Global Economy and Development at BROOKINGS

10 Years After the Financial Crisis
Uneven Progress and Some Structural Disconnects

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The world economy has come a long way since the global financial crisis a decade ago that infected all major financial markets and set off a global recession. Unconventional monetary policy and expansionary fiscal policy helped the advanced economies to slowly get back on their feet, although the specter of deflation has only recently been vanquished. Emerging market economies survived the initial phase of the crisis in better shape, bolstered by a surge of investment-driven growth in China. Many of these economies have faltered in recent years, even as the advanced economies gradually settle into stable growth trajectories. Many countries have undertaken important reforms to financial, labor, and product markets, although these have generally fallen short of the deep-rooted structural reforms necessary to durably bolster productivity and output growth.

This note evaluates the progress made by key advanced and emerging market economies since the financial crisis in several dimensions. Cross-country comparisons reveal a few surprising results that go against the grain of conventional narratives. For instance, despite a sharp fall in the unemployment rate and bullishness about American employment growth, the U.S. employment rate still remains below pre-crisis levels. Meanwhile, the employment rates of other major advanced economies have risen significantly. There are also some important disconnects between the performance of equity markets and macroeconomic variables such as GDP, both within advanced economies and between advanced and emerging market economies. While a great deal of progress has been made in repairing financial and labor markets, the limited and incomplete nature of structural reforms in many economies leaves open the possibility that financial pressures and macroeconomic stresses could be lurking under the surface.

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KEY THEMES

GDP growth now on firmer territory

The U.S. leads the pack among major advanced economies, with real GDP now 18 percent above the pre-crisis level. Among emerging market economies, China and India have seen strong gains in real GDP, while Brazil and Russia have made little progress. When measured on a per capita or per working-age person basis, real GDP growth in the U.S. looks less impressive, while the performance of Germany and Japan looks better.

The domestic disconnect between stock markets and the real economy

U.S. stock markets have outperformed those of other major advanced and emerging market economies over the past decade. Stock markets in most other advanced economies have also risen a lot more than GDP. Equity markets have, for the most part, not taken a big hit from trade wars, political turmoil, geopolitical tensions, and other shocks that would normally generate far more volatility in these markets. Bond markets appear less sanguine; the flattening of the U.S. Treasury yield curve is a worrying portent.

Cross-country disconnect between real economy and financial market performance

China and India have vastly outshone advanced economies in terms of growth. By most measures, GDP in these countries has at least doubled since 2007. In contrast, despite its economy expanding by only 18 percent over the past decade, U.S. stock markets have outperformed those of both China and India. China's stock markets are well below their 2007 levels; stock markets of many other emerging economies have struggled as well. India's stock market has done far better than other advanced and major emerging market economies (with the exception of the U.S. stock market), rising in value by nearly 90 percent since 2007. In dollar terms, U.S. stock market performance leaves all other countries in the dust.

Another real economy disconnect: Weak investment and productivity growth

Notwithstanding good growth and robust stock market performance in many economies, investment and productivity growth have been lackluster, especially considering the advanced stage of the global business cycle. Over the past decade, real fixed investment has risen only modestly (by less than 10 percent) in the major advanced economies and has declined in Brazil and Russia. By contrast, compared to pre-crisis levels, real fixed investment is now about 2.7 times and 1.5 times higher in China and India, respectively. This recovery has been marked by low productivity growth, which in most major economies has until recently been even lower than before the crisis hit.

Labor markets look in better shape, but are clouded by some anomalies

In the U.S., the unemployment rate has fallen below 4 percent, a substantial decline from a high of 10 percent in 2009. Cumulative employment growth has, however, amounted to only about 6.6 percent relative to the pre-crisis level (13 percent relative to the trough in early 2010). Moreover, the employment rate—the ratio of total employment to the working-age population—still remains below the pre-crisis level. By contrast, the employment rate for other major advanced economies is above its pre-crisis highs, with Japan and Germany leading the pack. Real wages have grown quite modestly in most advanced economies.

Deflation is done, and inflation is converging within different country groups

The risks of deflation, a concern even until recently in the Euro zone and Japan, have dissipated. Core CPI inflation appears to be converging to a range of 1-2 percent among advanced economies and, at a higher level, headline CPI inflation is converging among emerging market economies.

HOW THE WORLD ECONOMY HAS SHAPED UP OVER THE PAST DECADE

A closer look at the data reveals additional intriguing cross-country perspectives related to developments in major economic variables since the financial crisis. While mainly descriptive, this exercise nevertheless points to how macroeconomic policies and varying levels of reforms in different economies might have affected key macroeconomic outcomes.

GDP growth is on firmer yet uneven territory

The U.S. leads the pack among major advanced economies, with overall real GDP now 18 percent above its pre-crisis level (Figure 1). On a per capita or per working-age person basis, however, real GDP growth in the U.S. looks less impressive, with both measures up less than 10 percent since 2007 (Figures 2 and A2). The growth performances of Germany and Japan look relatively stronger by these measures. For instance, from 2007 to 2017, real GDP per working-age person grew by 16 percent in Japan.

Among major emerging market economies, China and India have experienced robust gains in real GDP, at least doubling in size over the past ten years. Brazil and Russia have only recently emerged from recessions that reversed much of their post-crisis gains. India's growth performance looks slightly less impressive when accounting for population growth (Figures 1 and 2).

Taking inflation and exchange rate changes into account reveals some dramatic changes in the picture painted above. Nominal local currency GDP growth in India, and even in Brazil and Russia, looks especially strong. But this is mainly due to relatively high inflation in certain periods over the past decade (Figure A1).

In U.S. dollar terms, there are two standouts—the U.S. and China. U.S. nominal GDP has expanded by more than one-third over the past decade, compared to far more modest gains in the dollar nominal GDP of other advanced economies. China's nominal dollar GDP is up more than three-and-a-half times over this period (Figure A1). These developments reflect the U.S. dollar's appreciation over the past decade against the currencies of other major advanced economies, with the exception of the Japanese yen, and the renminbi's highly uneven but still significant appreciation against the dollar. Over the past decade, the dollar's value has risen by about 50 percent against the British pound and by about 10 percent against the euro. By contrast, the dollar is now about 7 percent cheaper relative to the renminbi compared to end-2007 (this is despite the renminbi's substantial depreciation since 2014) (Figure A3).[1]

[1] The renminbi appreciated by about 22 percent against the dollar from the end of 2007 to early 2014 but has since depreciated by about 12 percent.

Domestic stock market and real economic performance have become disconnected

U.S. stock markets have turned in a world-beating performance and, to date, show no signs of running out of steam. It is striking that broad U.S. stock market indices such as the S&P 500 have nearly doubled relative to their pre-crisis levels, compared to the increase of 38 percent in nominal GDP. This is consistent, of course, with corporate earnings rising faster than GDP and is likely to be bolstered further by the corporate tax cut and more lax regulatory environment. Stock markets in other major advanced economies have also risen more than nominal GDP.

Despite some hiccups, equity markets have largely taken in stride monetary tightening by the Fed and prospects of tightening by the ECB and Bank of Japan, along with trade wars, political turmoil, geopolitical tensions, and other shocks that would normally generate far more volatility in these markets.

U.S. bond market developments paint a less promising picture. The U.S. Treasury yield curve has flattened, usually a sign of bond market participants anticipating an economic slowdown. The spread between 10-year and 3-month Treasuries is less than 1 percentage point, well below expected inflation. Similarly, consumer confidence remains muted in most major advanced and emerging market economies (Figure 3).

In short, equity markets seem to have a very different and more sanguine read on economic prospects than can be gleaned from bond markets or from real economic data.

A cross-country disconnect in economic and equity market performance

While increases in equity market indexes in major advanced economies have outstripped nominal GDP growth, the opposite has been true in some emerging market economies (Figure 4). China is a dramatic case in point. China's stock market indexes are now about 50 percent below their 2007 levels while nominal GDP has risen by more than 300 percent.

U.S. stock markets have done far better than those in any other major advanced or emerging market economy. In U.S. dollar terms, the disparity between U.S. and other equity markets is even greater. Among emerging markets, India's stock market performance has been stellar, with broad indexes rising by close to 90 percent since 2007. However, the Indian rupee has depreciated by about 45 percent relative to the U.S. dollar since then, wiping out half of these gains in dollar terms.

The recovery has been marked (and marred) by weak investment and productivity growth

Notwithstanding good growth, robust stock market performance, and strong corporate earnings in many economies, investment and productivity growth have been lackluster, especially considering the advanced stage of the global business cycle. Over the past decade, real fixed investment has risen only modestly (by less than 10 percent) in the major advanced economies and has actually declined in two major emerging markets—Brazil and Russia. By contrast, compared to pre-crisis levels, real fixed investment is now about 2.7 times and 1.5 times higher in China and India, respectively (Figure 5). China of course maintained high growth in the immediate aftermath of the crisis, mainly through a surge of debt-financed investment.[2] In India, overall investment growth has been robust, but the picture appears less impressive given the country's vast infrastructure needs and limited private sector investment.

Low productivity growth has cast a long shadow over this recovery. In most major economies, labor productivity growth had until recently been even lower than before the crisis hit. This is atypical given the advanced stage of the global business cycle recovery, as productivity growth typically tends to be procyclical. Although the slowdown in productivity growth in advanced economies predates the crisis, the crisis appears to have dealt a further blow.

Figure 6 compares average productivity growth in the pre and post-crisis years. Across all the major advanced economies, average annual productivity growth has fallen to just over half a percent, with the U.S. and the U.K. experiencing the sharpest drops. Major emerging markets have also experienced a productivity growth slowdown, with the exception of India where it has held steady. For the emerging and developing economies as a group, average annual productivity growth has dropped from over 4 percent to about 2.5 percent.

Labor markets have recovered well but are clouded by some anomalies

The reduction in the U.S. unemployment rate, from a high of 10 percent in 2009 to below 4 percent, has been remarkable. Cumulative employment growth has, however, amounted to only about 6.6 percent relative to the pre-crisis level (13 percent relative to the trough in early 2010). Moreover, the employment rate, which is the ratio of total employment to the working-age population, still remains below the pre-crisis level. In other words, the U.S. labor force participation rate, which was already gradually declining before the crisis due to demographic and other structural factors, is still lower than before the Great Recession got underway.

By contrast, the employment rates for other major advanced economies are above their pre-crisis highs, with Japan and Germany leading the pack (Figure 7). Over the last decade, employment levels have increased significantly in major emerging markets, especially in India and Brazil. These economies have also experienced modest increases in their employment rates.

Real wages have grown at best modestly in most advanced economies and wage pressures have remained at bay. The median real wage for U.S. workers has remained stagnant despite signs of labor market tightness based on unemployment rates and employment data, as well as anecdotal evidence about labor shortages in some sectors.

Deflationary risks have dissipated and inflation is converging within country groups

The risks of deflation, a concern even until recently in the Euro zone and Japan, have dissipated. At the same time, there are no signs of significant wage or inflationary

[2] Figure 9 shows the sharp increase in the credit-to-GDP ratio in China, mostly accounted for by a surge of credit to the corporate and household sectors.

pressures among the advanced economies. Core CPI inflation appears to be converging to a range of 1-2 percent among advanced economies, well within the range of comfort for their central banks, many of which have explicit or implicit inflation targets around 2 percent. Market- and survey-based measures suggest that inflation expectations in these economies are anchored in this range.

Inflation also appears to be converging among the emerging market economies, although at a higher level than advanced economies. China's CPI inflation still remains muted at about 2 percent. In Brazil, India, and Russia, headline CPI inflation has fallen significantly from the high levels of above 10 percent that these economies experienced (at different times) over the past few years (Figure 8).

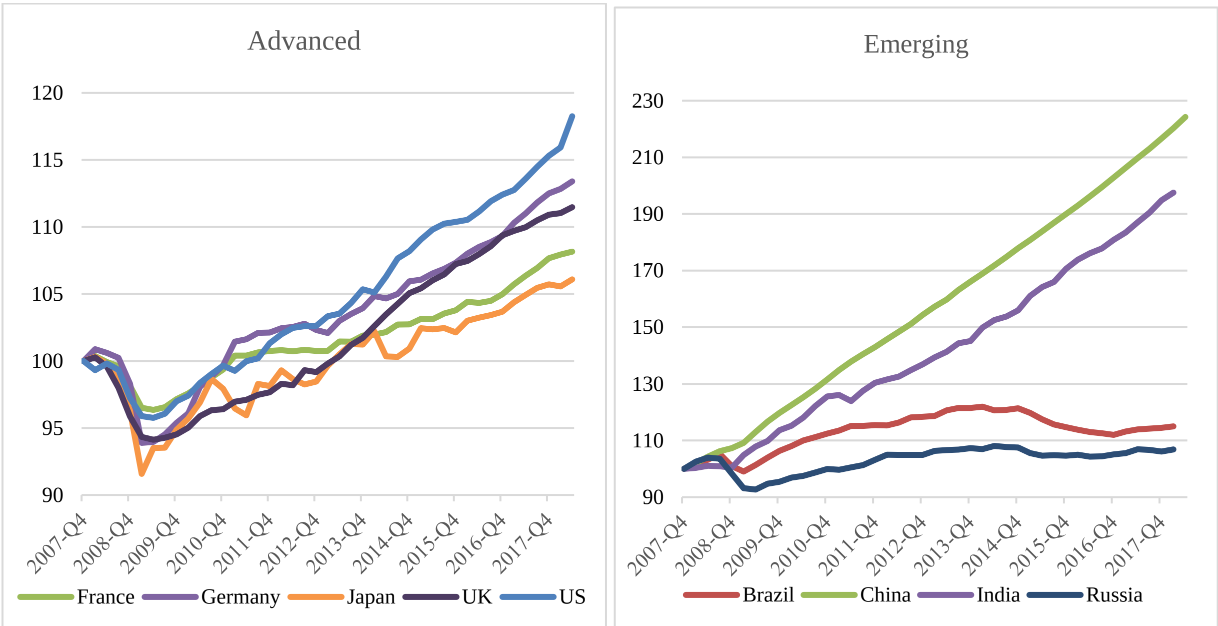
IMPLICATIONS

The world economy has come a long way over the past ten years. The major advanced economies have settled into stable growth trajectories, China and India have maintained robust growth, and even vulnerable emerging market economies such as Brazil and Russia seem to have turned the corner. Both deflationary and inflationary risks appear contained. Equity markets, especially in the U.S., have taken various economic and geopolitical shocks in stride.

But all is not well. Productivity growth remains weak and could become a significant constraint on long-term GDP growth. Advanced economies remain beset by monetary and fiscal overhangs, with public debt levels (Figure 9) and central bank balance sheets that have both expanded massively since the crisis hit. Most emerging markets still have low levels of public debt, large stocks of foreign exchange reserves, and ample policy space to deal with domestic and external shocks. But some of these economies have accumulated significant levels of foreign currency debt that, in tandem with current account deficits and policies that have dented investor confidence, render them vulnerable to the tightening of global financial conditions. Progress on reforms to labor, product, and financial markets has stalled in some countries, leaving them vulnerable to an array of economic and geopolitical stresses that are on the horizon.

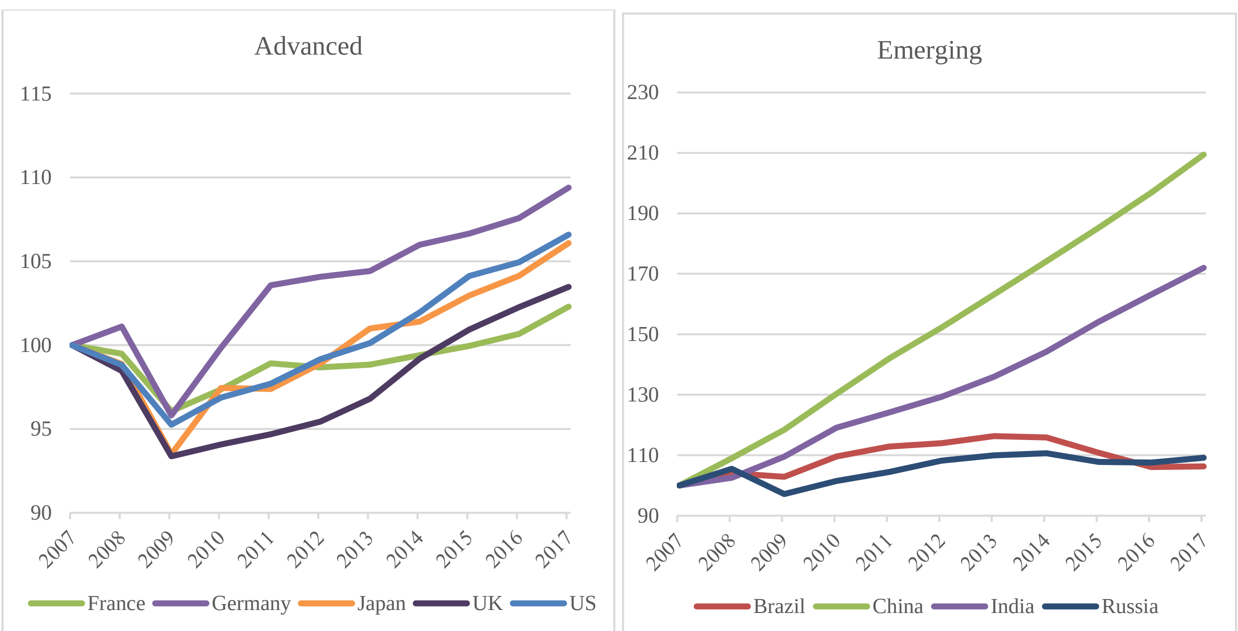
Yet again, the world economy is at a relatively calm juncture that should be seen as an opportunity for national governments to implement reforms that would make their economies resilient to shocks and act as building blocks for sustainable and higher-quality economic growth.

Figure 1. Real GDP Index (Q4 2007 = 100)
Q4 2007 – Q2 2018



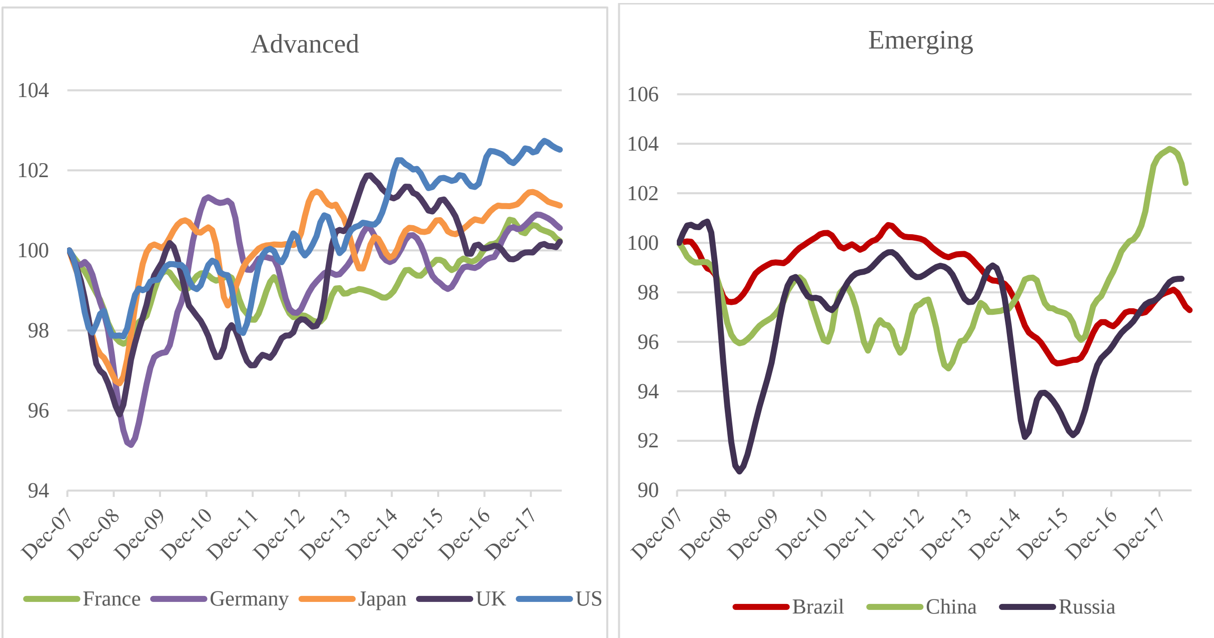
Data source: IHS Global, US BEA, Eurostat, UK ONS, Japan MOF, and CEIC.
Note: Real GDP in national currencies.

Figure 2. Real GDP per Capita Index (2007 = 100)
2007 – 2017



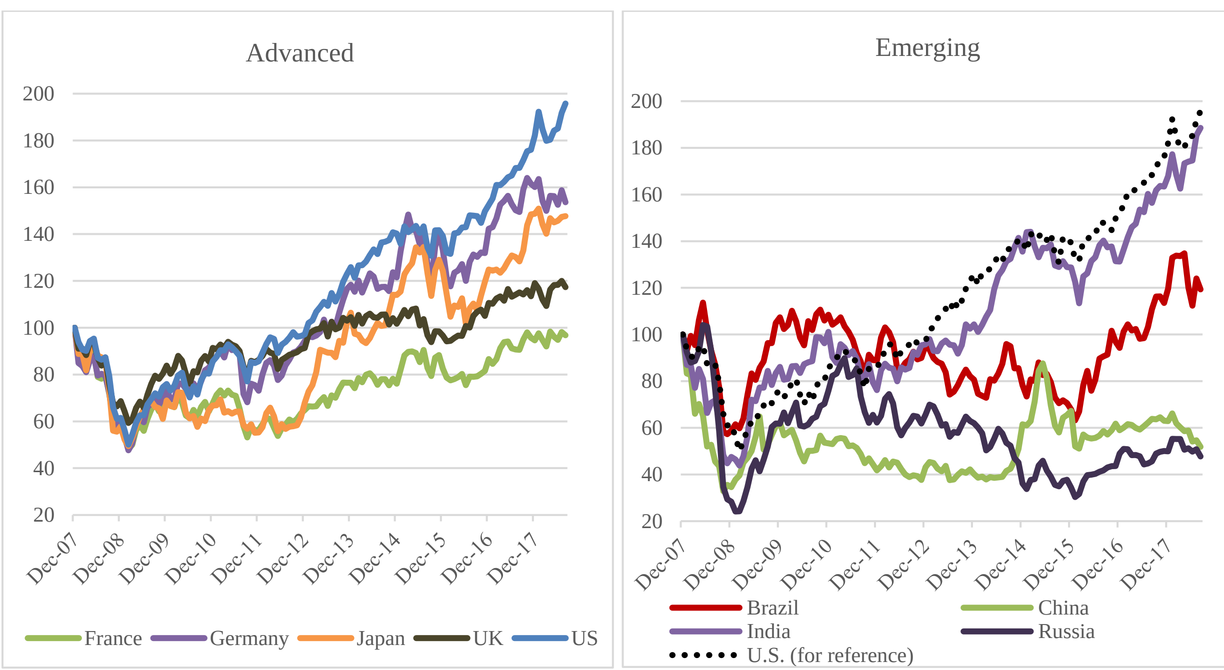
Data source: IHS Global.
Note: Real GDP in national currencies.

Figure 3. Consumer Confidence Index (Dec. 2007 = 100) Dec. 2007 – Jul. 2018



Data source: OECD Standardized Consumer Confidence Index.

Figure 4. Stock Market Index (Dec. 2007 = 100) Dec. 2007 – Aug. 2018

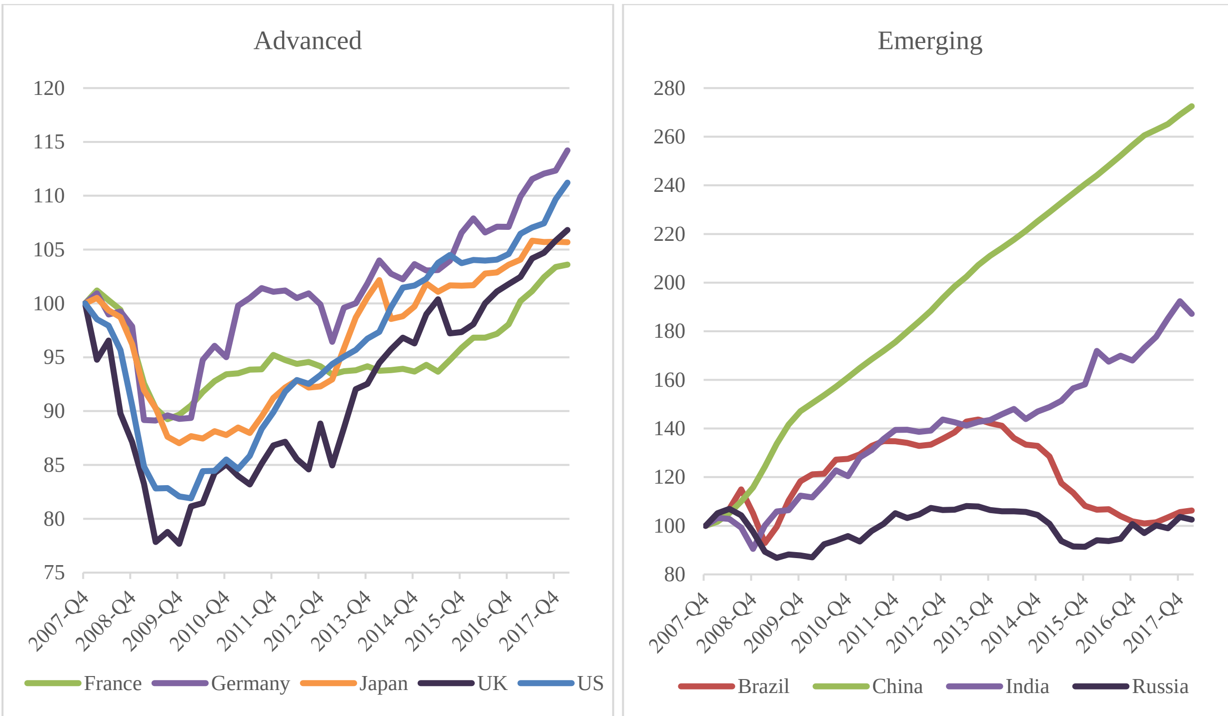


Data source: Yahoo! Finance.

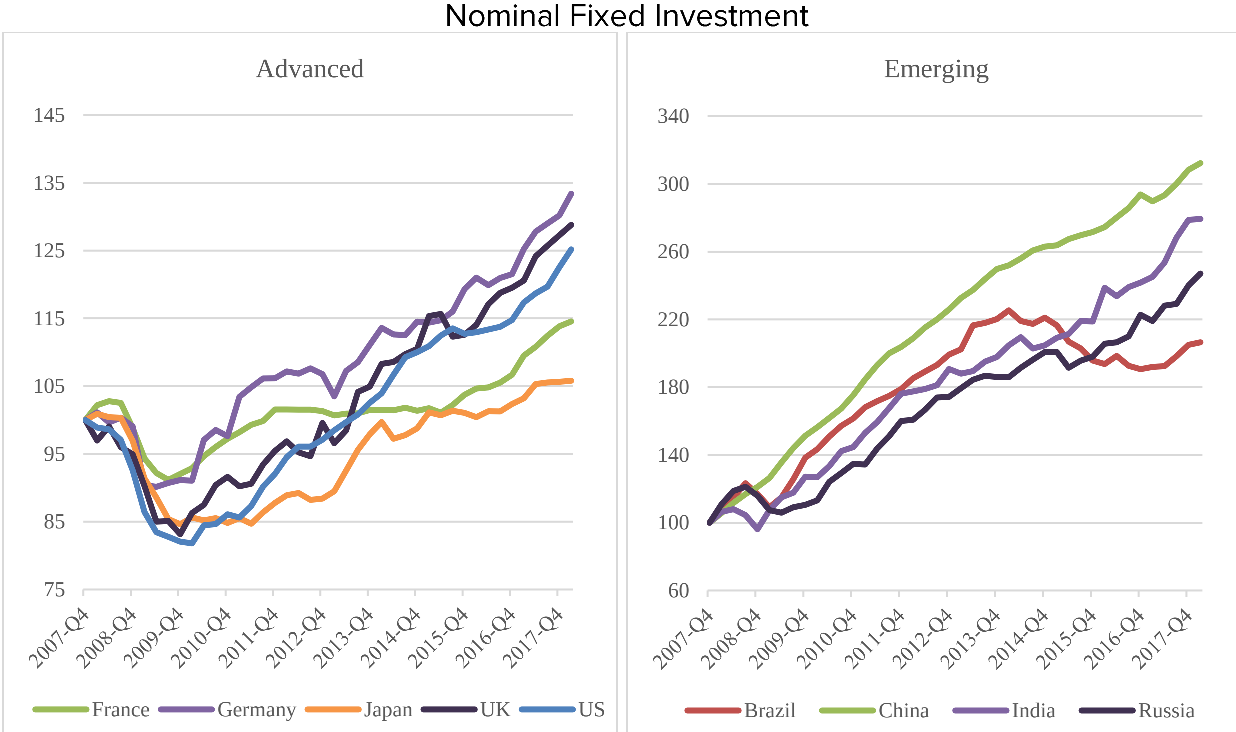
Notes: End of period values for each country's major national stock market index (France CAC 40, Germany DAX, Japan Nikkei 225, UK FTSE 100, US S&P 500, Brazil BOVESPA, China Shanghai Composite, India BSE SENSEX, Russia MICEX). August 2018 data as of August 24th.

Figure 5. Fixed Investment Index (Q4 2007 = 100)
Q4 2007 – Q1 2018

Real Fixed Investment

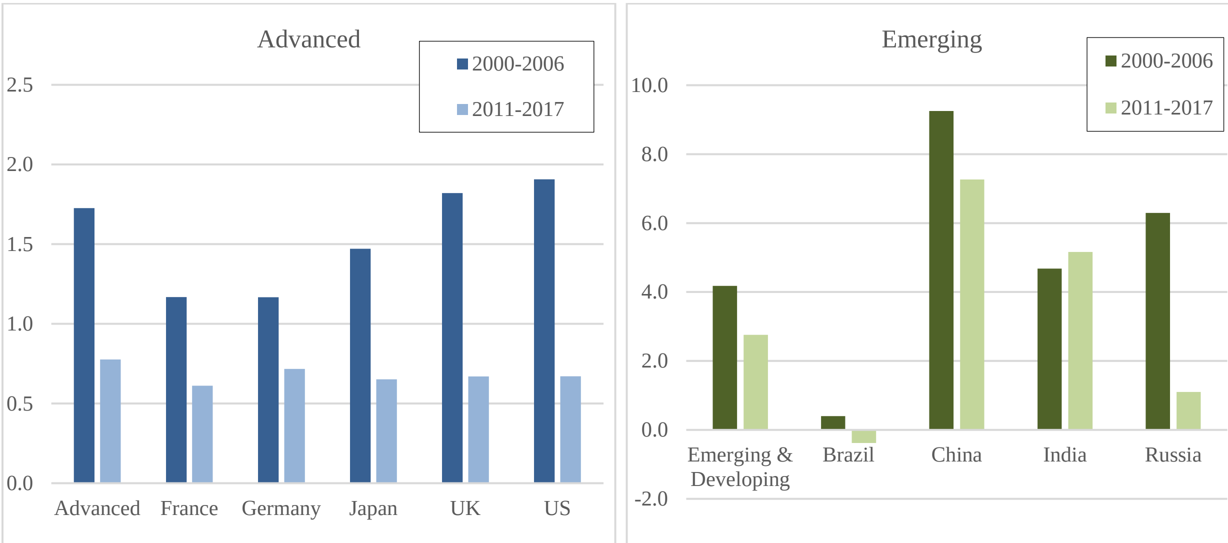


Nominal Fixed Investment



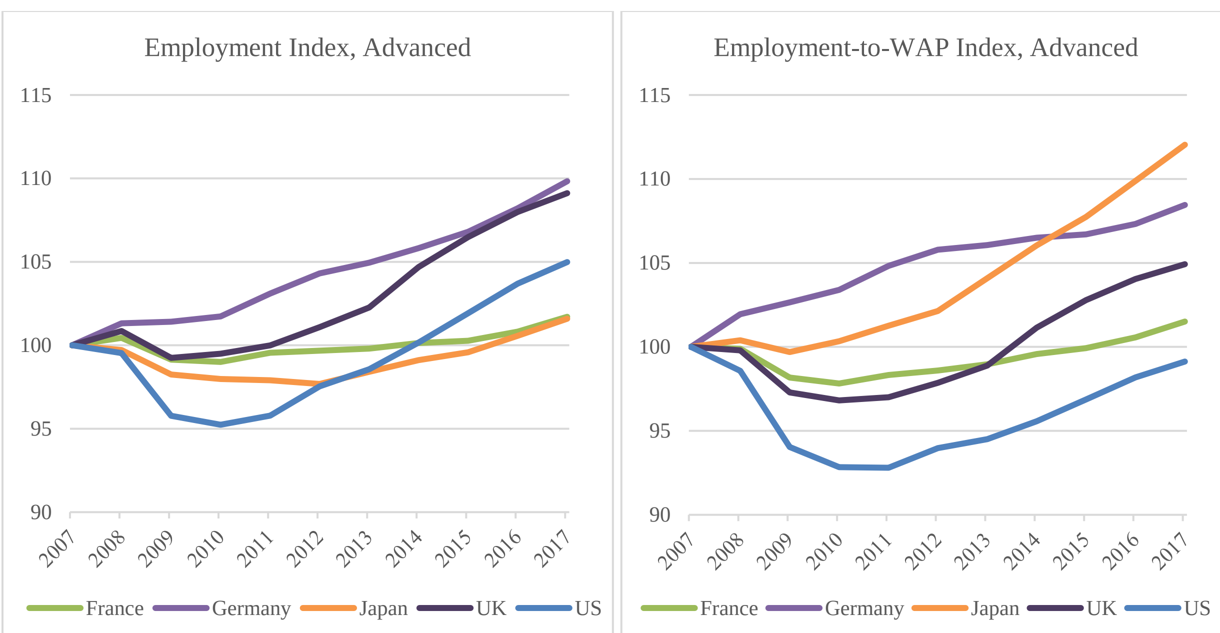
Data source: IHS Global.

Figure 6. Labor Productivity Growth
Percentage change, annual average



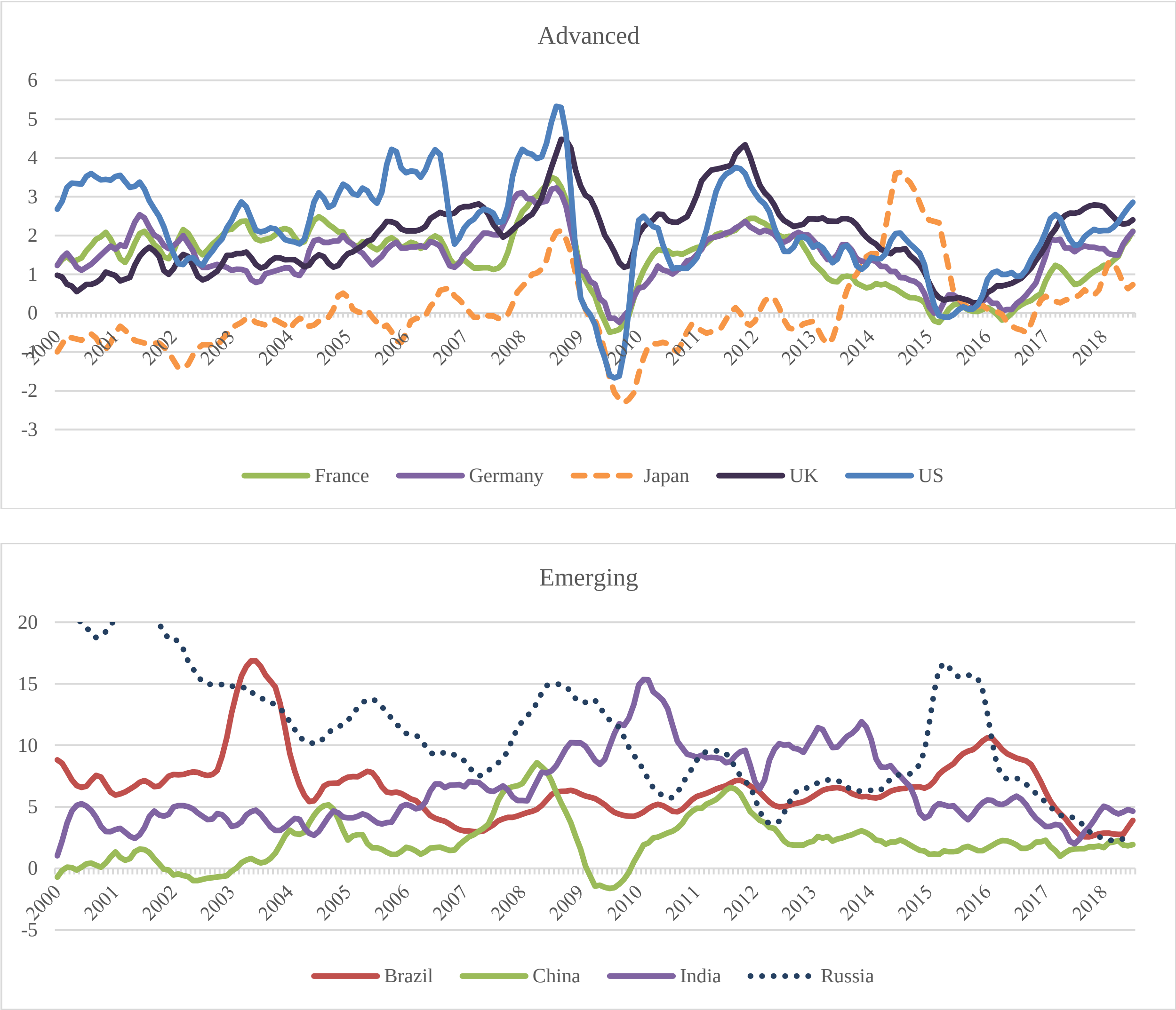
Data source: The Conference Board.
Note: Figure compares average labor productivity growth in the last phase of the Great Moderation to the most recent period of the same length.

Figure 7. Employment and Employment-to-Working Age Population Indexes (2007 = 100)
2007 – 2017



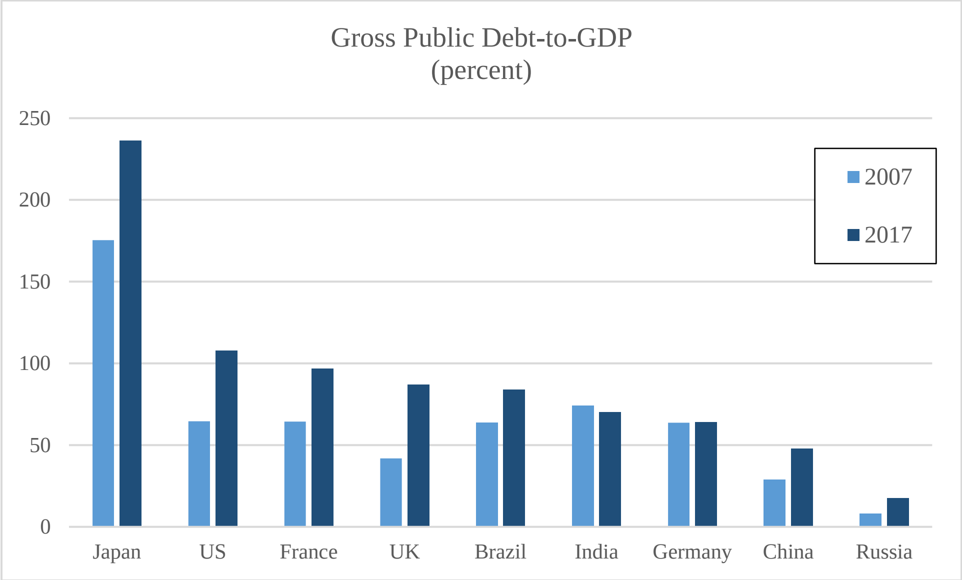
Data source: IHS Global.
Notes: Total employment, including full- and part-time workers based on household survey data. WAP refers to working-age-population (total population, ages 15-64).

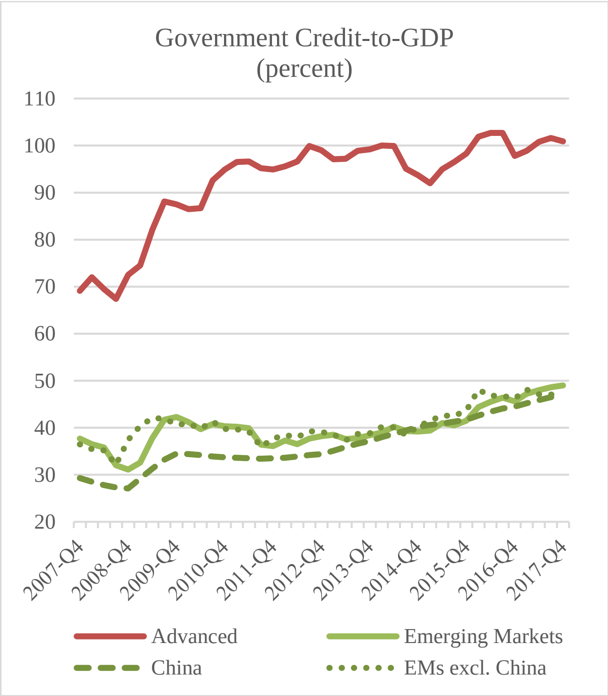
Figure 8. Headline CPI Inflation Rate (percent, three month moving average) Jan. 2000 – Jul. 2018

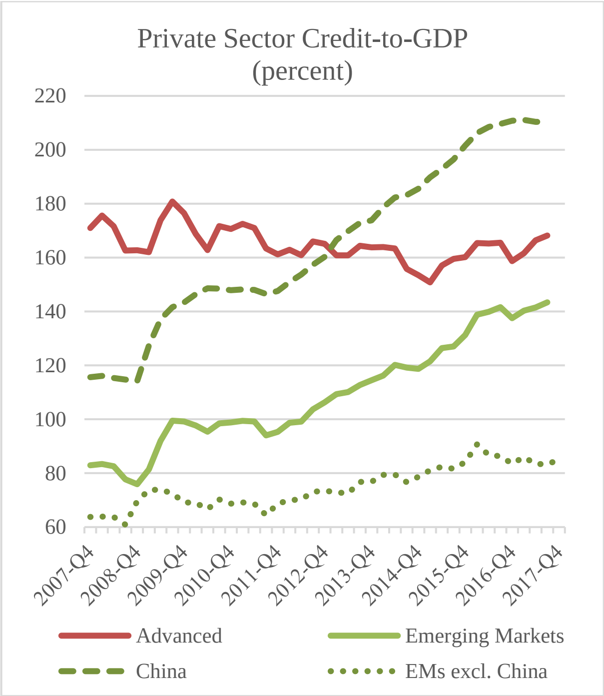


Data source: IMF International Financial Statistics.
Note: Growth rate from corresponding period in previous year.

Figure 9. Debt- and Credit-to-GDP Ratios (in percent)
2007 – 2017





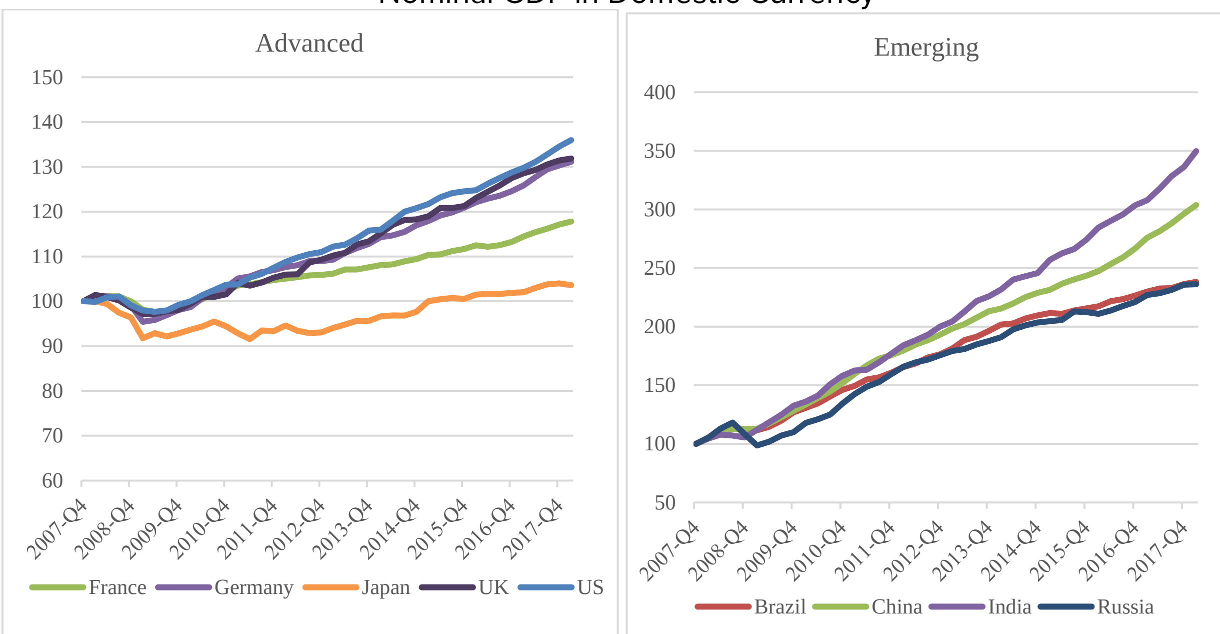


Data sources: IMF World Economic Outlook and BIS Total Credit Statistics.
Notes: Annual public debt data (2007-2017) and quarterly credit data (Q4 2007 – Q4 2017). Government credit at nominal value, private sector credit at market value.

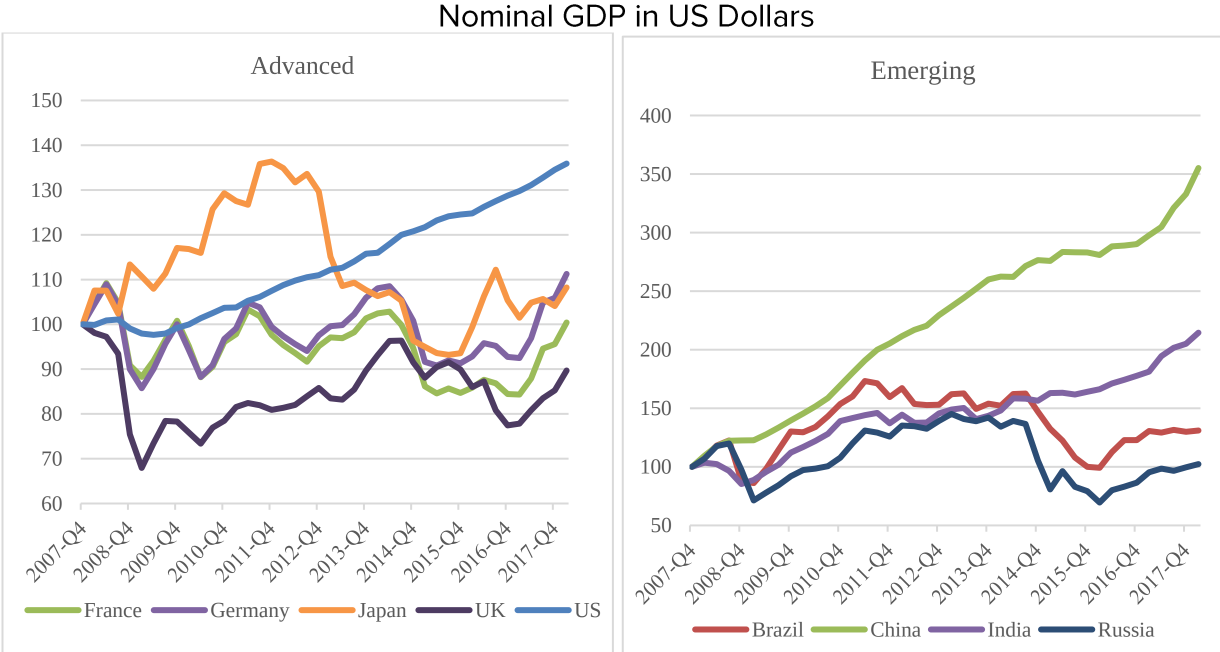
APPENDIX

Figure A1. Nominal GDP Index (Q4 2007 = 100)
Q4 2007 – Q1 2018

Nominal GDP in Domestic Currency

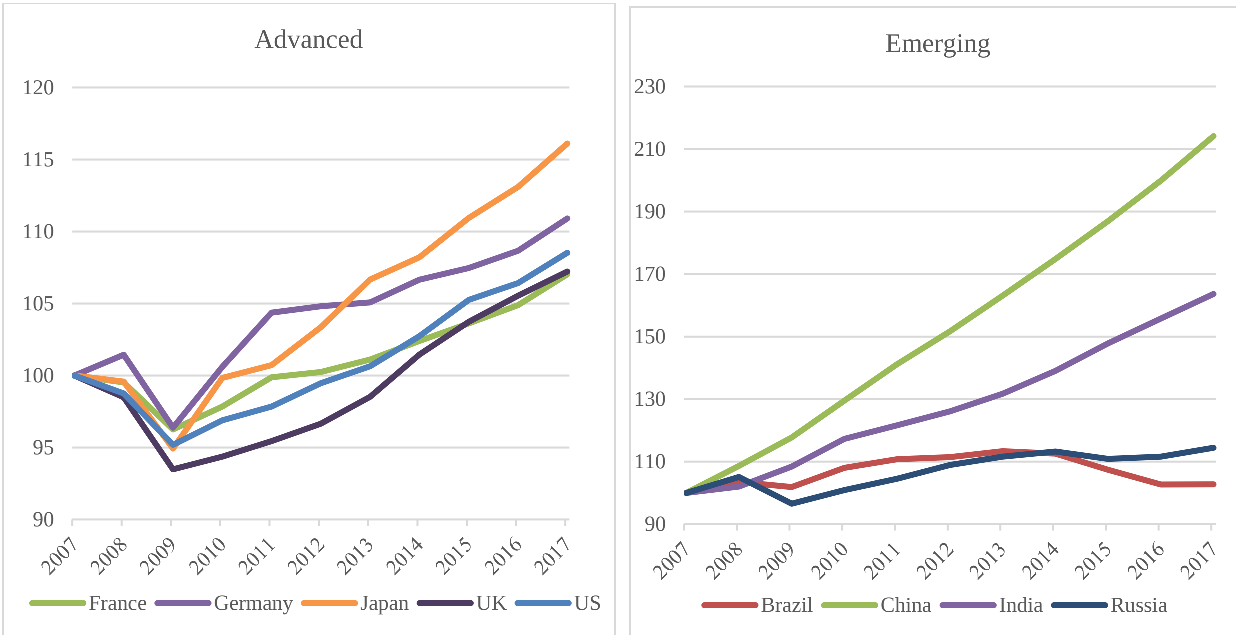


Nominal GDP in US Dollars



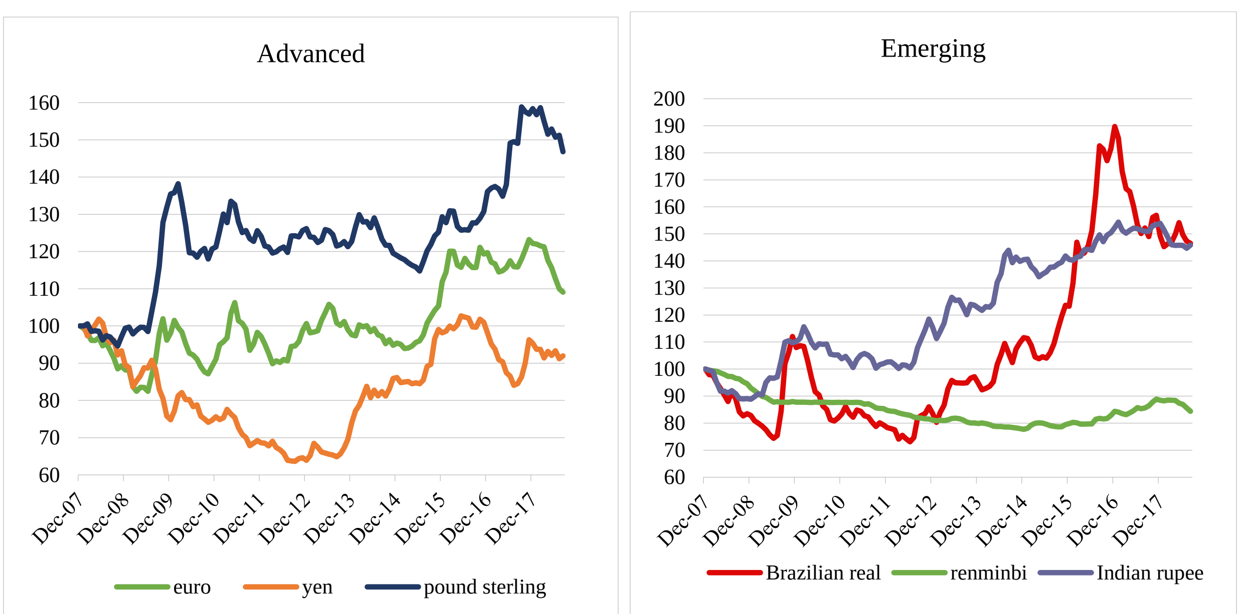
Data source: IHS Global.

**Figure A2. Real GDP per Working Age Person Index (2007 = 100)
2007 – 2017**



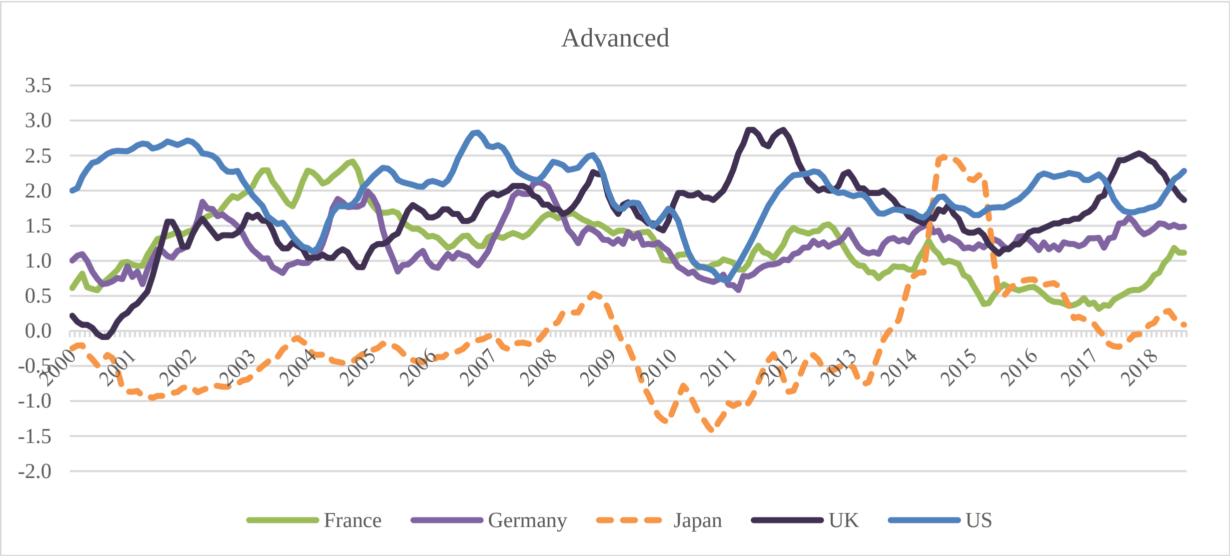
Data source: IHS Global.
Notes: Real GDP in national currencies. Working-age-population is total population, ages 15-64.

**Figure A3. Dollar Exchange Rate Index (Dec. 2007 = 100)
Dec. 2007 – Aug. 2018**



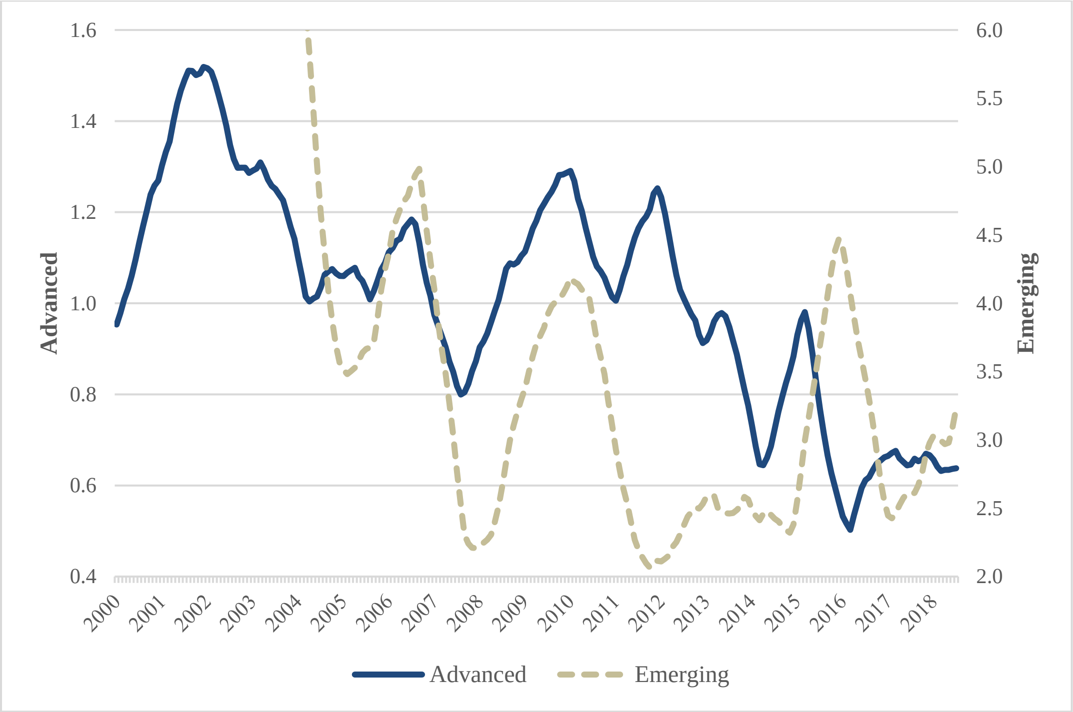
Data source: FRED, St. Louis Federal Reserve.
Note: Foreign currency per US dollar. An increase denotes dollar appreciation. Monthly averages. August 2018 data as of August 24th.

Figure A4. Core CPI Inflation Rate (percent, three month moving average)
Jan. 2000 – Jul. 2018



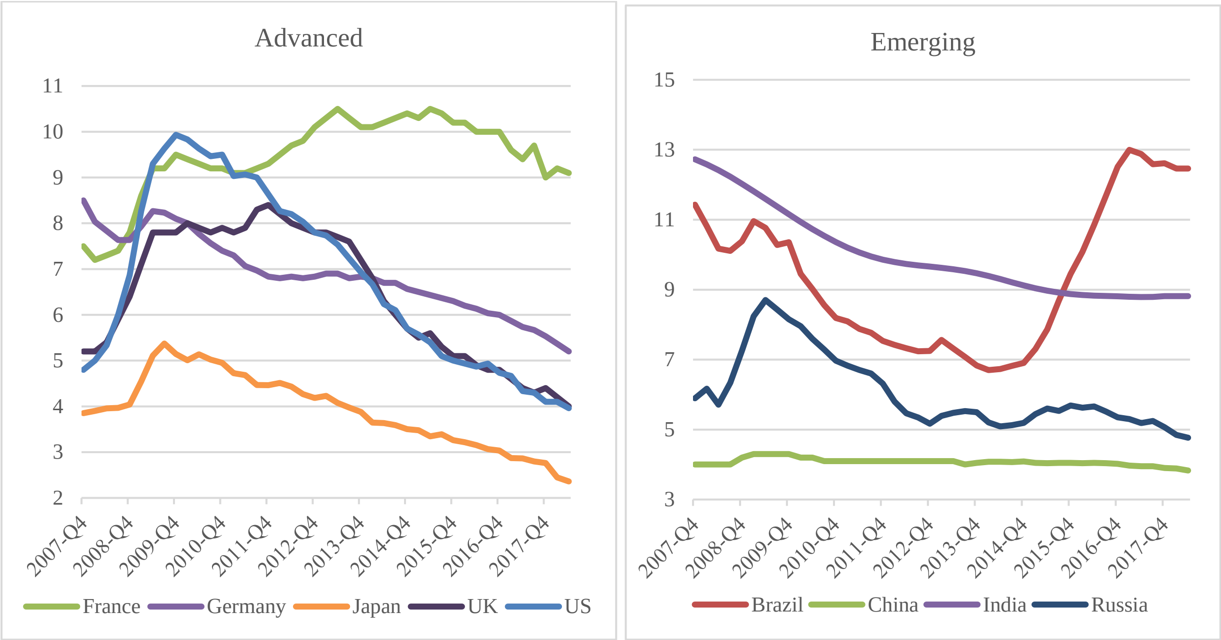
Data source: OECD Monthly Economic Indicators.
Note: All items excluding food and energy. Growth rate from corresponding period in previous year.

Figure A5. Headline CPI Inflation Rate, Cross-Sectional Standard Deviation
(percent, 12-month trailing average)
Jan. 2000 – Jul. 2018



Data source: Author's calculations and IMF International Financial Statistics.
Notes: Monthly standard deviation of inflation rates across countries. Country groups consist of G20 advanced and emerging economies.

Figure A6. Unemployment Rate (percent)
Q4 2007 – Q2 2018



Data source: IHS Global.