

## THE WORLD ECONOMY

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### *World Overview*

Global output growth has slowed since the recent peak in 2017 and early 2018, with the slowdown most marked in industrial production and trade. The weakness in aggregate demand that has arisen from the trade war and the uncertainty over future tariff imposition has led to slower economic growth than previously expected and, especially in the advanced economies, contributed to continued below target inflation. As in our August *Review*, key issues for the global economic outlook concern the extent to which this tariff uncertainty could continue or worsen, and how far the loss of pace in industrial growth could accelerate or spill over into services activity. Absent a cancellation of the tariffs already imposed, the monetary policy loosening already undertaken and the further easing anticipated can mitigate some of the concerns. Fiscal expansion could also be considered in some economies, such as Germany and China, to support economic activity.

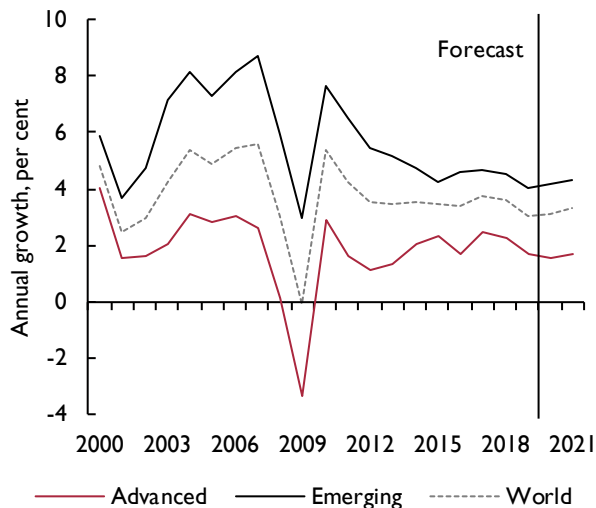
Our central case forecast expects that global economic growth will be weaker this year than last, with output growth forecast to be close to 3 per cent both this year and next. This is a markdown from our August forecast of global GDP growth of 3¼ per cent this year and 3½ per cent next. While slower GDP growth may expose fragilities, we do not expect a global recession as in 2009 when global GDP fell by 0.1 per cent, especially given already supportive monetary policy. The slower growth is likely to increase slack and keep inflation weak, so placing continued pressure on meeting inflation targets.

The weaker global outlook reflects several factors that have hit activity since the middle of last year. Most notably, the increases in tariffs by the USA (and the retaliations by China to these increases) have dampened trade and industrial growth directly and indirectly, with the latter effect arising from increased uncertainty over future announcements on tariffs and over future trade policy more generally. At the same time, the effects of the reversal of the long period of accommodative monetary policy in the US, with the Federal Reserve having increased policy interest rates from a low range of 0 to 0.25 per cent in December 2015 to a peak range of 2.25 to 2.5 per cent in December 2018, have fed through. There have also been some more specific and localised factors that have affected global industrial trade, such as changes in the car market, Brexit and slower demand growth in China, where imports are now showing year-on-year declines.

In response to these shocks, the low inflation outlook in the advanced economies has, in the absence of policies to reverse tariff increases, prompted more accommodative monetary policies and expectations of further loosening. These policy actions support continued, but relatively slow, economic growth, as shown in our forecast. Global GDP growth will under-perform the pace it has experienced since the financial crisis, by around ½ per cent a year, but the policy response, both so far and expected, should prevent a sustained downturn. While policy actions may be stronger than anticipated and could lead to a rebound in global output growth, shifts in uncertainty about tariffs and speculation about a

\*All questions and comments related to the forecast and its underlying assumptions should be addressed to Lana Liadze (i.liadze@niesr.ac.uk). We would like to thank Jagjit Chadha and Garry Young for helpful comments and Patricia Sanchez Juanino for preparing the charts and compiling the database underlying the forecast. The forecast was completed on 18 October 2019. Exchange rate, interest rate and equity price assumptions are based on information available to 11 October 2019. Unless otherwise specified, the source of all data reported in tables and figures is the NiGEM database and NIESR forecast baseline.

Figure 1. GDP growth in advanced and emerging economies



Source: NiGEM database and NIESR forecast.

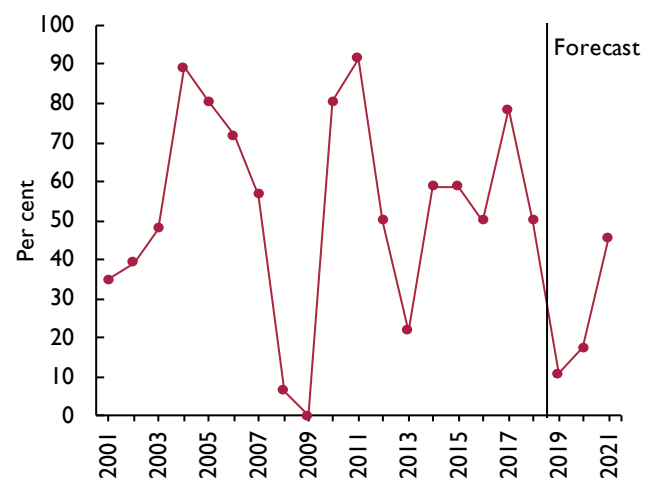
prolonged trade war has created a downside risk to the outlook.

Figure 1 shows that since 2010, despite policy interest rates being held at ultra-low levels for an extended period in several countries, the pace of annual GDP growth in the advanced economies (AE) has been slower than before the financial crisis and this is expected to continue. While annual consumption growth in the major advanced economies has held steady at around 2 per cent over the past three years, annual investment growth peaked in mid-2018 and has fallen back since, contributing to the recent slowing in GDP growth.

For emerging market (EM) economies, the slower average annual pace of growth between 2011 and 2018 (5 per cent) than between 2000 and 2007 (6.6 per cent) is almost entirely due to the slower pace of growth in China (7.5 per cent in the later period compared with 10.5 per cent). This reflects the changing development phases of the Chinese economy. After many years of very rapid expansion, the slowdown of output growth in China was expected and economic growth in China last year at 6.6 per cent was the slowest since 1990, but still much faster than in any advanced economy.

With the background of slower global economic growth, some countries have experienced or are experiencing recessions, but in the cases of Argentina, Turkey and Venezuela, these are more a reflection of domestic issues

Figure 2. Percentage of economies with faster annual GDP growth than the average of the previous three years



Source: NiGEM database and NIESR forecast.

such as economic instability, financial sector problems, sanctions and sharp exchange rate depreciations than a reflection of global trends. Figure 2 illustrates the widespread nature of the slowdown using data from the 46 economies that our NiGEM model covers specifically. The percentage of those countries expected to see GDP grow this year at a faster pace than the average of the previous three years is the lowest since 2009, after reaching a peak in 2017 when global GDP growth peaked. Table 1 presents a summary of our forecast.

Figure 3 indicates that we do not anticipate any sudden change in the geographical composition of global economic growth. The tariff changes are leading to a slowing in international trade and economic growth in the three large economic areas that have been most affected and that comprise around half of global GDP (USA, China and the Euro Area), with a longer global reach through trade effects. World trade growth slowed substantially in the final quarter of 2018, a slowing that was particularly marked in emerging Asia and China, and world trade growth has almost flatlined in the first half of this year. The on-off progress on tariff negotiations between the US and China plays a substantial role in this, with research indicating that “higher uncertainty about tariffs also dampens investment and GDP” (Caldara *et al.*, 2019).

Early this year, news from the US and China trade negotiations seemed reasonably positive, but in May

Table I. Forecast summary

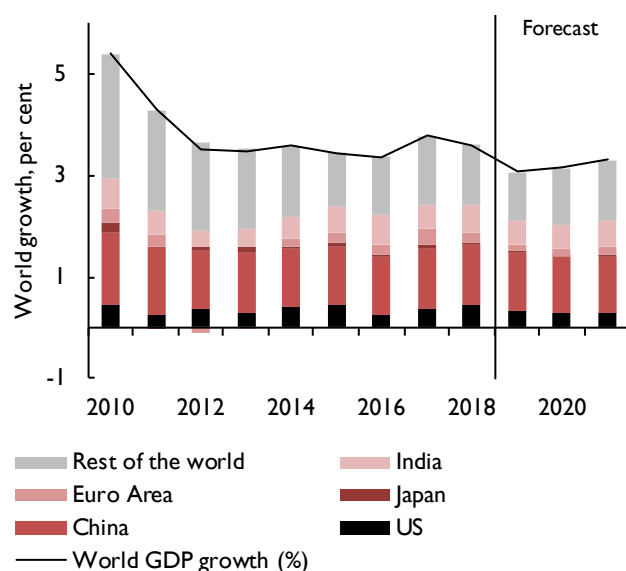
	Real GDP <sup>(a)</sup>												World trade <sup>(b)</sup>
	World	OECD	China	BRICS+	Euro Area	USA	Japan	Germany	France	Italy	UK	Canada	
2010–15	4.0	2.1	8.4	6.3	1.0	2.3	1.5	2.1	1.2	-0.3	2.0	2.3	5.7
2016	3.4	1.8	6.7	5.1	1.9	1.6	0.6	2.1	1.0	1.4	1.9	1.1	2.4
2017	3.8	2.7	6.8	5.5	2.7	2.4	1.9	2.8	2.4	1.8	1.9	3.0	5.5
2018	3.6	2.3	6.6	5.4	1.9	2.9	0.8	1.5	1.7	0.7	1.4	1.9	3.9
2019	3.1	1.6	6.2	4.6	1.1	2.2	0.9	0.6	1.3	0.1	1.4	1.6	2.8
2020	3.1	1.6	5.8	4.8	1.3	1.9	0.2	1.0	1.5	0.4	1.4	1.7	3.4
2021	3.3	1.8	5.7	4.9	1.4	2.0	0.5	1.2	1.6	0.7	1.5	2.2	3.8
2022–26	3.4	1.7	5.2	4.8	1.3	1.6	0.9	1.1	1.5	0.7	1.7	1.8	3.9

	Private consumption deflator							Interest rates <sup>(c)</sup>			Oil (\$ per barrel) <sup>(d)</sup>		
	OECD	BRICS+	Euro Area	USA	Japan	Germany	France	Italy	UK	USA	Japan	Euro Area	
2010–15	1.7	5.4	1.2	1.5	-0.1	1.3	0.9	2.1	1.8	0.3	0.1	0.6	93.0
2016	1.1	4.3	0.4	1.0	-0.5	0.7	0.2	0.1	1.4	0.5	-0.1	0.0	42.9
2017	2.1	3.3	1.3	1.8	0.2	1.5	0.9	1.2	1.4	1.1	-0.1	0.0	54.0
2018	2.5	3.8	1.5	2.1	0.5	1.5	1.5	0.9	2.5	1.9	-0.1	0.0	70.4
2019	2.2	3.9	1.2	1.5	0.6	1.3	1.2	0.5	1.6	2.3	-0.1	0.0	62.4
2020	2.3	3.5	1.4	1.9	2.0	1.5	1.4	0.7	2.2	1.8	-0.1	0.0	56.2
2021	2.2	3.6	1.7	2.1	1.1	1.8	1.6	1.5	2.0	1.8	0.0	0.0	61.1
2022–26	2.1	3.1	1.5	2.1	1.2	1.6	1.3	1.3	2.0	2.5	0.6	0.3	64.9

Notes: Forecast produced using the NiGEM model. BRICS+ includes Brazil, China, Russia, India, Indonesia, Mexico, South Africa, Turkey. (a) GDP growth at market prices. Regional aggregates are based on PPP shares, 2011 reference year. (b) Trade in goods and services. (c) Central bank intervention rate, period average. (d) Average of Dubai and Brent spot prices.

Figure 3. Percentage point contributions to global economic growth (PPP weighted)



Source: NiGEM database and NIESR forecast.

President Trump unexpectedly announced increased US tariffs on \$200 billion of Chinese goods from 10 per cent to 25 per cent. Since then the negotiations seem to have blown hot and cold, with speculation at the start of October that the US is looking at ways of reducing Chinese investment in the US even as trade talks have resumed. Possible further increases in tariffs and the uncertain environment about future tariffs give a downside risk to the economic growth outlook for the US, China and the advanced economies, although some emerging market economies, such as Vietnam, are benefitting from trade diversion effects (*South China Morning Post*, 2019).

Either historically low levels or continuing falls in unemployment rates in advanced economies have led to some concerns about possible inflationary pressures arising from tighter labour markets. The pace of wage increases has generally picked up and has supported consumer spending growth and, so far at least, has not led to rising inflation, which has given monetary policymakers the space to pursue more stimulatory policies this year. Policy rate cuts in the US and the Euro Area (which has also seen quantitative easing re-

introduced) have been sooner or larger than expected six months ago. At the same time, lower long-term bond yields over the past six months have helped to support continued economic growth at a time when inflation expectations have remained subdued.

The generally low level of global interest rates also reflects trends in savings and investment rates across countries. Current account deficits and surpluses widened last year, with the US continuing to run a deficit of 2.4 per cent of GDP compared with a German surplus of 7.5 per cent. In terms of international investment positions, Euro Area creditors increased their positions, while the US net liability position has increased (Chadha, 2018).

With the global growth rate cycle subdued, we expect inflation to remain low and at or below inflation target rates, as outlined in table 1. It is, however, worth noting that there are concerns that there may be a genuine problem in fully understanding inflationary processes, with some arguing that previously observed relationships such as the Phillips curve may have broken down. The continued undershoot of targets in measures of core inflation in the G7 economies continues to be a puzzle after so many years of ultra-low policy interest rates at a time when some advanced economies have achieved multi-decade lows in unemployment rates.

## Recent developments and the baseline forecast

### *Recent economic developments*

A key focus of economic developments in the second and third quarters of this year has been the continued weakness in industrial production indicators, especially in the advanced economies, and the lack of growth in global merchandise trade as policy discussions on tariffs have developed. Set against these, indicators of service sector activity have continued to be steadier than industrial activity and inflation has remained low. As a consequence, central banks have been able to loosen monetary policy, with very recent cuts by the Reserve Bank of Australia, which cut policy rates by a further 25 basis points to another record low of 0.75 per cent on 1 October, and the Reserve Bank of India reduced rates by 25 basis points to 5.15 per cent on 4 October.

In the USA, the monthly net change in non-farm payroll employment has recorded smaller average monthly net gains this year than last year and the latest PMI manufacturing activity data has been weak, with industrial production in September 0.9 per cent below its peak last

December. Service sector activity, too, has weakened in the past two months. The weakening pace of underlying economic activity led earlier this year to a more cautious (“patient”) approach at the Federal Reserve, followed by policy rate cuts in July and September.<sup>1</sup> In addition, the median interest rate projection for the ‘longer run’ by the FOMC Board members in September was 2.5 per cent, down from 3 per cent reported a year earlier, with long-term interest rates also falling.<sup>2</sup>

Weaker than expected global economic growth has been concentrated in industrial production. The initial increases in tariffs enacted by the USA in July last year, appear to have coincided with slowing in domestic growth in China late last year and changes in the car market, which have adversely affected both German and Euro Area output growth. Since then, the heightened uncertainty about the imposition of further tariffs, with unpredictability of such announcements, has added to the slowdown in merchandise trade, which has been more pronounced than the slowing in production, possibly reflecting some disruption to global value chains, which may also have been affected by the stronger US dollar (Shin, 2019).

Data from the Netherlands Bureau for Economic Policy Analysis (CPB) show that its estimate of the volume of world trade in July this year was 0.9 per cent lower than a year previously. Exports from emerging economies have fallen by 1 per cent with their imports 3 per cent down on a year earlier. Both imports and exports of advanced economies were estimated to be at about the same level in July as a year earlier. The monthly figures on world trade are volatile but figure 4 shows that after taking three-monthly averages to smooth the volatility, the level of world trade is still below its peak in October last year. Industrial production is estimated to be marginally higher than a year ago, but slightly below its recent peak level.

### *Monetary policy*

Global financial markets have a particularly keen focus on US monetary policy. Over the past nine months that focus has changed from considering whether the Federal Reserve might move from a policy of continuing ‘normalisation’ to one of potential policy loosening and then to how far and fast the Federal Reserve will cut rates. Following weaker activity indicators, particularly in manufacturing industry, and also the slowdown in global economic growth, there have been two policy interest rate cuts so far this year.

Monetary policy has also been loosened in other economies recently, often with reference to weaker global

## Box A. The (in)effectiveness of the latest round of ECB asset purchases

*Patricia Sanchez Juanino and Garry Young*

On 12 September 2019, the ECB Governing Council announced a comprehensive package of stimulatory measures in response to a weaker outlook for growth and inflation and a concern that inflation expectations were drifting further below the level consistent with the inflation target.

A key component of the package was the decision to restart net purchases under the asset purchase programme (APP) at a monthly pace of €20 billion from 1 November. Purchases would continue until around the time that the ECB decided to withdraw monetary stimulus by raising rates again. This was seen by the markets as an open-ended commitment to further quantitative easing to ‘infinity and beyond’.

In explaining the monetary measures, ECB President Draghi was keen to stress that the calibration of the package could be adjusted in the future to ensure that inflation moved towards its target in a sustained manner. He described this as a “strengthened state-dependence” that linked policy “to more stringent conditions for the inflation outlook” where the Governing Council wanted to see projected inflation increase significantly “from the current realised and projected inflation figures which are well below the levels that we consider to be in line with our aim”. He further stated that the Governing Council believed the package to be adequate to re-anchor inflation expectations.

At the time, the September 2019 ECB staff macroeconomic projections were for Euro Area HICP inflation of 1.2 per cent in 2019, 1.0 per cent in 2020 and 1.5 per cent in 2021, similar to our own central forecast, but a little lower than the ECB’s target for inflation of ‘close to, but below two per cent’.

A reasonable question to ask is whether the stimulus package as currently calibrated is likely to be large enough to achieve its stated aim within a reasonable timescale. Our assessment is that it is not and that a substantial recalibration or additional policy measures (probably including fiscal policy) will be necessary in due course.

This assessment follows from evidence on the effects of previous rounds of asset purchases as well as changes in asset prices since the September ECB package was announced.

By December 2018, when net purchases were last positive, the ECB had purchased about €2,600 billion (around 24 per cent of Euro Area GDP) under the APP since it first started in March 2015, an average monthly pace of around €60 billion per month. The main transmission channel of quantitative easing to the real economy is believed to be through its effects on asset prices, including market yields. The ECB’s own analysis suggests that cumulative asset purchases reduced 10-year sovereign yields in the Euro Area by around 100 bps (Eser, Lemke and Vladu, 2019).

In their analysis of the effects of the first round of asset purchases, worth around €1,000 billion, Chadha and Hantzsche (2018) found that the effects were larger among countries with more vulnerable fiscal positions. The estimated effects on long-term interest rates are presented in the first column of table A1. The estimated macroeconomic effects of those lower long-term interest rates on GDP and inflation in different countries is shown in the second and third columns respectively of table A1.

Table A1. Responses to the announcement of ECB asset purchase

	First round of QE			Latest round
	Long-term interest rate (in basis points)	Real GDP growth after 2 years (% points difference from base)	Inflation growth after 3 years	Long-term interest rate (in basis points)
Germany	-15.6***	0.1	0.1	-15.2***
France	-49.4***	0.3	0.2	-1.6
Austria	-47.8***	0.4	0.1	-2.8*
Finland	-46.0***	0.4	0.2	-5.2***
Netherlands	-48.4***	0.3	0.2	-0.2
Belgium	-50.8***	0.3	0.2	-4.3**
Italy	-52.6***	0.4	0.4	-20.9***
Spain	-38.7***	0.4	0.4	-6.9***
Portugal	-97.1***	0.7	0.3	-11.6**
Ireland	-33.5***	0.2	0.0	-0.7
Greece	-48.1	0.4	0.2	-23.6

Source: Chadha and Hantzsche (2018), authors’ calculations.

Note: 2-day response. \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

## Box A. (continued)

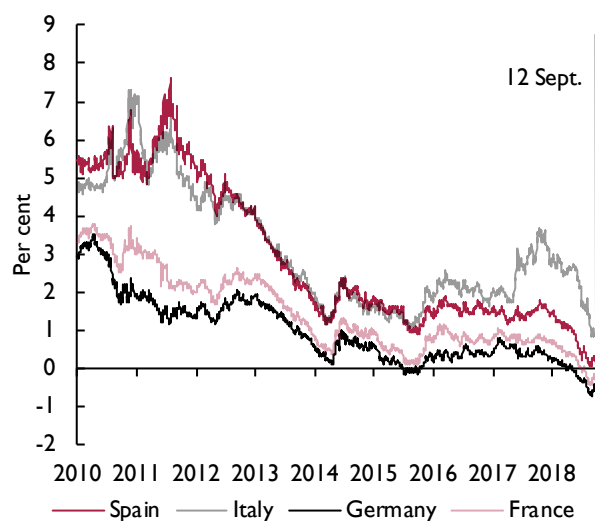
These effects are calculated using the National Institute Global Econometric Model (NiGEM). They indicate that inflation would be 0.2–0.3 percentage points higher than otherwise after three years following a package equivalent to the first round of asset purchases. Given the pre-stimulus forecast that would be broadly sufficient to return HICP inflation to close to the ECB's target.

But the newly announced set of asset purchases, despite the open-ended commitment, is not of the same scale or pace as the first phase of the APP. Neither is its effect on long-term interest rates as large. Sovereign yields and term premia were already low before the new round of asset purchases (see figure A1) and the announcement appears to have had little additional effect. Formal estimates of the impact of the announced package on long-term yields (shown in the fourth column of table A1) are small, other than for Germany where purchasable bonds are in short supply. There has also been little recent change in the effective euro exchange rate, though it is 2.2 per cent lower than a year ago. And there is little evidence of any material pick-up in market-based measures of inflation expectations despite the announced package of measures and the greater emphasis on state-dependent guidance (see figure A2). This suggests that an even more rapid pace of asset purchases would be necessary to have much effect through long-term interest rate and inflation expectations channels.

The main purpose of the package was probably to reinforce the Governing Council's commitment to the inflation target by responding in line with its reaction function, with a concern that had it not acted inflation expectations would have drifted even lower.

In explaining the package of easing measures, ECB President Draghi also stressed the need for some fiscal easing. This would have a positive effect in its own right and also provide more bonds for the ECB to purchase. We show the effects of a plausible scale of fiscal package in Box B on page 46. If such a package is not forthcoming then the logic of President Draghi's comments implies that we should expect some further monetary stimulus from the ECB in the months ahead, though this will need to be after his own term of office has ended. However, disagreements about the need for the easing package, evident in the resignation of German ECB board member Sabine Lautenschlaeger and reports that the decision to restart bond purchases was against the advice of the ECB's more technocratic monetary policy committee, makes this somewhat less likely. Indeed, bond yields have risen a little since these reports became public in mid-October, and market inflation expectations have drifted lower, thereby blunting some of the limited positive effect of the bond-buying programme.

Figure A1. Government benchmark 10-year bond yields



Source: Thomson Reuters, authors' calculations.

Figure A2. European 5-year/5-year inflation swap

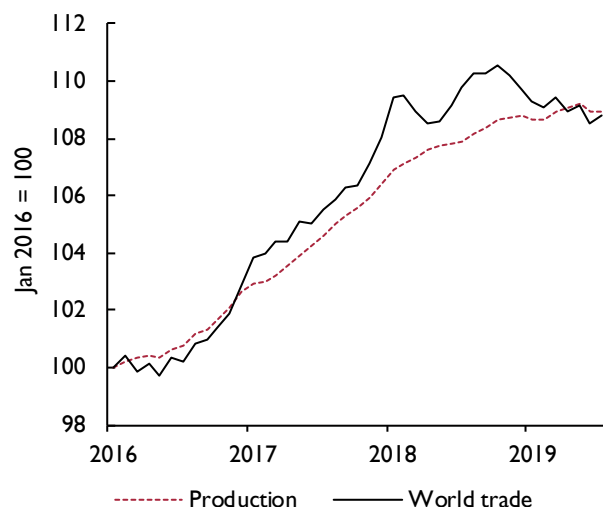


Source: Thomson Reuters, authors' calculations.

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- Chadha, J. and Hantzsche, A. (2018), 'The impact of the ECB's QE programme: core versus periphery', presented at EUROFRAME conference.
- Draghi, M. (2019), 'Introductory statement to the press conference (with Q&A)', 12 September 2019.
- Eser, F. Lemke, W. and Vladu, A. (2019), 'The impact of the APP on the term structure of euro area bond yields – a model-based assessment', Box 3 in 'Taking stock of the Eurosystem's asset purchase programme after the end of net asset purchases', *ECB Economic Bulletin*, March 2019.

Figure 4. Industrial production and merchandise trade



Source: Netherlands Bureau for Economic Policy Analysis (CPB).

economic conditions. In the Euro Area, in September the ECB announced a cut in the deposit rate and that it will re-start quantitative easing. An assessment of the effectiveness of this latest round of asset purchases is in Box A. Of the other G7 economies, Canada and the UK have not reduced rates this year (currently at 1.75 per cent and 0.75 per cent respectively) and in Japan the central bank maintained its ultra-easy monetary policy at the September meeting, keeping the short-term interest rate at minus 0.1 per cent and aiming to guide long-term rates to around zero while maintaining its asset-buying programme. With the background of weaker global growth and the consumption tax rise, the policy committee debated the possibility of further monetary stimulus.

Outside the G7, the Australian central bank has cut rates three times this year (in June, July and October), taking rates to a record low of 0.75 per cent. Policy rates have also been reduced this year in, amongst others, India, Malaysia and Chile. In China, further policy relaxation to support growth is possible, but the negotiations on trade relations with the US and internal debt levels will be important considerations for adjustments in order to deliver the growth projections within the formal plans. Based on market indications, our assumption is that monetary policy globally is likely to become looser, most notably in the US, if downside economic risks continue to dominate policy discussions.

### Financial and foreign exchange markets

After the fall in equity prices at the end of 2018, when the S&P index fell by 15 per cent between early December and Christmas, there has been a sustained recovery this year. The S&P index is up 26 per cent from the December low to 11 October. This rebound has been echoed internationally, with the Nikkei up 11 per cent since the start of the year, the FTSE 100 up 8 per cent and the Eurostoxx up 19 per cent. Looser monetary policy (and possibly the expectation of further loosening) has helped markets but it is possible that trade war uncertainties have acted as something of a brake. The Vix index,<sup>3</sup> an indicator of financial market volatility or uncertainty, spiked in early August as trade uncertainties hit, but even so it only regained its level of the start of the year.

When US monetary policy continued to tighten last year, US 10-year bond yields rose too, reaching 3.24 per cent early last November – their highest since mid 2011. This reflected an anticipation of some future increases in policy interest rates at that time. The changed expectation of and the actual change in policy stance have led to a reversal in long bond yields, which fell to 1.47 per cent in late August, almost retracing the low in July 2016, and giving a negative spread over shorter rates and so raising fears of recession ahead (Lenoel, 2018). Following the latest policy rate cut the yield spread initially rose, as did 10-year government bond yields. But at 1.76 per cent in early October, bond yields remain below their level seen in the first half of this year.

The downward trend in longer-term bond yields has been a feature in many countries, so that the potential pressure from higher long-term rates in advanced economies has eased for emerging economies. For some countries, such as Italy, the domestic economic and political uncertainty, which has combined with the budget dispute with the European Commission, has led to an increase in sovereign spreads, raising borrowing costs.

The US trade-weighted exchange rate has appreciated since mid-2018 by around 6 per cent, putting pressure on US exporters and on those non-US borrowers who have dollar denominated debt to repay. The value of the dollar remains a focus of President Trump and, with the euro having depreciated against the US dollar, he has added the Euro Area to China as economies that have ‘managed’ their exchange rate to give a favourable boost to their export prospects to the US.<sup>4</sup>

### Commodity markets

After falling in the final quarter of last year to end the year around 40 per cent down from the peak, oil prices

firmed in the first quarter, but fell back to June at \$64 per barrel (pb). Despite a brief upward spike when a drone attack damaged the Saudi Arabian facilities, oil prices in early October were around \$60 pb, indicating that potential inflationary pressures from oil prices were contained. The forecast assumption for oil prices broadly follows forward markets, and this supports a continuing low global inflation outlook.

On other commodities, the World Bank commodity price data show (in dollar terms) that prices for both food and metals fell in the three months to September, having recorded peaks in the second quarter of last year. In September food prices were down 4 per cent on three months earlier and metals were down 2 per cent. The falls from the highs last year coincide with the weakening of global industrial production and trade. Copper prices, sometimes taken to be an indicator of prospective trends, in September were down 5 per cent on a year ago and 2 per cent on three months ago. There are few signs of potential inflationary pressure from recent trends in commodity prices.

### Our revised baseline forecast

Since our August forecast the weakness in industrial production and trade has become more evident and the sudden imposition of higher tariffs by the US on certain Chinese goods imports has increased uncertainty about future trade policies. Some downside risks from six months ago have been realised and, with trade uncertainty

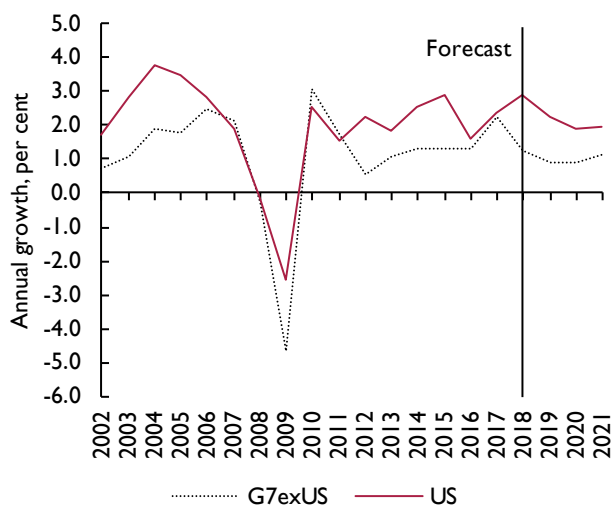
continuing, downside risks have increased. As a result, we have marked down our global GDP growth forecast for 2019 from 3¼ per cent to 3 per cent, the weakest rate of global GDP growth since 2009, with a similar markdown for 2020, with growth of 3 per cent. Our forecast expects growth to strengthen a little in late 2020 and into 2021.

Several central banks have pointed to a slowing in global trading conditions as one of the principal factors behind downward revisions to their GDP growth forecasts, and have loosened monetary policy as a result of both domestic and global growth weakening. These policy actions should limit the downside to growth. The forecast assumes that the tariff arrangements at early October remain in place and that US tariffs are not increased further than already announced. A detailed response is yet to be determined to the recent WTO ruling on potential US tariffs against the European Union as a consequence of support for Airbus.

Within the advanced economies, annual output growth in the US has outpaced that of the other G7 economies as a group almost every year this decade, much as in the previous decade. Even though we anticipate US GDP growth slowing to just under 2 per cent in 2021, US growth looks set to continue its out-performance, especially since the major Euro Area economies are likely to show sluggish growth, as illustrated in figure 5. The US also has more scope than the other major advanced economies to relax monetary policy and our forecast assumes a further policy rate cut, broadly in line with current market expectations. Although we expect that CPI inflation in the US will increase from its August annual rate of 1.7 per cent, we expect low inflation to persist and provide a favourable background for a further monetary policy loosening.

The 2½ per cent rate of GDP growth in the Euro Area as a whole in 2017 looked unsustainable at the time and the Euro Area average masks a range of experience across the constituent countries. In 2018, Italy recorded GDP growth of just 0.9 per cent, while twelve of the countries recorded growth of over 2½ per cent. The overall pace has unwound quickly, to our expectation of 1 per cent this year. Italy entered recession in the second half of last year and, with GDP flat in the second quarter of this year, fragility remains. Germany narrowly avoiding recession late last year and, with industrial production indicators, especially for cars, remaining negative, GDP fell by 0.1 per cent in the second quarter of this year. Our forecast is for German GDP growth of just ½ per cent this year and 1 per cent next year. The ECB has reduced interest rates and plans to re-start quantitative

Figure 5. GDP growth in G7 economies



Source: NiGEM database and NIESR forecast.



## Box B. Could a fiscal boost raise inflation in the Euro Area?

by Cyrille Lenoel

The issue of whether fiscal and monetary policy should be coordinated is a hotly debated topic in the Euro Area. In September, the ECB cut the deposit interest rate and announced a new Quantitative Easing programme. However, the expansionary monetary policy risks might not be enough to push inflation up to its objective of below, but close to, 2 per cent over the medium term. At a speech at the Academy of Athens on 1 October,<sup>1</sup> the President of the ECB, Mario Draghi, called for a Euro Area fiscal stimulus to supplement the monetary stimulus: “Fiscal policy playing a more supportive role alongside monetary policy would lead to a faster return to price stability and therefore fewer side effects.”

One key issue is whether the Euro Area has some fiscal room to implement a counter-cyclical fiscal policy. While public sector debt is quite high at 85 per cent of GDP, the budget balance of the Euro Area is in very small deficit (0.5 per cent of GDP). We see little risk that a fiscal stimulus of moderate size would lead to an unsustainable debt burden or inflation spiralling out of control. In this box, we investigate what size of fiscal stimulus might be required in order to push inflation up by half a percentage point, so that it increases substantially towards the target rate.

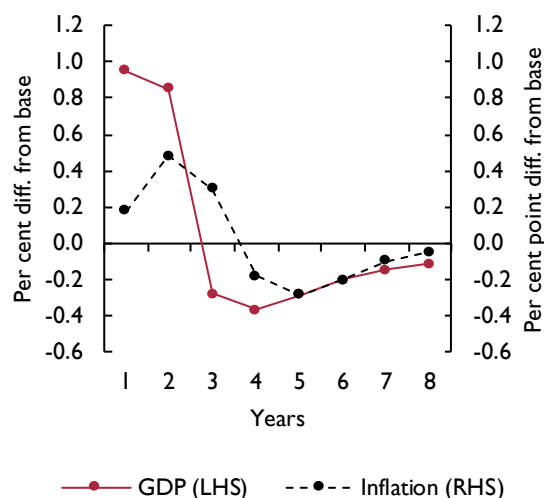
Inflation in the Euro Area has averaged 1.5 per cent over the past four quarters. All things equal, one would need to push up inflation by half a percentage point in order to reach the (close to) 2 per cent objective. We calibrate the temporary fiscal shock using our multi-country macroeconomic model NiGEM such that Euro Area inflation increases by 0.5pp in two years. We assume that the fiscal shock is composed exclusively of extra government consumption spending. To test the robustness of our result, we examine different fiscal policy mixes that would lead to the same amount of extra aggregate fiscal spending: an increase in government investment, or a reduction in income or corporate tax. A reduction of VAT was not examined as it would have a direct deflationary impact on measured inflation that would go against our objective. We find that changing the policy mix used does not significantly change our principal results. We assume that the ECB interest rate is fixed to the baseline for two years in order to model the fact that the ECB hinted that it would not respond to the inflationary impact of a fiscal stimulus.

The result of our calibrated simulation is displayed in figure B1. The scale of the required temporary fiscal boost is equivalent to additional spending of about 1.3 per cent of Euro Area GDP for two years. This would increase inflation by 0.5 percentage point in two years, but the effect would only be temporary, with inflation returning to its baseline rate in year 4. The effect on inflation could be more persistent if we assumed adaptive expectations. A fiscal stimulus of this magnitude would raise GDP growth by about 1 percentage point in the first year, representing a multiplier of about 0.8 but this would revert once the temporary fiscal stimulus is ended and goes back to baseline in year 3.

The impact of such a stimulus on inflation would depend on many other factors that are not specifically addressed in this simulation, such as the reaction of the labour force participation rate or productivity. If there is a relative lack of private demand, then the fiscal multiplier may be larger, but if the extra government spending crowded out more productive private spending, it could be smaller. Another area of caution is the impact on the multiplier in the presence of the Zero Lower Bound (ZLB). There is a growing literature that shows that fiscal multipliers may be affected by the ZLB: Miyamoto *et al.* (2018) for the case of Japan and Braun *et al.* (2013) and Ngo (2019) for the case of the US.

The simulation was undertaken by assuming the same scale of stimulus in all Euro Area countries. However, the Euro Area does not have a centralised fiscal policy and so a key issue for such a stimulus would be which countries would have the capacity to undertake it. Using the rules of the Stability and Growth Pact, currently only eight countries out of the nineteen members of the Euro Area have a budget balance of more than -3 per cent of GDP and a public debt of less than 60 per cent of GDP. These countries<sup>2</sup> represent only 11 per cent of Euro Area GDP. Applying this scale of stimulus only to those countries would predictably have a negligible impact on the inflation rate of the Euro Area as a

Figure B1. Effect of temporary fiscal expansion of 1.3 per cent of GDP in the Euro Area



Source: NiGEM simulation.

## Box B. (continued)

whole. However, if we were to ignore the debt constraint, the number of countries with a budget surplus increases<sup>3</sup> and includes the largest Euro Area economy, Germany. This group of countries represents nearly half of Euro Area GDP and the fiscal boost calibrated in this box could be achieved if each of them increased their government spending by about 2.5 per cent of GDP, or twice the amount of the overall boost calibrated in the main simulation. The exact stimulus required depends on the degree of intra-Euro Area spillovers, which was discussed in Box B of the August 2018 Review.<sup>4</sup> This seems an infeasibly large stimulus for some individual countries, particularly as it would face the additional hurdle of breaking some member countries' specific fiscal rules, most notably the German *Schuldenbremse* (debt brake) that restricts the cyclically adjusted deficit to a maximum of 0.35 per cent of GDP.

### NOTES

- 1 [https://www.ecb.europa.eu/press/key/date/2019/html/ecb.sp191001\\_1~5d7713fd1.en.html](https://www.ecb.europa.eu/press/key/date/2019/html/ecb.sp191001_1~5d7713fd1.en.html).
- 2 Estonia, Finland, Latvia, Lithuania, Luxembourg, Malta, Netherlands and Slovakia.
- 3 Austria, Germany, Greece, Ireland, Lithuania, Luxembourg, Malta, Netherlands, Portugal and Slovenia.
- 4 See Lopresto (2018).

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easing, a change of policy which should support growth. But out-going ECB President Draghi has also argued for fiscal policy actions to boost output and inflation (Draghi, 2019). A simulation of such an approach using our NiGEM macroeconomic model is discussed in Box B, illustrating that the size of a fiscal boost required to raise the inflation rate by 0.5 percentage points would be around 1.3 per cent of Euro Area GDP over two years.

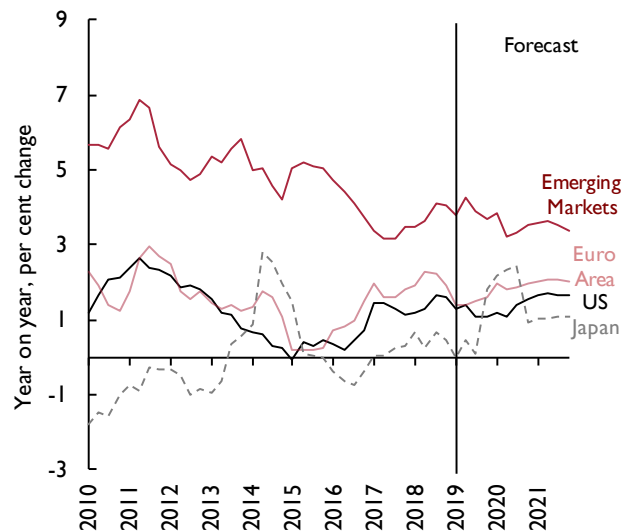
Within the group of emerging economies, India and China will continue to grow at a faster pace than the average but both are expected to see slower growth rates than over the past three years. Vietnam, Indonesia, Mexico and Singapore are all forecast to contribute to the continued steady growth of emerging economies (as illustrated in figure 1) but recessions in Argentina and Turkey show that experience within the group is not uniform. Some emerging economies are benefitting from trade diversion that has followed on from the US tariffs and the extended fall in longer-term US bond yields has meant that some emerging market economies will be experiencing less pressure from rising US dollar interest payments, giving a small boost to growth expectations relative to a year ago.

Although oil prices rose sharply in the immediate aftermath of the drone attacks on Saudi Arabian oil facilities (the Brent oil price rose by around \$8 per barrel

to \$68), this was soon reversed. At the start of October oil prices at around \$60 per barrel are around 30 per cent lower than a year ago and 15 per cent lower than six months ago which should help to continue subdued inflation (see figure 6). However, the continued economic expansion, even though at a slower pace, which has brought lower unemployment, may be leading in some economies to shortages of skilled labour and rising wage pressures. To the extent that these reflect a build-up of pressures on capacity and may lead to rises in unit labour costs, these could increase upward pressure on inflation. The variation in GDP growth experience is also evident in inflation experience in emerging economies, as discussed in more detail in Box C. With a few exceptions such as Argentina and Turkey, inflation in emerging economies generally remains low and stable, and that is expected to continue.

Based on official population growth projections and our assumption that productivity growth fails to return to pre-recession growth rates, we continue to expect that the pace of output growth in the advanced economies will remain moderate in the medium term relative to the pre-financial crisis experience. With annual GDP growth in China expected to continue to slow, but remaining at strong rates relative to the advanced economies, and with China now accounting for approaching 20 per cent

Figure 6. Consumer price inflation



Source: NiGEM database and NIESR forecast.

Note: Consumer expenditure deflator is used for the US, Euro Area and Japan, CPI for emerging markets. Emerging markets – weighted average of Brazil, China, India, Indonesia, Mexico, Russia and Turkey.

of global GDP, our medium-term forecast projects global GDP growth running at close to 3½ per cent a year, with growth in the emerging market economies continuing to outpace that in the advanced economies.<sup>5</sup>

### Risks to the global forecast

After annual global GDP growth peaked in 2017 there was a marked weakening in industrial production and trade growth in the second half of last year that has continued this year. Several factors have come together, including US tariffs on steel and aluminium, new vehicle emissions standards in the European Union, what appears to be a relatively widespread decline in new car purchases, and the tariff war between the US and China and the ongoing nature of the US and China tariff changes have added uncertainty over future trade conditions.

While global GDP growth of 3.8 per cent in 2017 may not have been sustainable, the slowdown may mark a more prolonged phase of slower GDP and trade growth, perhaps with some global value chains having already been adversely impacted by the uncertainty over future tariffs and the appreciation of the US dollar. The concerns about slower world trade growth that were expressed after the financial crisis could return and the rapid GDP and trade growth of 2017 might, in hindsight, be judged to have been an exception (Carreras and Kirby, 2016).

In terms of downside risks to our global GDP growth outlook, an intensification of trade and tariff disruption would be a major consideration. Businesses will have factored in assumptions about trading conditions in their plans and unanticipated disruptions to these assumptions, in the form of unexpected new tariffs, are likely to reduce both output and investment plans for many companies as well as potentially raising prices for affected consumers. There will be some companies that will benefit, but the global effect would be expected to be negative. Our estimates of the effects of US tariffs previously imposed, using our NiGEM model, indicate that the direct downside effects on global growth are limited and consistent with a small reduction in the pace of near-term growth (Liadze, 2018; Hantzsche and Liadze, 2018; Liadze and Hacche, 2017). But the creation of persistent uncertainty adds to this negative effect, especially with the potential for trade negotiations between the US and China to break down and the possibility of much higher US tariffs on German car imports.

A year ago our expectation was that global GDP growth this year would be at around the same pace as last year and slower than in 2017. At that stage the trade war between the US and China had just begun. Tariffs at 10 per cent had been set by the US on \$200 billion of imports from China and China had retaliated with tariffs of 5–10 per cent on \$60 billion of goods imported from the US. Our assessment of the tariff increases then already in place using our NiGEM model was that these would likely directly reduce global growth by around 0.1 per cent (Liadze, 2018). We also noted that the extension to 25 per cent tariffs would more than double this effect. These risks have now materialised.

However, we noted that this estimate did not take into account any effects from heightened uncertainty about the future trading environment which would be likely to depress business investment and private sector consumption further. These factors have played a role in the reduction in the pace of global growth and trade over the past year. The swings in sentiment about how trade talks are progressing, the actual increases in tariffs and the widening nature of the range of tariffs being discussed, in a world of complex global supply chains, have contributed to slower GDP and world trade growth (Kara *et al.*, 2019). Measuring the effects of such uncertainties is imprecise but, in terms of the reduction in our forecast for global GDP growth since a year ago, it is likely that the uncertainty effect has been larger than the direct effect of tariffs and the uncertainty effect will continue as long as the topic of tariffs (either in general terms or on specific goods or countries) remains on the political agenda.

Aside from tariff intensification, one concern from the US economy is that the expansion is long in the tooth – it is now the longest on record – and the yield spread indicator has been flagging up an increasing risk of a US recession. It may be that this indicator is proved correct and that, for reasons not related to tariffs, the US economy experiences a very sharp slowdown next year. While recessions in Italy, Argentina, Turkey and Venezuela have not caused wider spillover effects, perhaps because the causes have been largely internal or because the geographical influence of these economies via trade and financial effects is limited, a US recession or very sharp slowdown would be likely to have more widespread effects.

Recent military tensions around the Gulf act as a reminder that adverse geopolitical effects could lead to sharp oil price increases and adversely affect economic prospects. So far the oil price has not shown a marked increase but our previous work shows that oil price increases have important effects on global growth (Lennard and Theodoridis, 2018).

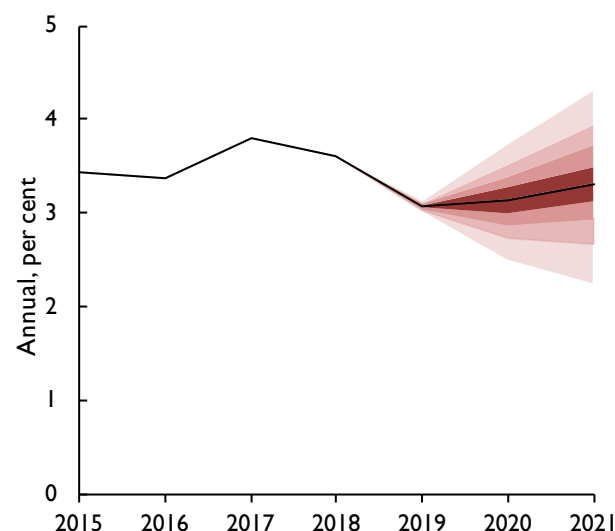
It may be that the prolonged period of low inflation and ultra-low interest rates has created potential vulnerabilities that may not yet be fully understood and that would be tested by a downside shock. This may arise through the build-up of public and private debt and the rise in house prices in several advanced economies, which may have created a greater potential vulnerability to the dependability of the income needed to service the debt than realised by policymakers (Naisbitt, 2018a, b, and 2019). An adverse shock that leads to a rapid rise in unemployment may reveal a vulnerability that has been masked by the sustained period of ultra-low interest rates.

If monetary policy is constrained in how it can respond to a downside shock in some economies, this could lead to a greater reliance on fiscal policy and a renewed increase in government borrowing. The ECB has already raised the issue of a possible fiscal response to supplement the monetary actions it has taken and fiscal policy responses in China have already mitigated some of the direct downside effects from trade changes (Hurst and Liadze, 2019).

For our forecast for global GDP growth, an indication of the extent of ‘standard’ risks is illustrated in the fan chart for global economic growth shown in figure 7. Our forecast projects GDP growth strengthening a little in late 2020, a feature also commented upon in Box D which examines the outlook using money growth as a forward indicator of economic momentum.

There are, however, also upside risks for global economic activity. The tariff disputes could be settled quickly and

Figure 7. Global GDP growth outlook expectation



Source: NiGEM database, NIESR forecast and NiGEM stochastic simulations.  
Notes: The fan chart is intended to represent the uncertainty around the central forecast shown by the central line. There is a 10 per cent chance that GDP growth in any particular year will lie in any given shaded segment in the chart. There is a 20 per cent chance that GDP growth will lie outside the shaded area of the fan.

positively, reducing uncertainty and increasing business confidence. The monetary stimuli already enacted could be added to more strongly than we anticipate and prove to be powerful in boosting activity.

Additional fiscal policy actions have already been mentioned by ECB President Draghi and, although fiscal space is limited when measured against the fiscal rules in the Stability and Growth Pact and those countries with fiscal space may not want to use it, pressure may build for a broader Euro Area fiscal approach. If realised, this could mean that long-term interest rates might rise more than forecast, especially in the context of a wider geographical fiscal expansion that included the US, Japan and China.

If inflation remains subdued in such circumstances, renewed confidence and still relatively low interest rates could boost investment and trade. The slowdown that we are currently experiencing could, in retrospect, look like a ‘slow patch’ rather than a ‘growth downturn’. In the medium term, if productivity growth were to rebound back to its rate seen in the decade before the financial crisis, there would be a potential upside risk to our GDP growth projection without necessarily an upward risk to inflation expectations.

## Box C. Recent inflation trends in emerging economies

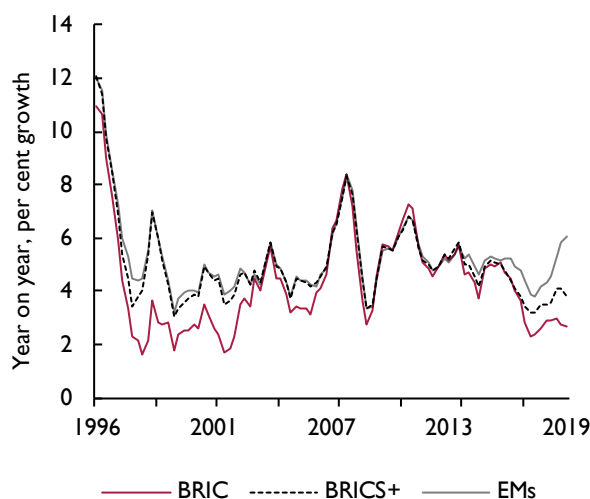
by Xuxin Mao, Barry Naisbitt and Kemar Whyte

This box examines the performance of inflation in emerging market (EM) economies, with a focus on the range of experience and the trends appearing over the past five years. The inflation data are taken from our NiGEM database and include 15 EM economies. As with advanced economies (AE), EM economies as a group have seen a change in inflation performance over time. From double digit rates in the mid-1990s, inflation fell steadily and has appeared to stabilise at around 5 per cent a year for much of the past fifteen years. Figure C1 shows that the BRIC group had a sharp disinflation from 1996 to 1999, after which inflation initially held at around 4 per cent a year.<sup>1</sup> The same general pattern, though with steadiness at a slightly higher average inflation rate, holds for the wider BRICS+ group.<sup>2</sup> For the aggregate of the EM economies in our model database, the initial downward adjustment was less marked but had the same pattern. In the past couple of years the wider group has seen a stronger uptick in inflation than the BRIC group, most recently reflecting the rapid rises in inflation rates in Argentina and Turkey.

The generalised fall in inflation in emerging markets is an important one for the global economy and pre-dates the financial crash and the Great Recession. Several arguments have been proposed to explain the phenomenon. Principal amongst these has been the widespread introduction of inflation targets, often associated with independent central banks to support their achievement, and lower inflation expectations (see Ha *et al.*, 2019). It is also possible that spillovers from the success of advanced economies in reducing inflation may have aided lower inflation in emerging economies.<sup>3</sup> While EMs have, in general, higher inflation targets than AEs, this reflects both historic inflation experience and practical implementation considerations.

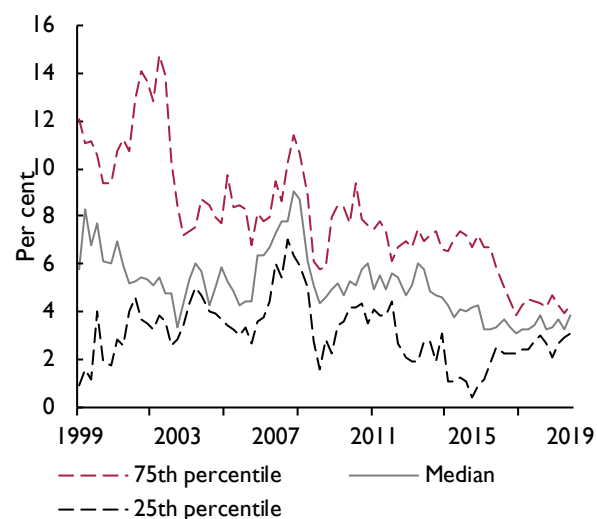
The average experience shown in figure C1 masks variation in performance across countries. Figure C2 shows the dispersion of annual inflation rates in our EM grouping of countries over time, using the upper and lower quartiles and median of the group.

Figure C1. Inflation in emerging economies (%)



Source: NiGEM and NIESR calculations.

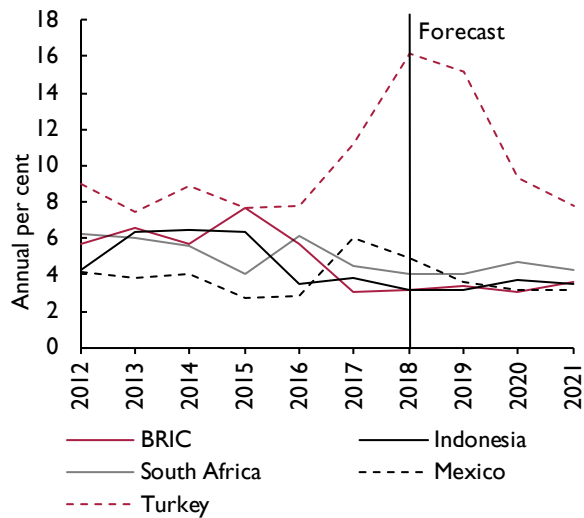
Figure C2. Median and inter-quartile range of annual inflation rates in the EM grouping (%)



Source: NiGEM and NIESR calculations.

The past year has seen sharp increases in inflation in Argentina and Turkey, largely explained by specific circumstances (government policies and economic instability, economic sanctions and exchange rate depreciation). Figure C3 shows that Turkey has been driving up the inflation rate of the BRIC+ countries since 2016 largely due to the depreciating Turkish lira, but we expect the high inflation rate there to decrease.

Our forecast anticipates that inflation in both advanced and emerging economies will remain subdued, with the low inflation environment expected to persist in the medium term, perhaps echoing the research of Jorda *et al.* (2019) who note that “for developing countries, the role of past inflation in explaining current inflation remains dominant”. The findings of Berns *et al.* (2018), that domestic factors are more important than global factors in explaining inflation dynamics in emerging economies, suggests that the main threats to the current low inflation are likely to come from changes in domestic circumstances and policies that might directly increase inflation or raise inflation expectations.

**Box C. (continued)****Figure C3. Inflation rate in BRIC and BRIC+ countries (%)**

Source: NiGEM and NIESR forecast.

**NOTES**

- 1 For the EM aggregate and the two subsets shown, PPP weights are used to calculate the aggregate figures.
- 2 BRIC consists of a weighted average of Brazil, Russia, India and China. The extension BRICS+ adds South Africa, Mexico, Turkey and Indonesia.
- 3 Our simple pairwise Granger causality analysis of annual inflation rates for AEs and EMs from 1989 to 2019 (using up to 8 quarterly lags for the analysis) suggests that causality runs from inflation in AEs to EMs more strongly than in the opposite direction.

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## Box D. Global monetary trends and economic prospects

by Simon Ward of NS Partners and Janus Henderson Investors

This box updates a 'monetarist' forecast for global activity, based on the rule that changes in real or inflation-adjusted money growth lead changes in economic momentum, usually by between 6 and 12 months. The approach was described in the February 2018 Review, when it suggested – contrary to mainstream forecasts at the time – that the global economy was about to embark on a sustained slowdown. The current assessment is that economic momentum may have reached a low in 2019Q3 but is likely to remain weak until 2020Q2.

The monetarist relationship is illustrated by figure D1, showing 6-month rates of change of industrial output and real narrow money for a 'global' grouping comprising the G7 advanced economies and seven large emerging economies. Turning points in real money momentum consistently preceded those in economic momentum over the period shown. The average lead time was 8 months, which compares with a 9-month average found in a study of G7-only data extending back to the 1960s.

The narrow money measure used is a variant of M1, comprising currency in circulation and demand or overnight deposits. Broader measures were less consistent in signalling turning points in economic momentum.

Global real narrow money growth fell substantially in 2017 and remained weak through 2018, reaching a low in November. Assuming a 9-month lead, this suggested that the global economy would continue to struggle in first half of 2019, with industrial output momentum "declining to a new low sometime around mid-year" (April 2019 Review).

Recent coincident economic data are consistent with this forecast. The JP Morgan/Markit Economics global manufacturing PMI fell to the lowest level since 2012 in July 2019, recovering slightly in August-September. Global industrial output numbers were distorted in March/April by front-loading of Chinese production ahead of a tax change but – excluding April – six-month momentum reached a new low in August.

Global real narrow money growth rose between November 2018 and February 2019 but then stalled well below its post-GFC average until September, when it is estimated to have reached the highest level since 2017. The monetarist rule, therefore, suggests that a significant recovery in economic momentum will be delayed until mid-2020.

Narrow money trends in individual major economies reinforce the cautionary message. A return of global economic growth to trend is likely to require reaccelerations in both the US and China. As figure D2 shows, US real money growth remained very weak through August, while a sharp rise in September may have reflected Federal Reserve money market operations to alleviate a shortage of bank reserves, raising the possibility that it will prove temporary.

China was the first major economy to embark on monetary policy easing and money trends appeared to be recovering in early 2019. The pick-up, however, reversed following the failure in May of a small regional bank, which resulted in interbank funding problems for other smaller lenders and a consequent tightening of credit conditions for private sector firms. A food-driven inflation spike has dragged down real money growth more recently.

Money trends are relatively favourable in the Eurozone: real narrow money growth rose significantly in late 2018/early 2019, suggesting that coincident economic data will recover in 2019Q4. UK money trends, by contrast, continue to signal a weak or recessionary economic outlook.

Figure D1. G7 + E7 industrial output and real narrow money (% 6m)

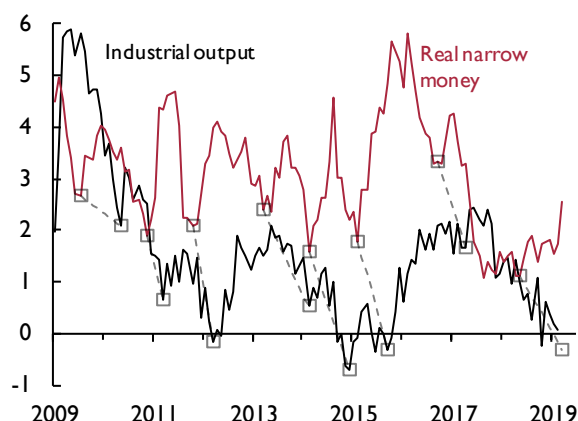


Figure D2. Real narrow money (% 6m)

