Developments in the Euro Area Economy

Overview

The result of the UK referendum to leave the EU (Brexit) is a significant shock to the euro area outlook. While UK GDP is now likely to contract in the second half of 2016, the euro area growth outlook will be adversely affected by weaker investor confidence, greater financial market volatility and potentially lower import demand from the UK. In addition, the result has exacerbated tensions in the banking sector across the euro area, where the negative shock to the growth outlook has raised further concerns about non-performing loans. However, despite the financial turbulence, central banks across the euro area were not required to take any unanticipated measures in the immediate aftermath of the vote.

Prior to the referendum, euro area GDP growth indicated a protracted, resilient recovery. In the first quarter, growth exceeded expectations and outpaced some other advanced economies. Additionally, GDP finally surpassed its pre-crisis peak level. In terms of the outlook, the euro area recovery will continue to rely on domestic demand, supported by a more favourable financing environment, progress in deleveraging across sectors, and the current very accommodative monetary policy stance. A weakening of the Euro exchange rate and the low level of oil prices will contribute to low HICP inflation in 2016.

Section 1: Growth and Inflation

Euro Area Growth and Inflation Developments

The impact of the UK referendum result has been evident in financial market data. The result surprised financial markets and triggered a widespread reappraisal of risk. The euro appreciated 9.6 per cent against Sterling between June 23 (the day before the referendum) and July 1. However, since then it also depreciated 2.2 per cent against the US dollar and overall it was broadly unchanged in nominal effective terms (Chart 1). The referendum result put downward pressure on market-based measures of long-term inflation expectations, with five-year in five-year forward inflation swap rates falling below 1.30 per cent[1] from 1.39 per cent immediately prior to the referendum. Equity markets in the euro area initially fell sharply but have since recovered to around 6 per cent below their pre-referendum level. Equity declines were led by bank share prices which have fallen by 17 per cent, with sharper drops in Greece, Ireland and Italy (Chart 2).

Hard data are not yet available to indicate the impact of the referendum result on economic activity, In the first quarter of 2016, euro area real GDP increased by 0.6 per cent quarter-on-quarter, compared to 0.4 per cent in the final quarter of 2015 and this was stronger than the outturn for the US, UK, and Japan, (Chart 3). Domestic demand contributed more than expected due to strong private consumption and investment growth, lower oil prices, low financing costs and continued labour market improvements (Table 1). Net trade contributed negatively as import growth, in line with total demand, outpaced export growth.

Amongst the euro area's largest economies GDP growth in Spain was higher than expected at 0.8 per cent, while growth in

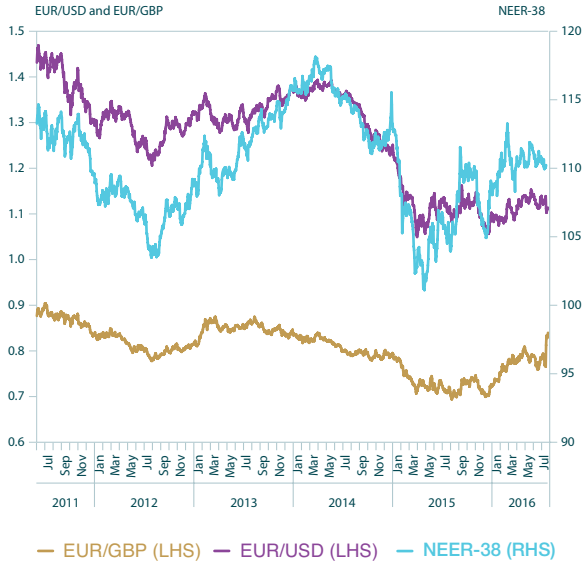
1 The five-year in five-year rate is the markets' expected average inflation rate (plus risk premia) between 2021 and 2026.

Table 1: Contributions of Expenditure Components to Quarterly Change in Euro Area GDP

	2015Q2	2015Q3	2015Q4	2016Q1
Consumption	0.2	0.3	0.2	0.3
Government	0.1	0.1	0.1	0.1
Investment	0.0	0.1	0.3	0.2
Inventories	-0.2	0.2	0.1	0.1
Exports	0.7	0.2	0.3	0.2
Imports	-0.4	-0.5	-0.6	-0.3
GDP	**0.4**	**0.3**	**0.4**	**0.6**

Source: Eurostat.

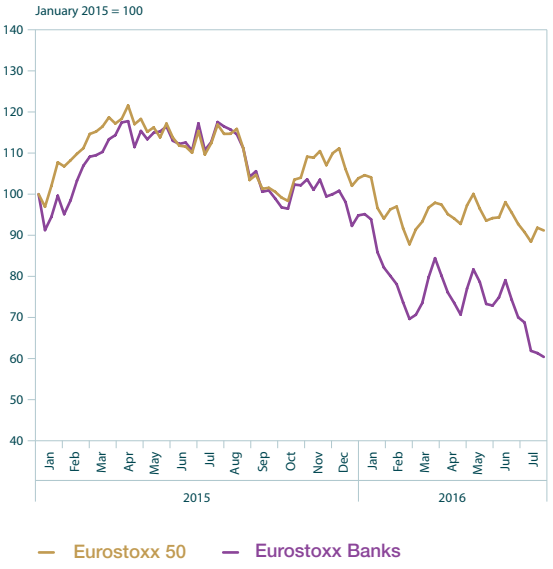
Chart 1: Euro Exchange Rates



Source: Thomson Reuters Datastream.

Note: The latest observation is for 01 July 2016. A decrease in the above lines corresponds to a depreciation of the euro. NEER-38 refers to the nominal effective exchange rate of the euro area 19 countries vis-a-vis a group of 38 trading partners.

Chart 2: Eurostoxx and Eurostoxx Bank Equity Indices



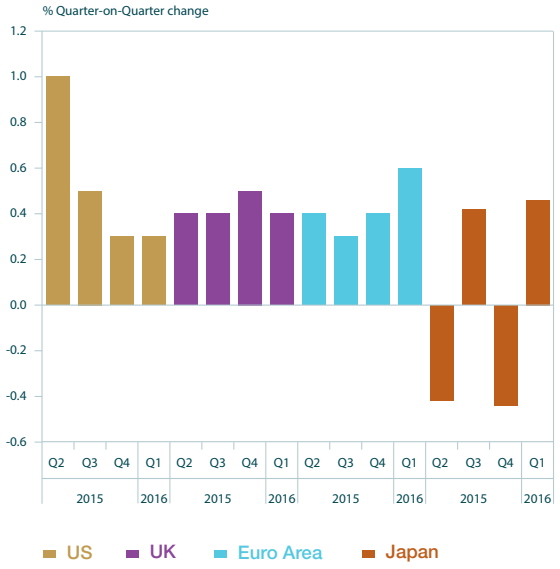
Source: Bloomberg. The above chart displays the Eurostoxx 50 and the Eurostoxx indices scaled back to 100 for January 2015.

Note: The last obervation is for 04 July 2016. The above chart displays the Eurostoxx 50 and the Eurostoxx bank indices scaled back to 100 for January 2015 using weekly data.

Germany and France increased to 0.7 per cent and 0.6 per cent respectively during the first quarter (Chart 4). At the same time output contracted in Greece during the first quarter and growth remains stubbornly low in a number of other countries. This pattern of very low growth can be attributed to a combination of cyclical and structural factors including the ongoing deleveraging of businesses and households, and the very low levels of both productivity growth and the long term trend growth rate in a number of economies.

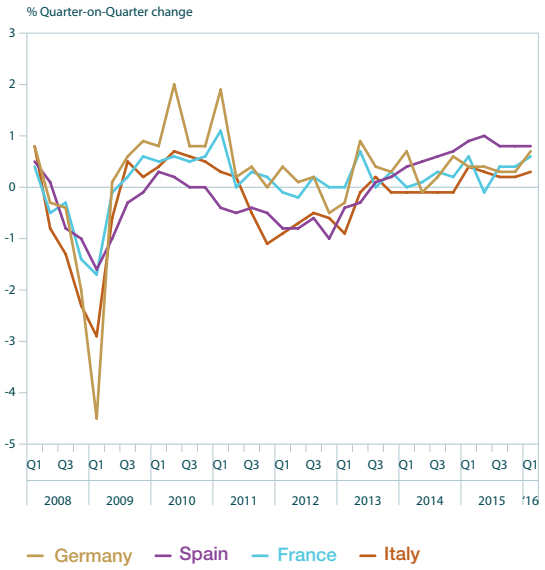
Labour markets have continued to gradually improve in the first quarter: employment increased further, rising by 0.3 per cent quarter on quarter, while the unemployment rate stood at 10.1 per cent in May, the lowest rate since July 2011. Nonetheless, wage pressures continue to remain limited. Although

Chart 3: GDP Growth in Advanced Economies



Source: Thomson Reuters Datastream.

Chart 4: GDP Growth in Selected Euro Area Economies



Source: Eurostat.

compensation per employee grew 1.2 per cent year-on-year in the first quarter of 2016, growth in negotiated wages declined slightly to 1.4 per cent in the first quarter of 2016 from 1.5 per cent in the previous quarter. Despite the reduction in the unemployment rate, the main factor explaining the ongoing lack of wage pressure remains the persistent slack in the economy, along with the impact of labour market reforms and the low labour productivity growth (Box A).

Box A: Review of Labour Market Reforms in the Euro Area
By Barra McCarthy and Laura Moretti[1]

Structural reforms can be defined as changes in rules that govern economic activity, and range from judicial reforms to the formation of a European Capital Market Union. The slow recovery in the euro area has led policymakers to advocate for the implementation of structural reforms as a means to strengthen investment, speed up job creation, and boost productivity. Both the European Commission[2] and the ECB[3] regularly call for such reforms in member states. This box provides an assessment of the impact of structural reforms in the euro area.

This box focuses on reforms of institutional labour market arrangement, and asks how reforms to Employment Protection Legislation (EPL), a key labour market institution, impact on labour productivity and long-term unemployment.

EPL is a key labour market institution because it impacts the incentives for job creation and job destruction. It consists of the rules that determine the costs of dismissal for workers and the policies that govern the employment of workers on temporary contracts. Examples include severance pay entitlements for workers on regular contracts, and the number of times a fixed-term contract can be renewed.

1 The author's are Research Assistant and Senior Economist respectively in Monetary Policy.

2 See: http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm

3 See Coure (2014) and Praet (2015).

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By decreasing the cost of job creation and job destruction, EPL reforms increase worker flows. This decreases the average duration of unemployment, thus reducing long term unemployment (Blanchard and Katz, 1997; Bernal Verdugo et al., 2012). A lower cost of shedding labour as a result of EPL reforms can also improve a firm's ability to adjust their workforce to negative shocks, resulting in higher productivity growth (Martin and Scarpetta, 2011). Lower adjustment costs may also speed up the reallocation of workers between industries, further supporting productivity growth.[4]

However, partial EPL reforms, which create asymmetries between temporary and permanent contracts, have an ambiguous impact because they can encourage the excessive use of temporary contracts (Jacquier, 2015). Partial EPL reforms can also lead to an increase in unemployment (Blanchard and Landier, 2002) and, as a consequence, long-term unemployment. This can harm productivity in the medium-term as it reduces human capital accumulation. Finally, the impact of EPL reforms can depend upon the state of the economy, with the potential for reforms to have a negative effect during downturns (IMF, 2016; Bordon et al, 2016).

A simple comparison of outcomes between countries that underwent structural reforms with other countries may provide a misleading picture of the impact of reforms.

Different outcomes reflect not only the impact of reforms, but also other structural differences that might affect subsequent performance. Therefore, policy reforms are difficult to evaluate due to the challenge of selecting an appropriate control group. To control for these differences, we use the synthetic control method (see Abadie and Gardeazabal, 2003) to compare each country that implemented major structural reforms[5] (henceforth, treated country) with a weighted combination of other European Union countries selected to resemble the pre-reform performance of the treated country. The synthetic control constructs a 'synthetic' counterfactual of the studied country had it not implemented the reforms. Differences between real and synthetic countries should not be viewed as precise estimates of the impact of EPL reforms, but rather as suggestive of whether reforms had an impact.

Countries that implemented major reforms to EPL include Estonia, Spain, Germany, Slovakia, Italy, Belgium, Netherlands, Portugal and Greece. The control group consists of countries that did not implement major reforms to EPL, and includes France, Iceland, Finland, Slovenia, Poland, Switzerland, Sweden, Ireland, Austria, Denmark, Latvia, Lithuania, Norway, United Kingdom and Czech Republic and treated countries when major reforms do not occur in the same treatment period. In this Box we focus on three countries: Belgium, the Netherlands and Estonia. They are chosen due to the magnitude of the reforms they undertook, because the reforms were not confounded by subsequent countervailing reforms, and because they are not outliers in the sample, thus making them suitable for use with the synthetic control method.

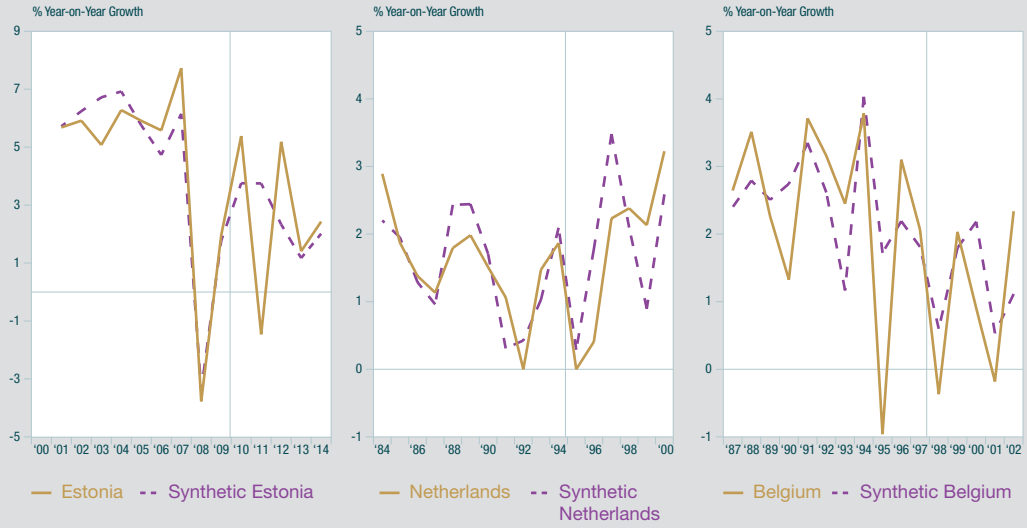
4 For empirical research see Autor et al., 2007 and Bassinini et al., 2009.

5 Major reforms are defined as fulfilling one of the following categories; a change greater than 2 standard deviations in OECD EPL indicators, mentioned as a major reform in April WEO 2016, classified as a 'Structural' reform in FRDB Social Reforms Database.

Box A: Review of Labour Market Reforms in the Euro Area
By Barra McCarthy and Laura Moretti

First, we assess the impact of EPL reforms on productivity.[6] We do not find clear positive effects on labour productivity. Estonia and the Netherlands implemented substantial reforms in 2009 and 1994-1999 to employment protection for temporary and permanent contracts. As a result we would expect higher labour productivity growth relative to each countries synthetic control. In both countries we observe an initial decrease in productivity, followed by a recovery, with Estonia's productivity converging back towards its synthetic control. Estonia's initial decrease may be due to the reform being implemented during a recession, but a similar explanation cannot be provided for the Netherlands. Considering a case of partial reform, such as Belgium in 1997, we observe no clear impact on productivity; Belgium's productivity growth rate seems to hover around the rate of its counterfactual control.

Box A Chart 1: Effect of EPL Reforms on Labour Productivity



Source: OECD, authors' calculations.

Source: OECD, authors' calculations.

Source: OECD, authors' calculations.

In the analysis of the impact of EPL reforms on long term unemployment[7 8], we find a reduction in the case of complete reforms, but an increase in the case of partial reforms. Following complete reforms to EPL, Estonia and the Netherlands experienced decreased long-term unemployment relative to their synthetic control, suggesting that reforms increased worker flows, thus decreasing the average duration of unemployment. However, for Belgium, which only reformed temporary contracts, we find increased long term unemployment relative to the synthetic control. While this result may seem counterintuitive, this is consistent with Blanchard and Landier (2002), who suggest that partial labour market reform may increase unemployment.

6 Analysis the effect of reforms to EPL on long term unemployment is made difficult by the fact that there is a significant break in the series in 2005, which makes interpreting results for Germany, Italy, Greece, Slovakia and Portugal challenging.

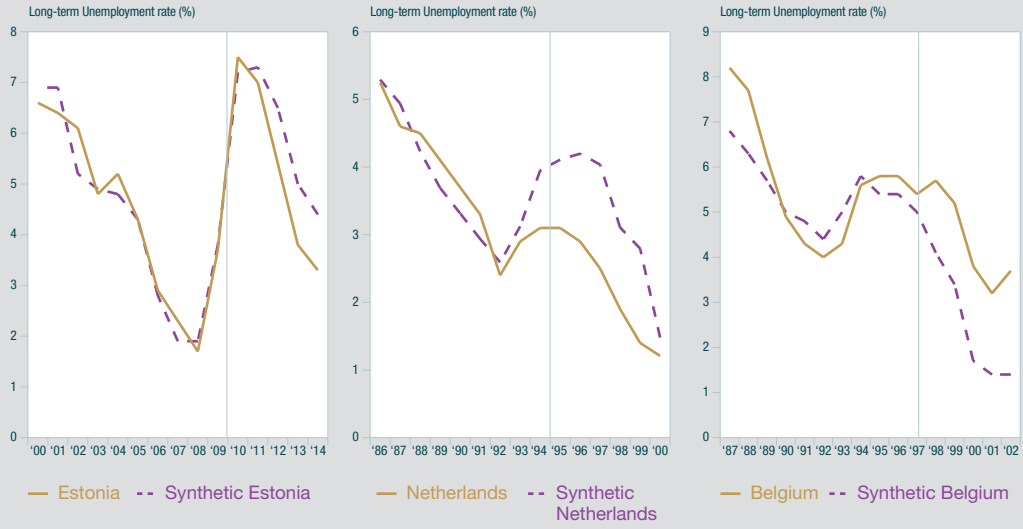
7 Labour productivity data comes from OECD, defined as %YoY RGDP per hour worked; control variables used include growth rate in capital per worker(OECD, World Bank), ETCR indicators (OECD), gross expenditure on research and development as % of GDP (OECD), output gap (AMECO, OCED), % of population with tertiary education (World Bank), trade as % of GDP (World Bank), % population urban (World Bank), % of households with access to internet, FDI as a % of GDP (World Bank).

8 Long term unemployment figures and unemployment sourced from ILO, long term unemployment defined as unemployment duration > 12 months; control variables include unemployment (ILO), output gap (AMECO), union density (OECD), level at which centralised wage bargaining occurs (CEPS-OECD dataset), tax wedge (Eurostat, CEP-OECD), active labour market policy expenditure per participant (CEP-OECD), benefit duration and replacement rate (CWED dataset), minimum wage relative to median and mean (OECD).

Box A: Review of Labour Market Reforms in the Euro Area

By Barra McCarthy and Laura Moretti

Box A Chart 2: Effect of EPL Reforms on Long-Term Unemployment



Source: ILO, authors' calculations.

Source: ILO, authors' calculations.

Source: ILO, authors' calculations.

Caution should be exercised in the interpretation of the impact of EPL reforms as their impact may be contingent on the state of the economy and whether reforms are complete or partial. The results suggest that there is no clear positive effect of EPL reforms on labour productivity. However, the tentative evidence suggests that EPL reforms reduce long-term unemployment if they are complete, while they seem to increase it if they are partial.

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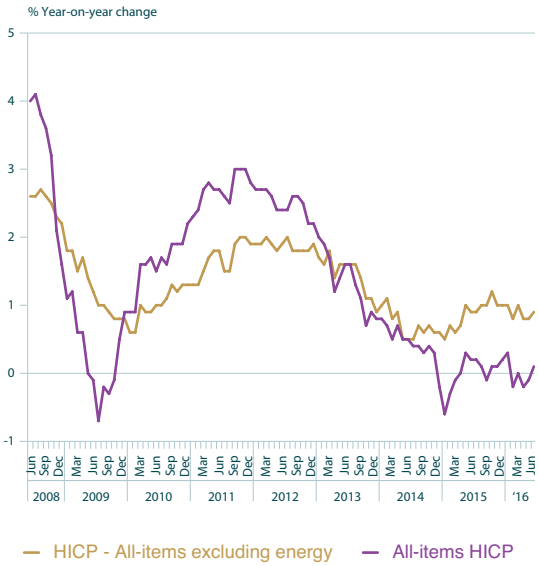
Table 2: Latest Forecasts of Euro Area Growth in Real GDP

		2016		2017		2018	
	Date	GDP	Inflation	GDP	Inflation	GDP	Inflation
EU Commission	May 2016	1.6	0.2	1.8	1.4	-	-
Eurosystem Staff (BMPE)	June 2016	1.6	0.2	1.7	1.3	1.7	1.6
OECD	June 2016	1.6	0.2	1.7	1.2	-	-
IMF	April 2016	1.5	0.4	1.6	1.1	-	-

Sources: IMF *World Economic Outlook* April 2016; OECD *Economic Outlook* 99 June 2016; European Commission, *Spring Forecast 2016*; ECB June 2016 *Broad Macroeconomic Projection Exercise*.

Headline inflation turned positive in June (0.1 per cent) for the first time since January according to Eurostat's flash estimate. Moreover, HICP inflation excluding energy (Chart 5) is expected to recover slightly to 0.9 per cent based on eurostat's flash estimate for June after remaining at 0.8 per cent since April. However, the energy component, although starting to reflect the recent increase in oil prices, is expected to be -6.5 per cent in June compared to -8.0 per cent in each month since February. Given the recent recovery in both spot and futures prices for oil, inflation is expected to pick up in 2017 due to base effects in energy prices. However, the uncertainty created by Brexit might slow down the recovery and dampen inflation.

Chart 5: Euro Area Inflation



Source: Eurostat.

Note: The above chart includes Eurostat's flash estimate for June 2016

Outlook for Growth and Inflation

The latest short-term data point to ongoing growth in the second quarter, although no data are available which reflect the period after the UK referendum result. Monthly retail sales in May rose by 0.4 per cent following an increase of 0.2 per cent month-on-month in April. Seasonally-adjusted industrial production in April partially reversed reductions observed early in the year, but services sector growth weakened. The composite output PMI was unchanged at 53.1 in June having averaged 53.2 in the first quarter. The Commission's Economic Sentiment Indicator stood at 104.3 on average across the three months of Q2 compared with 104.0 in Q1 2016.

In terms of the outlook for the full year, recent forecasts (not including the effects of Brexit) suggest growth in the range of 1.5-2.0 per cent (Table 2).The latest economic projections by the EU Commission forecast euro area real GDP growth of 1.6 per cent and 1.8 per cent in 2016 and 2017, respectively. The June ECB staff projections also indicate 1.6 per cent growth in 2016, but are slightly lower for 2017 at 1.7 per cent. Domestic demand is expected to continue to drive the recovery, supported by the pass-through of the monetary policy measures to the real economy. In addition, favourable financing conditions and improvements in corporate profitability are expected to continue to promote investment.

Turning to inflation, the expectation for 2016 in the June Eurosystem staff macroeconomic projection was revised upward to 0.2 per cent from 0.1 per cent in the March projection round reflecting the recovery in oil futures and

the stimulus provided by the latest monetary policy measures adopted by the ECB.

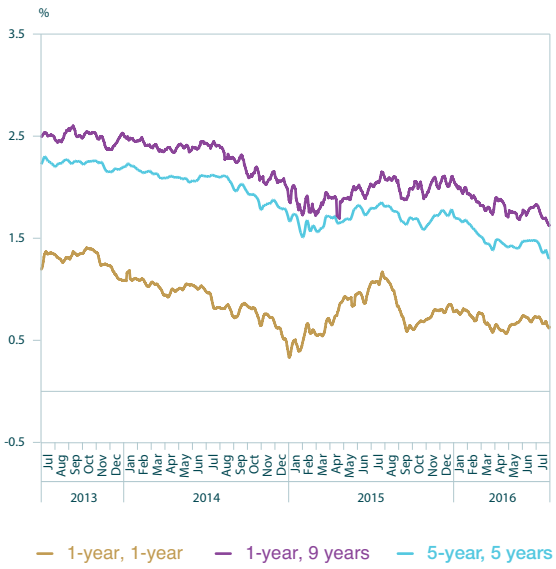
While the second quarter results of the ECB's Survey of Professional Forecasters (SPF) revised down inflation expectations for 2016, they remain above the ECB's projection at 0.3 per cent compared to 0.7 per cent in the first quarter SPF survey. The SPF expectations for 2017 are for inflation of 1.3 per cent, down from 1.4 per cent in the first quarter. However, longer-term inflation expectations (2020) remain stable at 1.8 per cent respectively. Market-based measures of long-term inflation expectations already responded to news of the UK referendum (Chart 6). The result put downward pressure on long-term inflation expectations, possibly reflecting negative risk premia. The five-year in five-year forward inflation swap rate (the markets' expected average inflation rate (plus risk premia) between 2021 and 2026) declined to 1.30 per cent at the start of July compared to 1.39 immediately prior to the referendum. Similarly, the one-year in nine-year forward inflation swap rate - the markets' expected inflation rate (plus risk premia) between 2025 and 2026 - declined to 1.63 per cent from 1.70 per cent over the same period.

Risks to the Outlook for the Euro Area

Overall the risks to the outlook are on the downside. In particular, uncertainty will persist as long as the UK's new status vis-a-vis the EU is not clear. Furthermore, should the UK referendum act as a catalyst for greater reflection on European integration elsewhere, the period of uncertainty could be deeper and more protracted.

Indeed, IMF staff argue that increased uncertainty and risk aversion in the wake of the referendum vote, would negatively affect growth in the UK's neighbours in both the short and long-run.[2] The net long-run economic effects are likely to be substantial but vary according to a country's trade and financial exposures to the UK. Reduced trade access will lead to lower output, investment and income in both the UK and countries with trade links to the UK. The weakening of Sterling will raise the price of euro area exports to the UK; reducing demand for euro area exports further (chart 7).

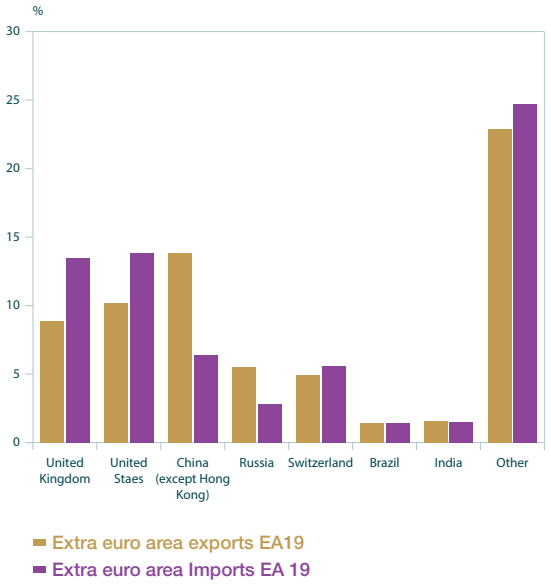
Chart 6: Market's Future Inflation Expectations Based on Implied Forward Infaltion Swap Rates



Source: CBI staff calculations, data extracted from Bloomberg.

Note: The chart displays 5 days moving averages. "1 year, 1 year" refers to swap rates with a maturity of 1 year beginning in 1 year; "1 years, 9 years" refers to swap rates with a maturity of 1 year beginning in 9 years; and "5 years, 5 years" refers to swap rates with a maturity of 5 years beginning in 5 years.

Chart 7: Extra Euro Area Exports and Imports

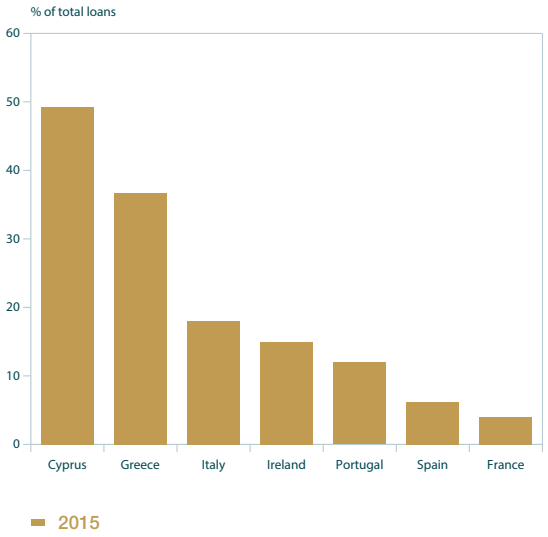


Source: Eurostat.

Note: The above chart shows euro area exports and imports by trading partner. The data is constructed by netting out and excluding all intra euro area trade.

Existing issues in the banking sector across the euro area appear to have been exacerbated by the UK referendum result, although the level of non-performing loans in Italian banks had already raised concerns both with markets and supervisors (chart 8). In the short-term, clarification of institutional arrangements for dealing with these issues will be key in addressing the risk of contagion and mitigating any impact on the euro area outlook, while in the longer-run, developments in non-performing loans will also be important.

Chart 8: Non Performing Loans



Source: Datastream and IMF Financial Soundness Indicators.

Note: The above chart displays the proportion of non-performing loans to gross loans in 2015 across a selection of euro area economies.

Other notable downside risks include renewed adverse shocks in emerging markets and intensified geopolitical tensions affecting oil supply. Emerging economies are starting to experience headwinds from significant levels of private sector debts, including in US dollars, notably in the corporate sector and large external financing needs.[3] These have started to weigh on business decisions as local exchange rates have depreciated against the Euro as well as the US dollar and capital flows have started to reverse back to advanced economies[4] (See Box B). A stronger slowdown in emerging market economies, including China, poses downside risk to euro area foreign demand.

Section 2: Euro Area Monetary Policy Developments

In March 2016, the Governing Council of the ECB announced a large package of measures including interest rate reductions, the expansion of asset purchase programs to include investment-grade euro-area corporate bonds and a new targeted longer-term refinancing operation (TLTRO II). These measures were discussed in detail in the last Quarterly Bulletin. Since then, the Governing Council has held two monetary policy meetings, on April 21 and June 2, and left monetary policy unchanged on both occasions.

Following its meeting on June 2, the Governing Council noted that the package of measures announced in March was underpinning the euro area's gradual economic recovery and fostering the return of inflation to levels below, but close to, 2%, pointing in particular to the impact of the measures on the credit market. It has also been noted that following the announcement of the decision to purchase corporate bonds, spreads on new issues declined significantly. In addition, the Governing Council expected added impetus from the March package when some of the measures were implemented later in June. To this end, the purchase of corporate bonds began on June 8, and the first of the four new rounds of TLTRO II took place on June 22. In this operation, just under €400bn was borrowed. However, many banks used this funding to pay down more expensive eurosystem borrowings, which will reduce the overall effect on bank lending somewhat.

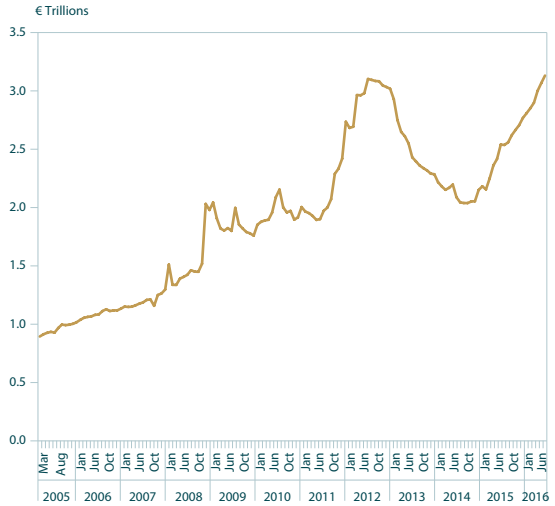
At its June meeting, the Governing Council also reiterated its expectation that interest rates would remain at present or lower levels for an extended period of time, and well past the horizon of net asset purchases. It also confirmed that the monthly asset purchases of €80 billion are intended to run until the end of March 2017, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim. As a result of the measures undertaken by the Governing Council, by the end of June the ECB's balance sheet was larger than it had ever previously been (Chart 9).

2 IMF (2016), UK 2016 Article IV Consultation "Macroeconomic implications of the United Kingdom leaving the European Union" *Selected Issues Paper. IMF Country Report No. 16/169.*

3 On the magnitude of US dollar debt of non-financial corporates, see BIS *Quarterly Review* December 2015 "Dollar credit to emerging market economies".

4 See p.18, Bank of England *Financial Stability Report*, December 2015

Chart 9: ECB Total Assets



— ECB Total assets.

Source: Bloomberg.

Note: Data is nominal.

Finally, on June 21, Germany's highest Court dismissed a constitutional challenge to the policy of Outright Monetary Transactions (OMT). This program was announced by the ECB in 2012 but so far it has not been deployed. Arguments had been made that OMT was outside the ECB's mandate, and the Constitutional Court referred the case to the European Court of Justice (ECJ) last year. The ECJ found that OMT was within the ECB's mandate subject to certain conditions. The German Constitutional Court's latest decision specified further conditions for the Bundesbank's participation in OMT: the volume of the ECB's purchases must be limited from the outset, purchases must not be announced, only bonds issued by member states with market access can be bought from member states with market access, and the bonds must be held to maturity only in exceptional circumstances.

Elsewhere, the minutes of the Federal Open Markets Committee's (FOMC) meeting in April raised expectations of a rate increase at its June meeting. However, when the FOMC met on June 15, it decided to leave rates unchanged, noting that the pace of improvement in the labour market had slowed since the previous meeting, and in light of uncertainty in advance of the Brexit referendum vote. In particular, Chair Yellen noted that Brexit 'could have consequences for economic and financial conditions in global financial markets' with knock-on effects 'for the U.S. economic outlook that would be a factor in deciding on the appropriate path of policy'.

In advance of the Brexit referendum, the Bank of England noted the potential negative financial and economic effects of a decision to leave, and announced it would provide additional liquidity auctions around the referendum date in order to ensure banks' continued access to funding. The Bank of England's Monetary Policy Committee also left interest rates unchanged following their meeting on June 15, with the Committee pointing towards Brexit uncertainty as a factor in their decision. In the wake of the referendum result, Governor Carney noted that the he believed the economic outlook has deteriorated and some monetary policy easing will likely be required over the summer.[6]

5 For a discussion see Section 2 of the Developments in the Euro Area Economy chapter of Quarterly Bulletin 3, 2015: http://www.centralbank.ie/publications/Pages/QuarterlyBulletin.aspx

6 http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech915.pdf page 15.

Box B: Composition and Dynamics of Chinese Capital Flows: What has been the Role of Capital Controls?

By Valerie Herzberg[1]

Net capital flows to emerging markets have slowed since 2010. According to the IMF, this slowdown has been similar in size and breath to previous crisis episodes in the 1980s and 1990s.[2] China accounted for a large proportion of this reversal. Yet, policies such as those which maintained restrictions on residents' ability to move capital out of China while simultaneously encouraging Foreign Direct Investment (FDI), may have partly sheltered the Chinese economy from even more disruptive capital flow dynamics.[3] This Box discusses these policies and presents some evidence which suggests that while China experienced a sharp decline in capital inflows, it did not experience such a severe increase in outflows.

Between 2004 and 2010, net capital flows increased almost fourfold. However, since the end of 2010, net capital flows have declined 25%[4]. In general, we can consider that there are 'push' (i.e global or external) and 'pull' (i.e domestic) factors, such as levels of risk aversion or economic growth differentials, that typically play an important role in determining capital flow movements. For instance, growth in China slowed from over 10 per cent in 2010 to below 7 per cent in early 2016, probably explaining a large part of the slowdown in capital flows. In addition, efforts to control the exchange rate over recent years may have contributed to recent adverse recent movements in capital flows.[5]

Counterbalancing this, however, there is evidence that the presence of capital controls has offered protection to China, where financial account liberalization has been gradual and strategic. With the country's accession to the WTO in 2001, FDI regulations were significantly relaxed to encourage large multinational firms to transfer production and know-how to China. In contrast, the removal of restrictions on banking and portfolio flows came later and has been only partial. For example, it was only in 2007 that constraints on Chinese enterprises' use of FX deposits were eased. To date, restrictions on the conversion of Renminbi into foreign exchange by residents remain in place for all non-trade related transactions, while portfolio investment continues to be subject to various quota schemes.[6] Overall, the financial account remains relatively closed[7].

A closer look at the recent decline in Chinese financial flows is suggestive of a 'sudden stop' in capital inflows, but not (yet) of a 'capital flight' episode. Following the methodology of Forbes and Warnock (2012), we classify previous episodes of extreme capital movements into actions driven by foreign investors (referred to by Forbes and Warnock (2012) as 'surges' and 'stops' in relation to capital inflows) and resident investors ('flight' and 'retrenchment' in relation to capital outflows).[8, 9] For China, the annual change in capital inflows fell below the one standard deviation bound and thus outside 'normal' fluctuation bands in mid-2014 and has remained at a 2 standard deviation distance since, consistent with a 'sudden stop' episode (Chart 1). Capital outflows, despite the sharp decline, have however yet to reach the two standard deviation marker to qualify as a 'capital flight' episode by the Forbes and Warnock (2012) methodology (Chart 2).

1 The author is Deputy Head in the Monetary Policy Division.

2 Chapter 2 of the World Economic Outlook, April 2016 "Understanding the slowdown in capital flows to emerging markets".

3 The financial account balance is composed of the balances of FDI, portfolio flows, other investment and reserve assets.

4 China's net capital flows increased rapidly between 2004 – 2008 although a lot of this increase was reversed during 2009 owing to the global financial crisis before stabilising in 2010.

5 For China, there is evidence that in the context of the step-wise RMB repegging in late 2015, Chinese corporations held on to US dollars earned abroad while at the same time accelerating repayments of US dollar debt, in light of expectations about future currency depreciation.

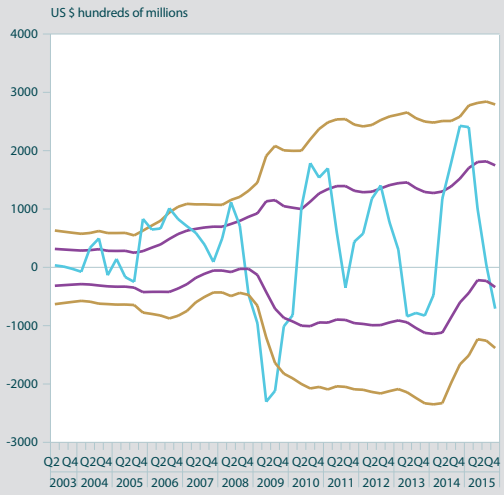
6 For an overview of China's liberalisation policy, see "Chinese Capital Flows and Capital Account Liberalisation" (December 2015), Reserve Bank of Australia Bulletin.

7 See Fernandez et al (2015), "Capital Control Measures: A new dataset", NBER Working Paper.

Box B: Composition and Dynamics of Chinese Capital Flows: What has been the Role of Capital Controls?

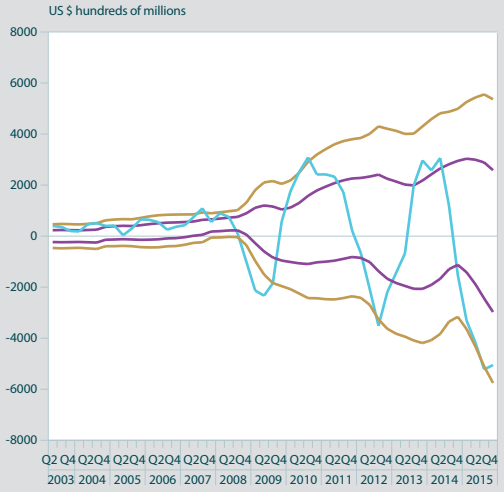
By Valerie Herzberg

Box B Chart 1: Surge and Stop Episodes for Chinese Capital Outflows



Source: Thomson Reuters, Datastream and Author's Calculations.

Box B Chart 2: Surge and Stop Episodes for Chinese Capital Inflows



Source: Thomson Reuters, Datastream and Author's Calculations.

Conclusion

While China has not been immune to shifting investor sentiment in the context of slowing domestic activity and a managed exchange rate, the gradual and strategic approach towards financial liberalisation tilted towards FDI may have protected it to some degree. Going forward, how to further liberalise the financial account, while avoiding disruptive capital movements, remains an important policy challenge.

8 As referred to by Forbes and Warnock (2012). A sudden stop is defined as a period when gross inflows (financial liabilities) fall one standard deviation below the mean, provided they reach two standard deviations below at some point. A capital flight episode is defined similarly, but looking at gross private outflows (financial assets). For more see Forbes and Warnock "Debt and equity led capital flow episodes", NBER Working Paper, August 2012.

9 For comparison and in order to focus on private financial assets and liabilities, the measure of private financial assets and liabilities are arrived at by summing together Direct Investment, Portfolio Investment, other Investment, and Financial Derivatives. The series on Chinese financial assets does not include Reserve assets although when it is added the movement in gross flows are very similar to the pattern displayed in Chart 1.