The New Economy Drivers and Disrupters Report

Tracking the Forces Threatening the World's Hottest Economies

By Tom Orlik, Scott Johnson and Alex Tanzi
October 29, 2019

Twenty years ago, China's economy was a tenth the size of the United States. In 2019, it is two-thirds as big. In 2039, on the current trajectory, it will be more than 10% bigger. India will have leapfrogged Japan and Germany to claim the No. 3 spot in the global rankings. Vietnam will be closing in on the top 20.

Or not.

Disruptive forces are sweeping the global economy. Populist regimes are throwing out the policy rulebook. Protectionism is deadening the trade flows that drove China's rise. Automation and the digital economy are boosting productivity for some, eroding old sources of advantage for others. The threat of climate change looms.

The path to prosperity followed by such success stories as Korea and Japan is increasingly hard to follow.

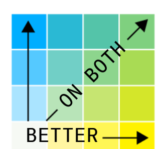
From Beijing to Brasilia, getting the right mix of smart investment, skilled workforce, innovation capacity and effective governance in place is already tough to do. Combating disruptive forces–which, from protectionism to climate change, threaten an outsize impact on low- and middle-income economies–adds to the challenge.

The New Economy Drivers and Disrupters Report captures the new forces narrowing the path to development and upending the pattern of winners and losers in the global economy.

Drivers and Disrupters
How economies are positioned to deal with disruptive forces

Economy circles sized by GDP
High income Low- and middle-income

Explore disruptive forces
▼ CLIMATE



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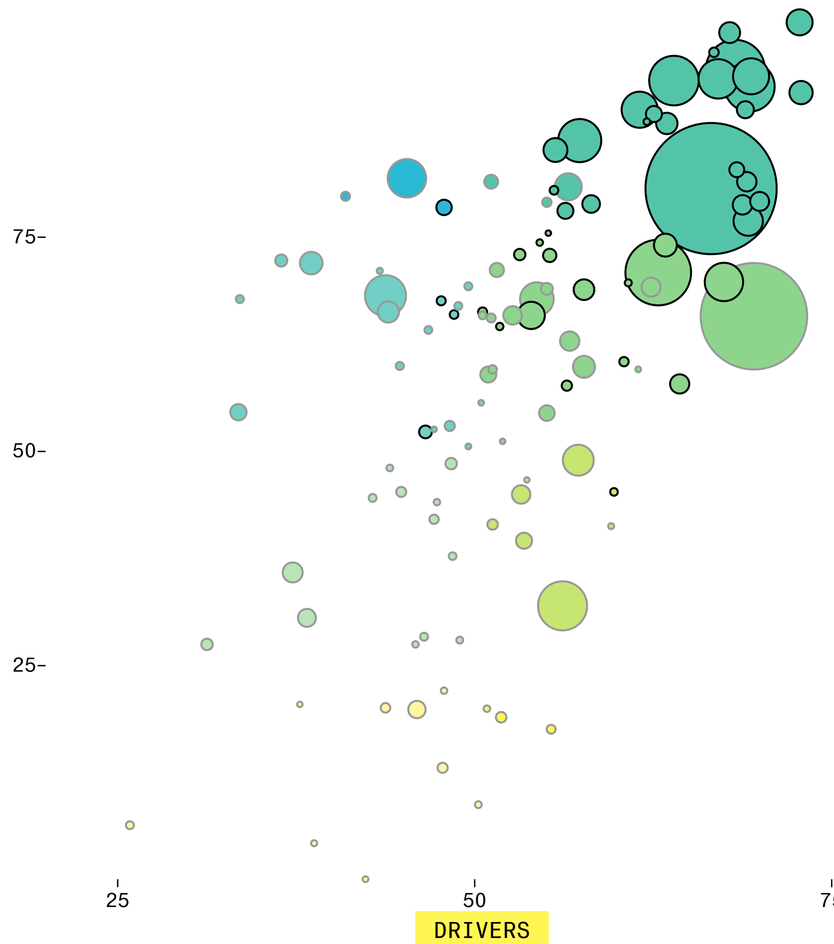

Note: Economies scaled by GDP 2018

The Report covers 114 economies, accounting for 98% of global gross domestic product. Drawing on data from official, academic and market sources, we build a series of indexes to gauge performance on the traditional drivers of development: labor force, investment and productivity.

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Uniquely, we also measure performance on the big disrupters–populism, protectionism, automation, digitization and climate change–showing which economies are exposed to heightened risk and which are poised to seize opportunities.

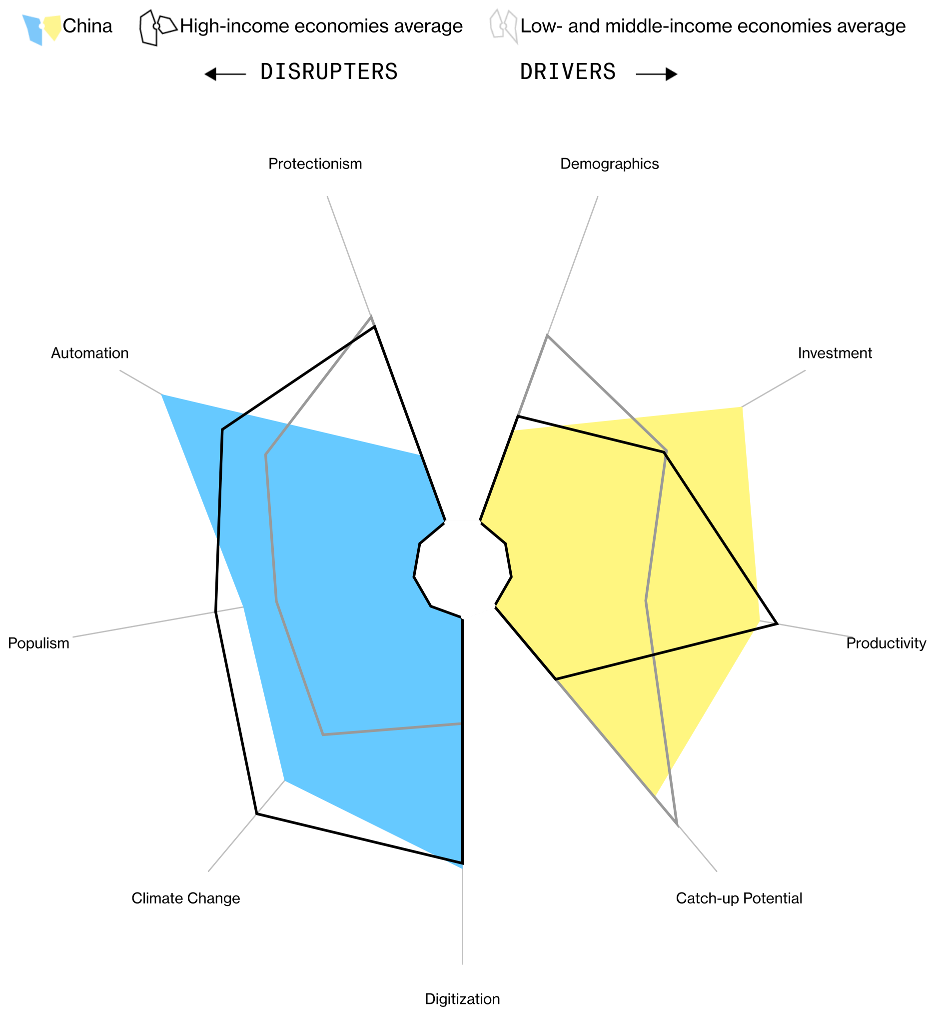
The main finding: Catching up is getting harder to do. Low- and middle-income economies are, in general, poorly positioned to adapt to coming disruptions. Without an early and ambitious response forged at a national and international level, the number moving from low- to middle-income, and then on to high-income status–already limited–could dwindle further.

Take China. On the traditional drivers of development, China outperforms. Rapid modernization of infrastructure, advances in education, investment in research and development and can-do government has delivered four decades of stellar growth. Searching for a development model, policy makers are now as likely to look East as to the West for an example.

When it comes to some of the changes sweeping the global economy, though, China is less well-placed. Protectionism threatens to hammer trade flows and slow technology catch-up with global leaders. Climate change will compound stresses on a long coastline and a population already threatened with water scarcity. High inequality and limited social mobility pose a medium-term threat to political stability.

China's Challenge

Barriers to trade threaten to slow China's path to prosperity



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Starting from a position of greater strength, advanced economies face the same challenge.

For the U.S., an immigrant-enhanced workforce and trade-boosted gains in productivity could support annual GDP growth at 2.7% in the next decade. Without those drivers, projections by Bloomberg Economics show that growth could slump to 1.4%. The U.K., with Brexit threatening a blow to growth, provides an even more immediate example of how disruptions can upend economic fortunes.

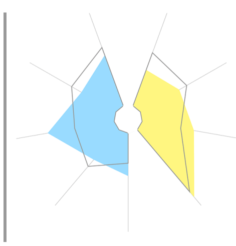
Protectionist Perils

The origins of many of the changes sweeping the global economy can be traced to two sources: trade and technology.

Trade is a driver of prosperity. Trade without agreement on the rules of the game, and without compensation for losers, has resulted in a protectionist backlash that is anything but. Bloomberg Economics estimates that the cost of the U.S.-China trade war could reach $1.2 trillion by 2021, with the impact spread across the Asian supply chain. Brexit and U.S. threats of tariffs on auto imports add to the price tag.

Our protectionism index starts with a calculation of the risk economies face from the current trade war. We use two metrics: the share of GDP exposed to U.S.-China trade, Brexit, U.S. automobile tariffs and other disputes; and a measure of trade uncertainty developed by IMF economists Hites Ahir and Davide Furceri and Stanford's Nicholas Bloom.

In addition, we incorporate exposure to future protectionist risk, gauging the importance of trade to the economy, trade balance with the U.S., current tariff levels, sophistication of exports and participation in global value chains.



DRIVERS AND DISRUPTERS CASE STUDY

A Rare Trade-War Winner, Vietnam Struggles to Keep its Gains

China, directly engaged in the trade war and with its own high barriers to market entry, appears as one of the most vulnerable major economies. The U.K., with Brexit threatening to break its ties with the world's biggest free trade zone, also features high on the list. For late developers such as Vietnam that aim to follow the exporters' path to prosperity, the door to global markets is creaking closed. Without free trade, development becomes a harder slog.

Robots Rising

Automation is delivering advances in productivity and profits at the expense of increased job insecurity. McKinsey Global Institute estimate that by 2030, some 14% of the global workforce–375 million workers–may have to find new occupations. Rapid progress in artificial intelligence and machine learning, increasing the range of tasks that can be automated while reducing the cost, could push that number even higher.

Badly managed, the result for advanced economies will be a further polarization in income, with a growing divide between high-skill haves and low-skill have-nots.

For emerging markets, lower wages reduce the incentive to automate. That doesn't mean the risk of disruption is low. Automation is rapidly approaching the level at which a substantial share of low

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surveys showing the composition of labor markets. The results show that high-income economies face the most direct risk from automation.

That's not the end of the story. The ability to maximize the benefits and minimize the costs of automation also depends on policy choices. We incorporate a measure of workforce skills and flexibility, spending on workforce training and income support, and the share of the population with university education. The first two of those capture the ability of the workforce to adapt. The last gauges capacity to benefit from complementarities with new technology.

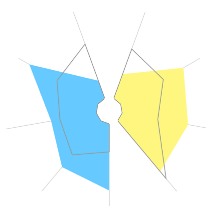
The results show that markets with a high share of workers in routine jobs, low spending on support for displaced workers, and a small university-educated population face the highest risks. Of course, the data doesn't capture all the factors at work. Japan, for example, faces high exposure to automation, but also benefits from the competitiveness of its robotics industry, as well as labor market conventions that promote low unemployment.

Digital Divide

Driven by rapid reductions in the cost of the communication, the digital economy holds out the promise of dramatic increases in productivity. Globally, close to four billion people are connected to the internet. In high-income markets, four out of five are online. In developing economies, internet use is at 45% and rising rapidly.

The economic impact is far-reaching. Digital platforms such as China's Taobao connect entrepreneurs to new customers, empowering both sides of the transaction with a high degree of transparency. A massive increase in data flows is driving what international economist Richard Baldwin calls the "third unbundling," with the potential for more services to be outsourced across borders, as with manufacturing.

Done right, digitization holds out the promise of higher productivity, with the potential for low- and middle-income economies to leapfrog along the development process. In China, for example, e-commerce is creating new opportunities for entrepreneurs and consumers in support of economic rebalancing. Done wrong, and the digital divide will exacerbate income polarization in high-income economies, and make it harder for the rest to tap the mainstream of global opportunity.



DRIVERS AND DISRUPTERS CASE STUDY

Chinese Micro Loans Open Window for Small Firms —And More Debt

Our digital economy index assesses preparedness across four dimensions: quality of internet infrastructure and engagement of business, households and governments. Measures include speed of mobile and broadband connections, number and share of the population active online, business spending on information and communications technology, and the World Bank's gauge of the depth and breadth of online government services.

The results show a stark digital divide. High-income economies–with Singapore and Korea topping the list–have high-quality infrastructure and high levels of engagement across business, consumers and government. With a few exceptions, their low- and middle-income counterparts do not. The digital economy presents a new opportunity for development. Many are ill-placed to seize it.

Populist Politics

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Following that definition, 43% of GDP in G-20 economies is now under the control of populist rulers, up from 8% in 2016.

On the evidence so far, populist rulers are better at identifying problems than they are at finding solutions. The result, in various configurations, has been protectionism, opposition to immigration, unfunded tax giveaways, attacks on central bank independence and head-spinning policy uncertainty.

Populist rulers differ. (Some even question the value of the term as a catch-all category.) A family of factors contributes to their rise. High inequality, low social mobility and high unemployment triggered by recession or financial crisis are common denominators. Other factors–rising immigration, imports displacing domestic manufacturing, high crime rates and weak political institutions–are frequent contributors.

Taking account of all these factors, our results show the highest risk in low- and middle-income economies. This reflects a combination of high inequality, low social mobility and weak governance. Turkey–where policy missteps have already contributed to a current-account crisis–shows up among the most vulnerable.

Climate Calamity

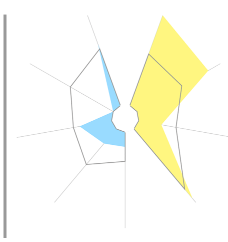
Inward-looking leaders are ill-placed to confront an additional systemic risk: climate change. The consequence of temperatures 1°C above pre-industrial levels are already evident. Extreme weather events, from floods in Thailand to category-five storms battering the U.S., are wreaking havoc on housing, infrastructure and supply chains. Insurance losses have risen fivefold since the 1980s.

As temperatures continue to move higher, the economic impacts will be wide-ranging. Uncertainty about climate risks and the impact of mitigation measures creates a disincentive for businesses to invest. Higher temperatures reduce labor productivity. The need for climate adaptation diverts resources away from more productive uses. And while the transition to a low-carbon economy brings new opportunities, a trade-off between emissions and growth may be tough to avoid.

Putting a dollar value on the economic impact is tough to do. The Intergovernmental Panel on Climate Change puts the cost from 0.2% to 2% of global GDP a year. Even at the lower end of that range, the costs will be measured in hundreds of billions of dollars annually. At the upper end, they reach the trillions.

To capture the risk from climate change, we use the Notre Dame Global Adaptation Initiative vulnerability index. The index tracks exposure to climate change across food, water, health, eco-system services, human habitat and infrastructure.

Low- and middle-income economies with high temperatures, reliance on agriculture, exposed populations and limited resources to adapt are the most exposed in the Notre Dame index. Among major economies, India and Vietnam show up among the most vulnerable.



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Climate Change Leaves Zambia Struggling to Keep the Lights On

Driving Development

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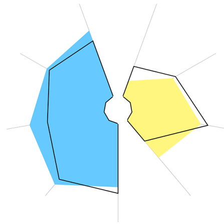
- Expansion in the capital stock, efficiently allocated, boosts labor productivity. We measure investment as a share of GDP. As proxies for the quality of that investment, we use the Heritage Foundation's Investment Freedom Index and gross government debt as a share of GDP.

- Productivity-boosting policies unleash the economy's potential. We incorporate a set of measures to capture education, macro-economic stability, openness to trade, financial market development, innovation, business climate and governance.

- Distance from the frontier gives low- and middle-income economies space to grow simply by learning from advanced technology and management practices in the developed world. We measure GDP per capita as a percentage of the U.S.



DRIVERS AND DISRUPTERS CASE STUDY

Poland's Struggle to Find Workers Leaves Businesses in a Bind

Unsurprisingly, the results show that on the traditional drivers of development, high-income economies have a considerable advantage. Sweden, Switzerland and Denmark top the rankings, reflecting high levels of education, openness and effective governance.

China tops the ranking for emerging markets, bolstered by strong investment, support for innovation and considerable scope to raise income toward advanced economy levels.

Other emerging markets have found China's example tough to follow. In Brazil, the foundation of high-quality basic education is missing, and high government borrowing has crowded out private investment. In Russia, Poland and other former communist countries, a shrinking working-age population is a drag. Argentina, which has spent a third of the time since 1950 in recession, demonstrates the cost of economic instability.

Race to Develop

Explore how economies are positioned relative to their peers on traditional drivers and new disrupters of development

Compare United States to High income averages

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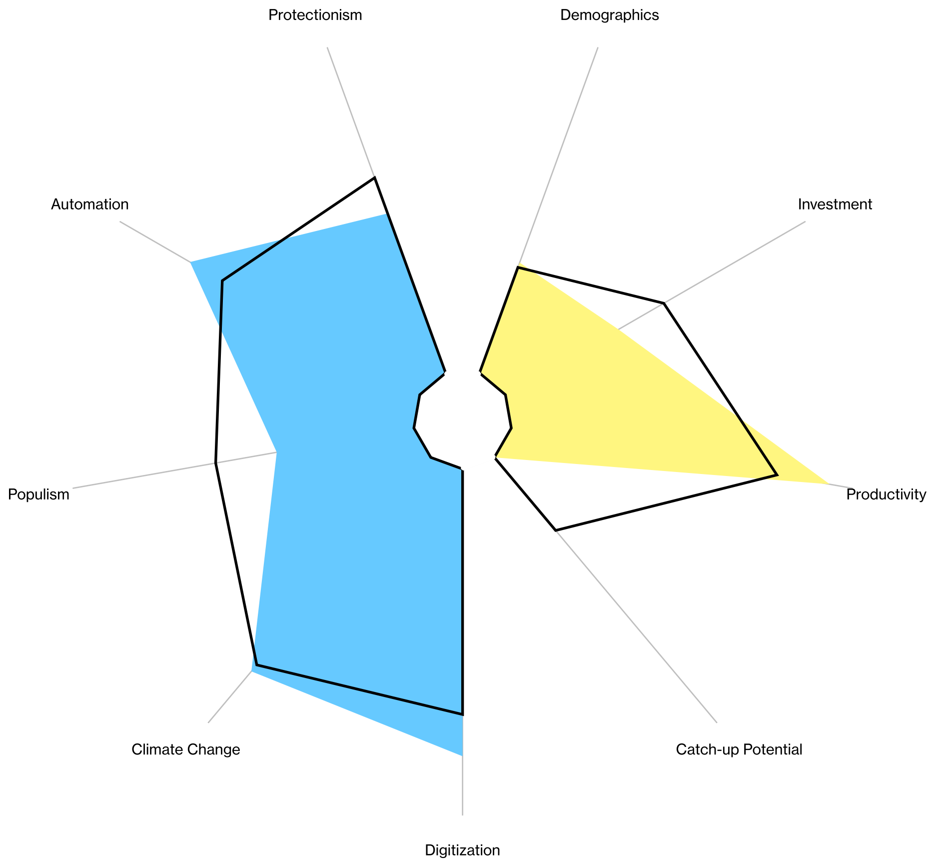

Looking Forward

Data, it must be acknowledged, have their limitations. Cultural and institutional factors are hard to capture. Portugal suffered higher unemployment than Italy in the wake of the European sovereign debt crisis, but hasn't had the same surge in populism. Japan's workers and employers are aligned around the objective of low unemployment, offsetting risks from automation.

Behind our results are judgments about which inputs to use and what weight to give them. Our judgments are based on careful reading of the academic literature. Where possible, we have supplemented that with our own econometric analysis. Still, they are judgments, and different judgments would produce different results.

They would not change the big picture:

- Low- and middle-income economies are more vulnerable to coming disruptions to the global economy. Protectionism is blocking access to global markets. Populism is taking policy off track. Climate change looms. The path to prosperity is getting harder to follow.

- Policies matter. Within the low- and middle-income group, those that have moved early to get traditional drivers of development in place will be better positioned to adapt. China is making major investments in innovation–necessary to move the economy up the value chain. Brazil is not.

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- At a national level: policy that creates the right environment for investment and innovation, provides training for workers adapting to automation, and opens opportunities in the digital economy.

- At an international level: new rules of the road on trade in goods, preparation for the digital surge in trade in services, and renewed momentum in the fight against climate change.

Combining the two–and part of the motivation for the New Economy Forum–opportunities to learn from best practice and steer clear of missteps. As this report makes clear, some economies are getting it right, and some are not. For those in the second category, the results are a wake-up call–and an opportunity.

Methodology and Rankings

The Drivers and Disrupters Report evaluates economies on two sets of metrics. One captures the drivers of development, while the other captures exposure to the disruptive forces creating new risks and opportunities in the global economy.

Economy	Drivers Rank	Score	Disrupters Rank	Score
Sweden	1	72.9	3	80.8
Switzerland	2	72.8	8	74.2
Denmark	3	70.0	5	76.6
China	4	69.6	50	59.0
Australia	5	69.4	2	84.5
United Kingdom	6	69.3	20	69.0
Netherlands	7	69.2	13	72.9
Israel	8	69.1	6	75.2
Finland	9	69.0	4	77.5
Ireland	10	68.8	44	59.9
New Zealand	11	68.4	1	86.8
Germany	12	68.3	10	73.2
Norway	13	67.9	9	74.2
South Korea	14	67.5	15	72.1
Canada	15	67.1	38	61.1
Luxembourg	16	66.8	14	72.7
United States	17	66.6	27	65.9
Singapore	18	64.4	7	74.4
France	19	64.0	19	70.1
Hong Kong	20	63.7	34	63.8

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Note: Rankings are based on average score values to the third decimal place. Malta's disrupter ranking is not displayed due to insufficient data.

Drivers

The drivers consist of a composite gauge of productivity, as well as the projected growth in the labor force, the scale and quality of investment, and a measure of distance from the development frontier.

Weights for these measures in the overall drivers index are set at different levels for high-income and low- and middle-income economies. The weights reflect evidence in the academic literature, as

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