Which Countries Are Better Prepared To Compete Globally In The Disruptive Technology Age?

IN FOCUS

A Rapid, Forward-looking Analysis of Countries' Share of the Global Private Sector

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Abstract

This note provides a rapid, forward-looking analysis of countries' share of the global private sector. By using technology-enabled Unicorns as a leading indicator of the future's global private sector, which is dominated by a technology platform business model of zero marginal costs and winner-takes-all dynamics, this analysis provides an indication of relative gains and losses of countries in the transition to a technology-driven new economy. The results are tested by comparing the gross domestic product (GDP) growth of countries and their relative position in this transition, which is then measured using a forward-looking approach. This analysis is a first approximation toward a predictive assessment and requires further research. However, the results provided in this note can help policy makers consider and assess new factors to deal with the uncertainties of disruptive technologies in their economies.

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Global Private Sector Transformation: Traditional Multinational Corporations and Technology Platforms

As technology transforms the global economy and as technology leads to the fourth industrial revolution, new sectors and markets are being created while traditional ones are disrupted. This global transformation will have implications for firms and workers who will need to adapt their businesses and skills to the paradigms of the new market.[1] Ultimately, this process will have structural implications for countries, and their private sector competitiveness will be altered by disruptions and reallocations of firms and resources during this global readjustment process.

The global market, where multinational corporations (MNCs) operate, is already witnessing the disruptive effects of technology. Traditional MNCs and large domestic corporations are being disrupted by new technology platforms such as Google, Facebook, and Amazon, which are competing globally by leveraging zero marginal costs and winner-takes-all dynamics. As goods and services are increasingly digitized, technology global platforms are extending their reach to more sectors beyond established technology industries. Those sectors include transportation and hospitality (Uber and Airbnb, for example). Most of those global platforms are newly created technology firms, many of which are technology-enabled Unicorns (that is, new technology-enabled companies with private valuation of more than $1 billion) and their Exits (that is, new technology-enabled companies that achieve a valuation of more than $1 billion through an initial public offering, merger or acquisition).[2] In this context, what is required to successfully compete globally is to change from traditional MNC business models to those of global technology platforms.[3] Hence, countries that generate and retain more technology global platforms and firms that are operating in such an environment will likely gain a larger share in the new global private sector.

[1] See Martin Mühleisen, "The Long and Short of the Digital Revolution," Finance and Development 55, no 2 (June 2018), https://www.imf.org/external/pubs/ft/fandd/2018/06/impact-of-digital-technology-on-economic-growth/muhleisen.htm.

[2] Technology-enabled Unicorns are private companies with valuation of more than $1 billion. The earliest Unicorn that remains a private company was founded in 2010. Exits are tech start-ups that followed an IPO, merger, or acquisition process after 2009. All of those firms have a valuation of more than $1 billion after the exit process. In addition, all of the companies are start-ups whose business model is highly supported by new technologies (such as digital and disruptive technologies) and whose operations often disrupt traditional business models. They may or may not operate in the technology sector. For a full list of companies please see note 5.

[3] Indeed, traditional MNCs have seen their global reach curtailed by changes in global trade rules and other factors, whereas technology platforms are expanding and taking over digital global market advantages. See "The Retreat of the Global Company," Economist, January 28, 2017, https://www.economist.com/briefing/2017/01/28/the-retreat-of-the-global-company.

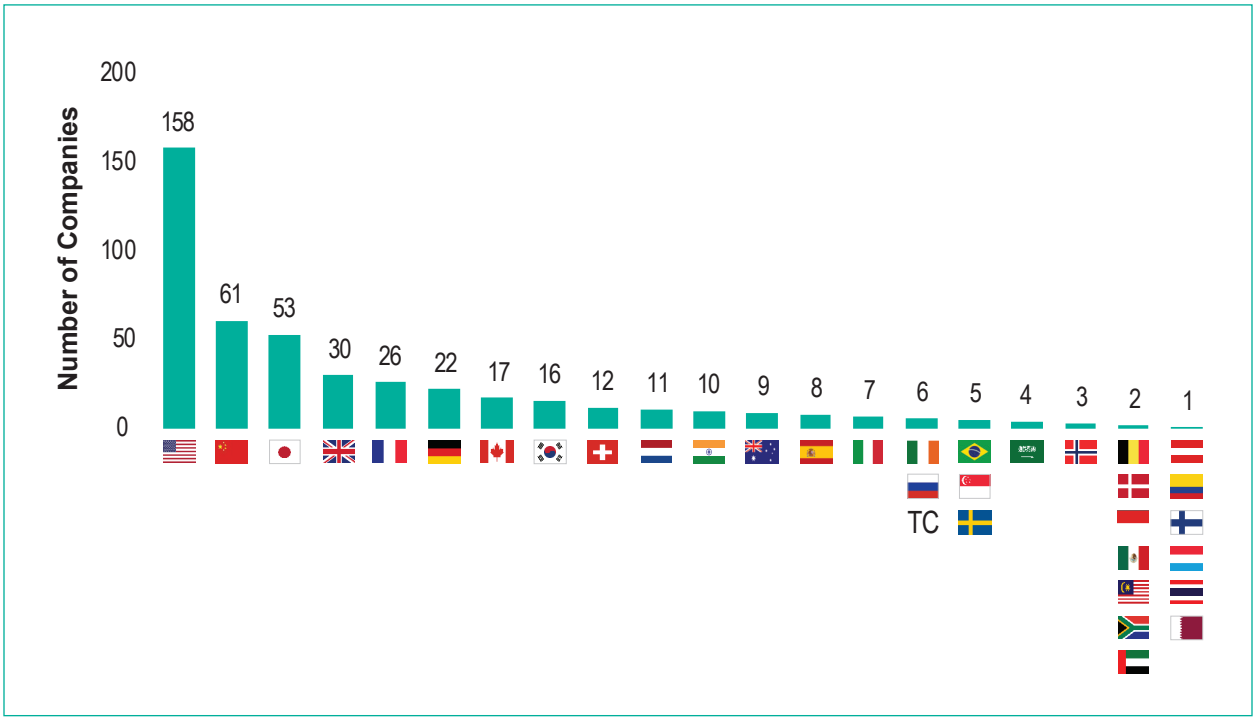
This note provides an approximation of a forward-looking analysis of the ability of countries to generate and retain firms that compete in the global market. The analysis first assesses two sets of countries: (a) the ones with traditional MNCs and (b) those with technology-enabled Unicorns (including those exited through an initial public offering, merger, or acquisition). The first group of countries is home to traditional MNCs that have been competing internationally in the global market. Here, the term "traditional" describes companies that do not operate under technology platforms or other technology-based business models. To date, countries with traditional MNCs have been enjoying a larger share of the global market. The second group of countries consists of host technology-enabled Unicorns, the firms that are able to compete globally with technology platform business models. The analysis assumes that a country's ability to originate and retain those unicorns is a leading indicator of its ability to generate the future global private sector.

Each country's share of company values ($) is then compared among traditional MNCs only (today's global private sector) and among technology-enabled Unicorns only (the future global private sector). The difference between the two ratios provides a measurement of each country's gap (positive or negative) relative to the country's predicted capacity to generate growth in the future global private sector. As a final step, the analysis examines each country's recent GDP growth to test the forward-looking gap measurements.

Analysis of Countries' Share of the Global Private Sector in Today's Economy versus the New Economy

Countries with a large share of today's global private sector are identified using the country of origin of the world's 500 largest public companies. It is assumed that those companies are the largest traditional MNCs or are traditional firms large

Figure 1. Distribution of the World's 500 Largest Public Companies (2018)



Source: Forbes, "Global 2000: The World's Largest Public Companies," 2018.
Note: See Annex for country flags reference. TC = Taiwan, China.

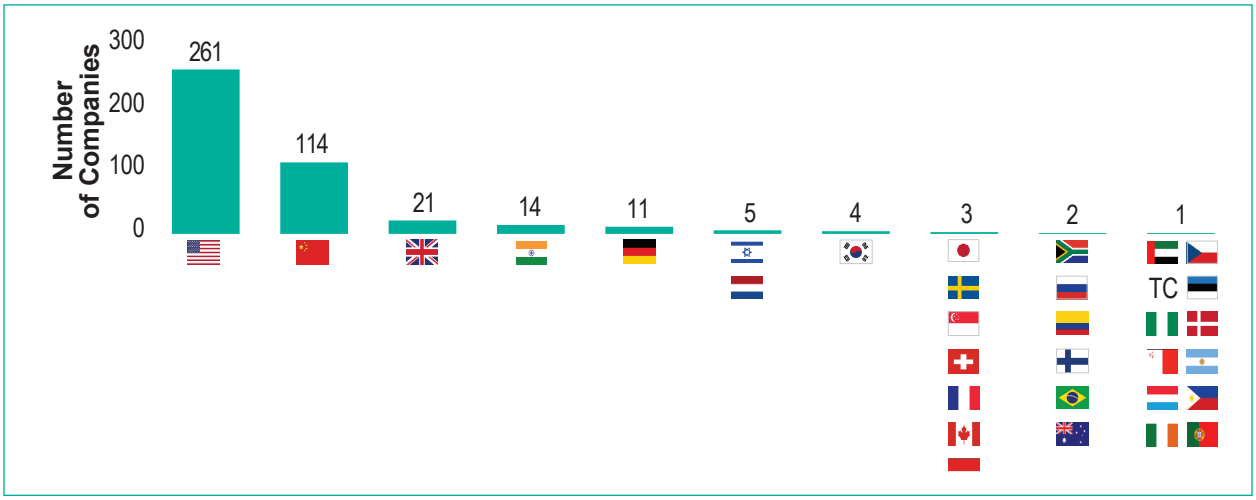
enough to compete on an equal footing with MNCs. Forbes's list of the world's largest public companies (2018 ranking), which comprises the world's 2,000 largest public companies, is used to identify the top 500 companies.[4] The United States is home to the largest share of large public companies in terms of value, followed by China, Japan, and other Organisation for Economic Co-operation and Development (OECD) countries (figure 1).

To identify countries with a larger share of the future global private sector, one must use the country of origin of technology-enabled Unicorns (including those exited through an initial public offering, merger, or acquisition). The companies come from CB Insights's lists of global unicorns and exits (as of August 2018).[5] There are 480 global tech firms with valuation or post-exit value of more than $1 billion between 2009 and August 2018 (figure 2). The United States is home to the largest share of technology-enabled Unicorns and Exits followed by China, the United Kingdom, India, and Germany.

When comparing this technology-enabled Unicorn country list against the list of the large public company countries, one can note that India and Israel are ahead of many OECD countries in their share of technology-enabled Unicorns. Also, some countries are not listed in the large public company list but appear in the technology-enabled Unicorns list (such as Argentina, the Czech Republic, Israel, the Philippines, Portugal, and Nigeria).

To normalize the number of companies and their relative size per country, one must use the aggregated value of the companies that originated in each country. This is done both for the list of countries where the world's 500 largest public companies originated and for the list of countries where the technology-enabled Unicorns originated. Thus, for both, the aggregated market value of the firms that originated in each country is divided by the total market value of all sample countries in each of the lists (the world's 500 largest public companies and the technology-enabled Unicorns).

Figure 2. Distribution of Technology-Enabled Unicorns and Exits (2009–August 2018)



Source: CB Insights, "The Global Unicorn Club" and "The Unicorn Exit Tracker," August 2018.
Note: See Annex for country flags reference. TC = Taiwan, China.

[4] Forbes, "Global 2000: The World's Largest Public Companies," 2018 ranking, https://www.forbes.com/global2000/list/. Alphabet and Amazon were excluded from this list because they operate as technology platforms (leveraging technology business models). Also, excluded were Alibaba and Facebook because they are previous technology-enabled Unicorns that exited through initial public offerings (IPOs); those two firms are instead added to the technology-enabled Unicorn list from CB Insights, which was used to infer the future global private sector.

[5] CB Insights, "The Global Unicorn Club," updated August 2018, https://www.cbinsights.com/research-unicorn-companies, and CB Insights, "The Unicorn Exits Tracker," updated August 2, 2018, https://www.cbinsights.com/research-unicorn-exits.

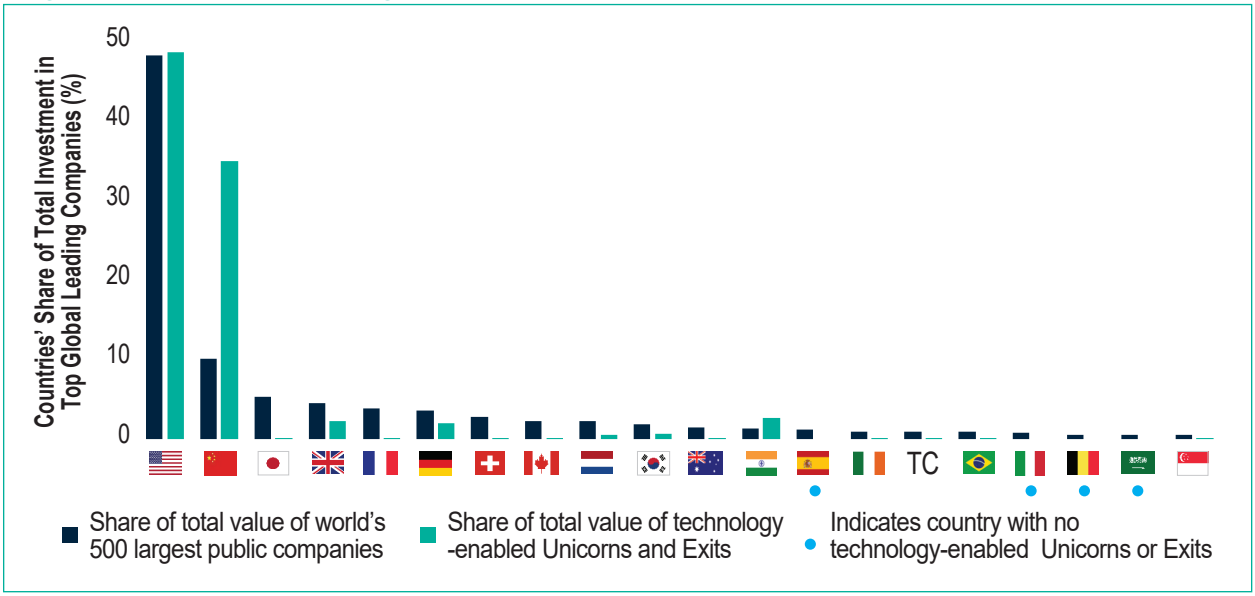
Such ratios provide a relative measure to understand the position of each country in terms of its share of the global private sector in today's economy and in the new economy relative to its peers (figure 3). The two ratios per country can then be compared to see how each country's position changes in today's economy and in that of the new economy—this is a leading indicator for the future share of the global private sector.[6]

The United States represents approximately half of the global private sector in both economies.[7] China holds more than a third of the new economy's global private sector, a much larger share than the 12 percent it holds in today's global private sector. This large differential suggests that the Chinese private sector is developing fast in the new economy. It is also notable that most of the other top 20 countries in today's economy are underperforming in the new economy, except for India and Singapore. Specific countries (such as Belgium, Italy, Saudi Arabia, and Spain) have not originated a single technology-enabled Unicorn yet.

Forward-Looking Gap of Countries' Global Private Sector

Two ratios (the share of value of the world's 500 largest public companies and that of technology-enabled Unicorns) are combined to identify the gap between each country's relative position in today's global private sector and in the future

Figure 3. Share of Value in the World's 500 Largest Public Companies and in Technology-Enabled Unicorns and Exits among the 20 Countries with Highest Values in Today's Global Private Sector

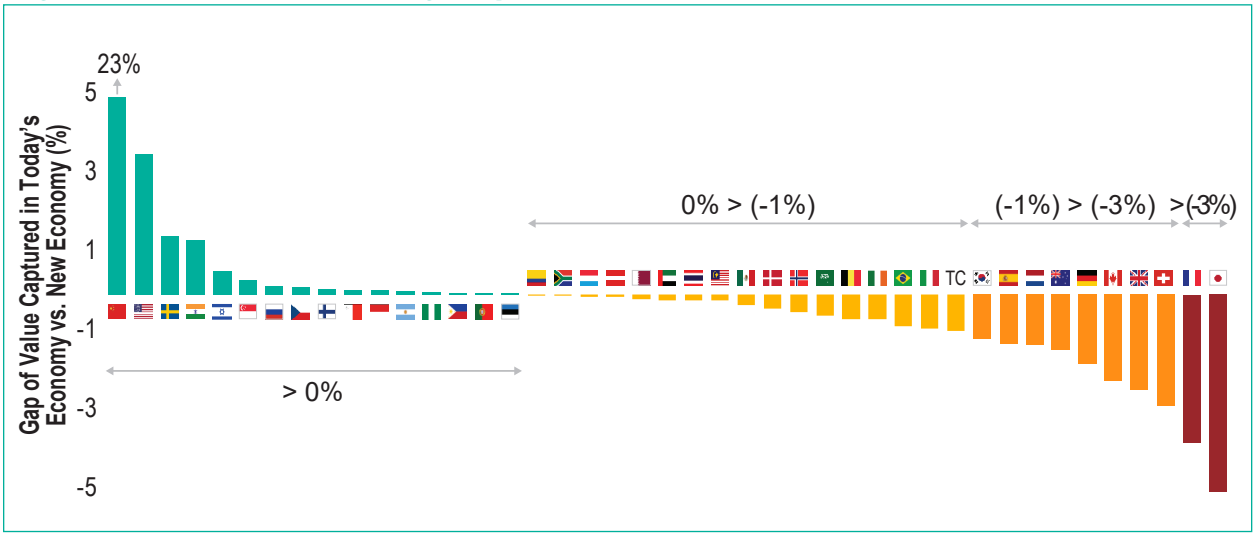


Source: World Bank analysis elaborated with data from Forbes, "Global 2000: The World's Largest Public Companies," 2018, and CB Insights, "The Global Unicorn Club," and "The Unicorn Exits Tracker," both updated 2018.
Note: See Annex for country flags reference. TC = Taiwan, China.

[6] These ratios were chosen for this rapid analysis because they were the only measures available with existing data at this time. A further exploration of data sources, particularly census data, may result in more detailed analysis and measurements.

[7] The position of the United States is underrepresented with the ratios because Alphabet and Amazon are not included in either list. Although those two companies are among the largest public companies in the world in terms of market valuation, they operate as technology platforms. For this reason, they are excluded from the list of the world's 500 largest companies, which intends to capture traditional MNCs and large corporations. Alphabet and Amazon are also excluded from the technology-enabled Unicorns list because their market valuation is not on par with the rest of technology-enabled Unicorns firms. In addition, using their valuations at the time of their IPO (less than $1 billion) would not be accurate, and these companies would be underrepresented.

Figure 4. Forward-Looking Gaps of Countries' Global Private Sector



Source: World Bank analysis elaborated with data from Forbes, "Global 2000: The World's Largest Public Companies," 2018, and CB Insights, "The Global Unicorn Club," and "The Unicorn Exits Tracker," both updated 2018.
Note: See Annex for country flags reference. TC = Taiwan, China.

global private sector (on the assumption that technology-enabled Unicorns will lead tomorrow's global private sector). This measure provides a forward-looking gap of countries' share of the global private sector. Given a direct transition from today's global private sector to the future's global private sector, the forward-looking gap shows which countries have a larger share to win or lose from today's position (figure 4).

Countries shown in green, led by China and the United States,[8] have a positive gap (that is, their share of global private sector value is greater in the new economy). The rest of the countries have a progressively negative gap (0 to −1 percent shown in yellow, −1 to −3 percent shown in orange, and greater than −3 percent shown in red), with France and Japan having the most to lose in a straight-forward transition to the new economy.

Most of the OECD countries have a negative gap. This finding is not surprising, because those countries have a larger global private sector in today's economy. However, the United States, Sweden, and Singapore are notable exceptions that illustrate that countries can originate a large share of global private sector leaders in the new economy, in addition to having an existing large share of today's global private sector. The positive gaps for China, India, and Israel show that those economies are leapfrogging toward the new economy as they develop. Many developing countries—including Argentina, Colombia, Estonia, Indonesia, Nigeria, the Philippines, and South Africa—are following the examples of China and India and are also leapfrogging to the new economy.

To test the application of these gaps, one must examine the GDP growth of the sample countries. Thus, GDP growth since 2008, which represents the latest economic cycle, is examined.[9] The average of growth in all the countries with a positive gap in the new economy (countries shown in green in figure 4) is compared with the average of growth for all other countries in the sample (those with a negative gap in varying degrees). The analysis indicates that since 2008 countries with a positive gap have been enjoying higher GDP growth than have those with negative gaps, with the growth differential

[8] See note 7.
[9] GDP figures come from International Monetary Fund, World Economic Outlook, April 2018, "GDP, current prices," http://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD.

increasing significantly throughout the period (figure 5). The difference in growth between countries with a positive gap and the rest still holds even when China and the United States (which, when combined, originate two-thirds of the future global private sector value) are excluded from the sample.

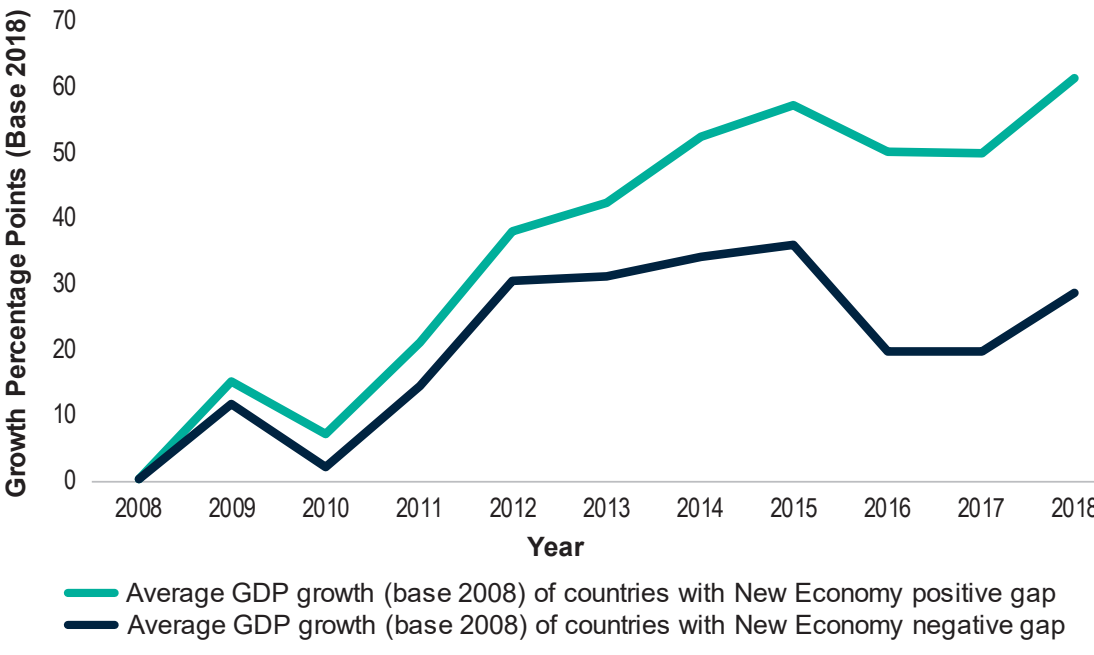
The difference in GDP growth also is tested by category of forward-looking gap (that is, positive gap is shown in green, negative gap ranging from 0 to −1 percent is shown in yellow, −1 to −3 percent is shown in orange, and greater than −3 percent is shown in red). Moreover, the average growth from all countries in each category is examined. The growth differential persists between categories, with countries in green having larger GDP growth and countries in red having the lowest growth (figure 6).

Different rates of GDP growth can result from multiple causes. Countries in earlier stages of development tend to grow at higher rates. Further research is required to understand this relationship in more detail.[10]

Conclusion

This note provides an approximation of a forward-looking gap analysis of countries' position in the global private sector as it transitions to technology-led global competition, where a technology platform business model prevails. By using technology-enabled Unicorns as a leading indicator of what the future global private sector will be, this analysis provides a predictive measurement of the capacity of countries to generate this future global private sector relative to their peers.

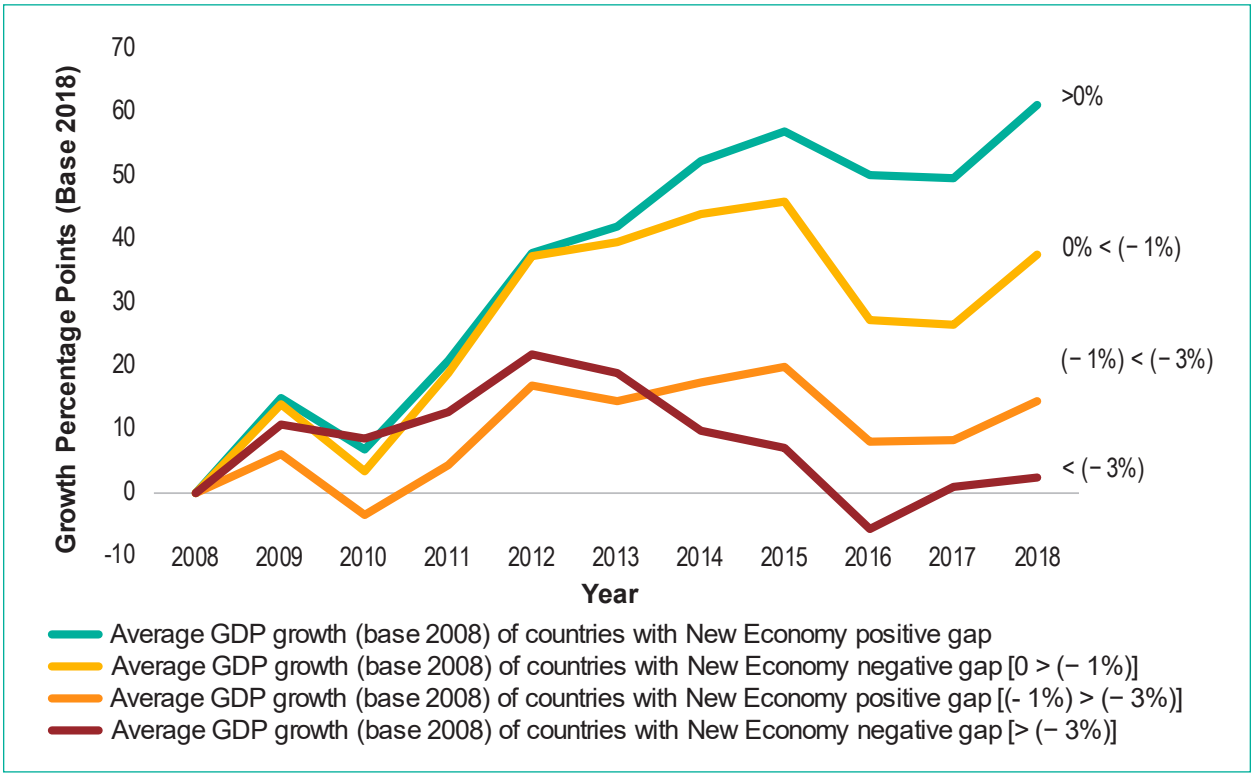
Figure 5. GDP Performance (2008 = 0): Average of Countries with Forward-Looking Positive Gap vs. Negative Gap



Source: IMF (International Monetary Fund), World Economic Outlook, April 2018, "GDP, current prices."

[10] A more detailed study may use census data and other sources of data to further explore and provide more granularity on the ability of countries to generate firms that compete globally in the two business models (today's economy versus the new economy) studied in this note.

Figure 6. Average GDP Performance (2008 = 0): Forward-Looking Gap Categories



Source: IMF (International Monetary Fund), World Economic Outlook, April 2018, "GDP, current prices."

A straight transition from today's global private sector to the future's global private sector inferred by this analysis is unlikely, because multiple other factors, which are difficult to predict, may influence the transition process. Nonetheless, the trends identified by the forward-looking gap analysis can help policy makers deal with the uncertainties of disruptive technologies in their economies. Countries can proactively design and implement policies to respond to the trends.

Technology-enabled Unicorns emerged in 2009 in the United States; however, they did not start showing up in most other countries and expand as a global phenomenon until the end of 2013 and the beginning of 2014. Catalyzing the conditions needed for an economy to originate and retain technology-enabled Unicorns is not a linear or automatic process. It requires a series of coordinated policy and market reforms in different domains that may take time to generate results.

Some small- and medium-sized countries such as Colombia, Israel, and Sweden have designed and implemented targeted strategies and policies to develop tech-led economies that result in new technology-powered businesses (such as technology start-ups). Having a large share of the global private sector in today's economy is not a disadvantage per se (as the cases of China, Singapore, Sweden, and the United States show). In fact, it can be turned into an advantage if that country's private sector transitions toward the technology platform business model and leverages its current global position.

Annex: Country Flags

Argentina
Australia
Austria
Belgium
Brazil
Canada
China
Colombia
Czech Republic
Denmark
Estonia
Finland
France
Germany
India
Indonesia
Ireland
Israel
Italy
Japan
Korea, Republic of
Luxembourg
Malaysia
Malta
Mexico
Netherlands
Nigeria
Norway
Philippines
Portugal
Qatar
Russian Federation
Saudi Arabia
Singapore
South Africa
Spain
Sweden
Switzerland
Thailand
United Arab Emirates
United Kingdom
United States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