behind in these areas or become dependent on foreign imports, they will have to step up the pace in vertical industry policy as well. This is not about copying Chinese or US approaches but rather about developing a dedicated industrial policy approach true to the values and societal targets of a social market economy.

4. Innovation capability becomes a core resilience factor

The question of industry policy will emerge as especially relevant to the innovation area. The intensifying hegemonial conflict between China and the USA reinforces the competition in innovation between these two states. Dedicated technology spheres of influence are growing in which either Chinese or US standards apply and where technology developments from one of these countries dominate. The Covid-19 crisis further accelerates this trend. It reflects just how quickly states can be cut off from foreign innovations and shows how valuable domestic innovation capacity is in times of crisis. When it comes to increasing digitalization, domestic capabilities in technologies such as artificial intelligence, 5G, or blockchain will gain in importance. Measured by particularly relevant patents, the USA is the global leader in many future technologies, and in particular in digitalization. China has boosted its power of innovation with rapid growth in the last few years.

FIGURE 4: Europe's gap in world-class patents in the area of digitalization

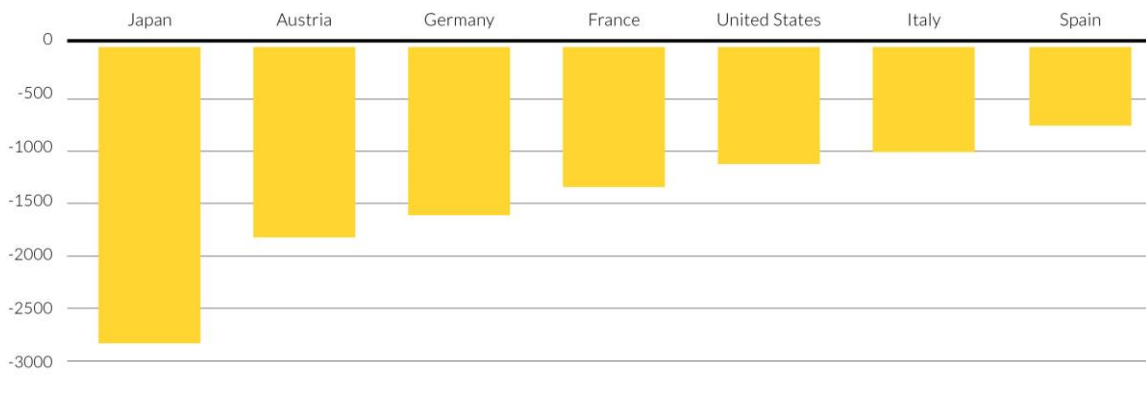


Source: Breiting, Dierks, and Rausch 2020.

FIGURE 5:

Dampening of the GDP per capita due to demographic change in 2030

In euros, at 2010 prices



Source: Lizarazo López et al. 2019.

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Europe – and even more so emerging countries – face, however, a grim future as they are at risk of losing their foothold in the race and of declining into technology vassals (Fig. 4).

5. Progressing demographic change includes additional “interference factors”

Demographic aging will reach a “hot phase” in many European countries in this decade. This adds extra “interference factors” when it comes to managing the economic consequences of the Covid-19 crisis and creating crisis-resilient structures. The aging and shrinking of the working population will dampen economic growth in Germany already in the course of the 2020s (Fig. 5). This will be exacerbated by increasing state expenditure related to demographic change. The discussion on the re-localization of the production of certain goods needs to take into account that Germany is heading for a phase of acute lack of specialists in its labor force. Broadly automating production processes can have comprehensive consequences for the wage-related and contribution-based funding of the social security systems, potentially requiring some fundamental structural reforms. Finally, fiscal room for maneuver is shrinking, making it all the more important to distribute the available budget between future investments and the protection of age-related welfare benefits in a socially equitable manner. This will become a key political challenge, as older age groups make up a steadily growing share of voters.

This and other developments will result in pervasive structural changes in the economy and society as a whole, while bringing substantial adjustments for citizens in their wake. The already-high demands to support of such changes by social- and education-policy measures are ever growing. Yet, they are necessary to prevent an attitude of resistance across large parts of the population.

Literature

This megatrend brief is based on the detailed version of the following publication:

Bertelsmann Foundation (ed.) (2020). “Die Corona-Transformation”. Megatrend-Report #02“. Gütersloh.

The MegatrendBrief is an impulse paper of the Bertelsmann Stiftung's Megatrends program. The Megatrends program examines new global developments in politics, economy and society. Its current focus is on the opportunities, risks and consequences resulting from globalization, digitalization and demographic change. The MegatrendBrief explores in particular on the interactions between these megatrends with regard to their effects on equal opportunities in social participation.

Further information on the activities of the Megatrends program:

www.bertelsmann-stiftung.de/mt-en/



www.ethicsofalgorithms.org/



www.bertelsmann-stiftung.de/demographic-change/



www.ged-project.de/



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Bertelsmann Stiftung
Carl-Bertelsmann-Straße 256
33311 Gütersloh, Germany
Phone +49 5241 81-0
www.bertelsmann-stiftung.de

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Sabine Feige
Carina Wegener

Cover image

Getty Images/iStockphoto/imaginima

Persons responsible

Andreas Esche
Ralph Müller-Eiselt

Authors

Dr. Thieß Petersen
Senior Advisor
Program Megatrends
Phone +49 5241 81-81218
thiess.petersen@bertelsmann-stiftung.de

Dr. Christian Bluth
Project Manager
Program Megatrends
Phone +49 5241 81-81329
christian.bluth@bertelsmann-stiftung.de