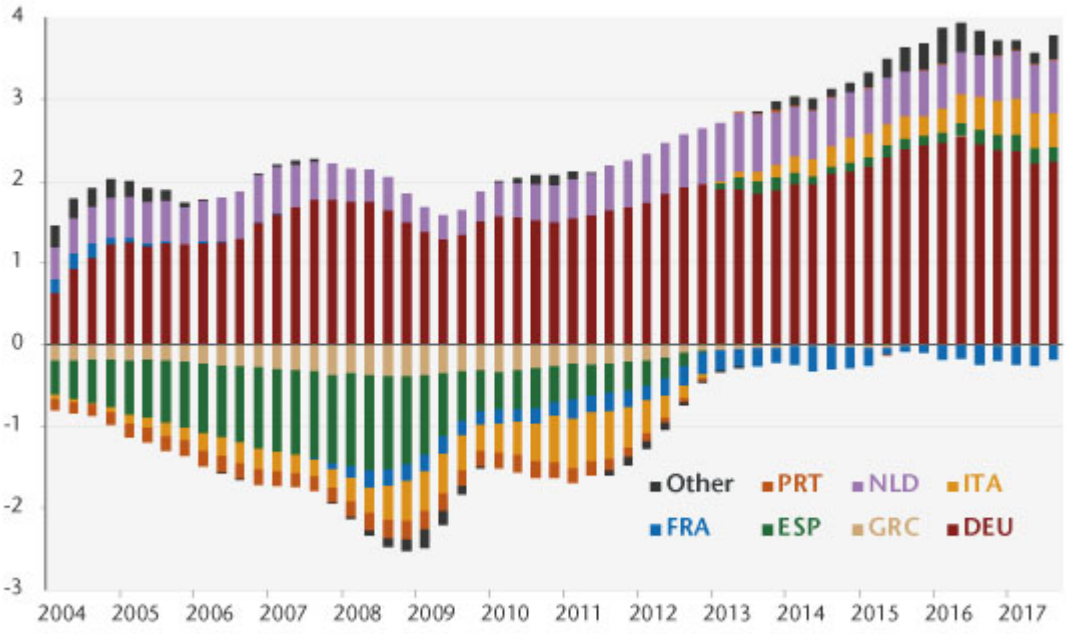
Major adjustments are awaiting the euro zone

By Bruno Ducoudré, Xavier Timbeau and Sébastien Villemot

Current account imbalances are at the heart of the process that led to the crisis in the euro zone starting in 2009. The initial years of the euro, up to the crisis of 2007-2008, were a period that saw widening imbalances between the countries of the so-called North (or the core) and those of the South (or the periphery) of Europe, as can be seen in Figure 1.

Figure 1. Current account balances (moving average over four quarters) in % of GDP of the euro zone



Source: Eurostat.

The trend towards diverging current account balances slowed sharply after 2009, and external deficits disappeared in almost all the euro zone countries. Despite this, there is still a significant gap between the northern and southern countries, so there cannot yet be any talk about reconvergence. Moreover, the fact that the deficits have fallen (Italian and Spanish) but not the surpluses (German and Dutch) has radically changed the ratio of the euro zone to the rest of the world: while the

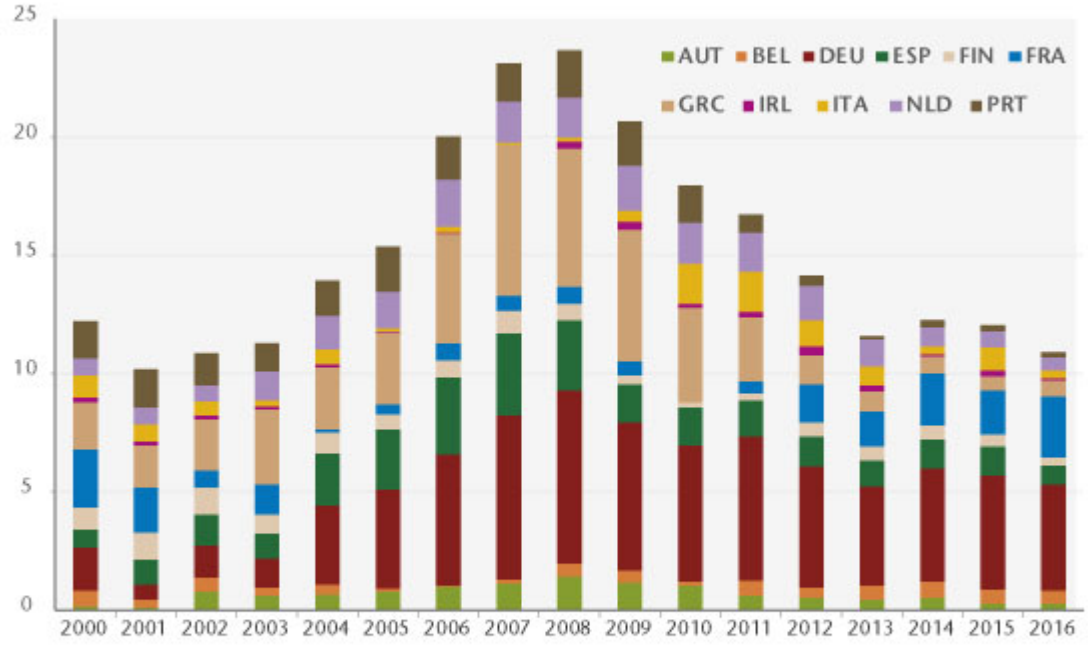
zone's current account was close to balanced between 2001 and 2008, a significant surplus has formed since 2010, reaching 3.3% of GDP in 2016. In other words, the imbalance that was internal to the euro zone has shifted into an external imbalance between the euro zone and the rest of the world, in particular the United States and the United Kingdom. This imbalance is feeding Donald Trump's protectionism and putting pressure on exchange rates. While the nominal exchange rate internal to the euro zone is not an adjustment variable, the exchange rate between the euro and the dollar can adjust.

It seems unlikely that the euro zone can maintain a surplus like this over the long run. Admittedly, the pressures for the appreciation of the euro are now being contained by the particularly accommodative monetary policy of the European Central Bank (ECB), but when the time comes for the normalization of monetary policies, it is likely that the euro will appreciate significantly. In addition to having a deflationary impact, this could rekindle the crisis in the zone by once again deepening the Southern countries' external deficits due to their loss in competitiveness. This will in turn give new grounds for leaving the euro zone.

In a recent study [1], we seek to quantify the adjustments that remain to be made in order to resolve these various current account imbalances, both within the euro zone and vis-à-vis the rest of the world. To do this, we estimate equilibrium real exchange rates at two levels. First, from the point of view of the euro zone as a whole, with the idea that the adjustment of the real exchange rate will pass through an adjustment of the nominal exchange rate, notably the euro vis-à-vis the dollar: we estimate the long-term target of euro / dollar parity at USD 1.35 per euro. Next, we calculate equilibrium real exchange rates within the euro zone, because while the nominal exchange rate between the member countries does not change because of the monetary union, relative price levels allow adjustments in the real exchange rate. Our

estimates indicate that substantial misalignments remain (see Figure 2), with the average (in absolute terms) misalignment relative to the level of the euro being 11% in 2016. The relative nominal differential between Germany and France comes to 25%.

Figure 2. Indicator of nominal intra-euro zone adjustments with countries' contributions



Note: Figure 2 relates the average (weighted by GDP) of the absolute value of the nominal adjustments. The contribution of each country to this average is shown. The nominal disadjustments correspond to the changes in price of the added value that must be made simultaneously so that all the countries hit their current account target.
This figure can be interpreted as a summary measure of the level of the internal disadjustments of the euro zone, with the contribution of each country.
Source: OFCE calculations.

In the current situation, claims by some euro zone countries are not accumulating on others in the zone, but there is accumulation by some euro zone countries on other countries around the world. This time the exchange rate (actual, weighted by accumulated gross assets) can serve as an adjustment variable. The appreciation of the euro would therefore reduce the euro zone's current account surplus and depreciate the value of assets, which are probably accumulated in foreign currency. France however now appears as the last country in the euro zone running a significant deficit. Relative to the zone's other countries, it is France that is contributing most (negatively) to the imbalances with Germany (positively). If the euro appreciates, it is likely that France's situation

would further deteriorate and that we would see a situation where the net internal position accumulates, but this time between France (on the debtor side) and Germany (creditor). This would not be comparable to the situation prior to 2012, since France is a bigger country than Greece or Portugal, and therefore the question of sustainability would be posed in very different terms. On the other hand, reabsorbing this imbalance by an adjustment of prices would require an order of magnitude such that, given the relative price differentials that would likely be needed between France and Germany, it would take several decades to achieve. It is also striking that, all things considered, since 2012, when France undertook a costly reduction in wages through the CICE tax credit and the Responsibility Pact, and Germany introduced a minimum wage and has been experiencing more wage growth in a labour market that is close to full employment, the relative imbalance between France and Germany, expressed in the adjustment of relative prices, has not budged.

Three consequences can be drawn from this analysis:

1. The disequilibrium that has set in today will be difficult to reverse, and any move to speed this up is welcome. Ongoing moderation in rises in nominal wages in France, stimulating the growth of nominal wages in Germany, restoring the share of German added value going to wages, and continuing to boost the minimum wage are all paths that have been mentioned in the various iAGS reports. A reverse social VAT, or at least a reduction in VAT in Germany, would also be a way to reduce Germany’s national savings and, together with an increase in German social security contributions, would boost the competitiveness of other countries in the euro zone;
2. The pre-crisis internal imbalance has become an external imbalance in the euro zone, which is leading to pressure for a real appreciation of the euro. The order of

magnitude is significant: it will weigh on the competitiveness of the different countries in the euro zone and will lead to the problems familiar prior to 2012 resurfacing in a different form;

3. The appreciation of the euro caused by the current account surpluses in certain euro zone countries is generating an externality for the euro zone countries. Because their current accounts respond differently to a change in relative prices, Italy and Spain will see their current account balance react the most, while Germany's will react the least. In other words, the appreciation of the euro, relatively, will hit the current accounts of Italy and Spain harder than Germany's and will lead to a situation of internal imbalance much like what existed prior to 2012. This externality together with the reduced sensitivity of Germany's current account to relative prices argues for a reduction in imbalances by boosting Germany's internal demand, i.e. by a reduction in its national savings. The tools to do this could include boosting public investment, lowering direct personal taxes, or raising the minimum wage more quickly relative to productivity and inflation.

[1] Sébastien Villemot, Bruno Ducoudré, Xavier Timbeau: "Taux de change d'équilibre et ampleur des désajustements internes à la zone euro" [Equilibrium exchange rate and scale of internal misalignments in the euro zone], *Revue de l'OFCE*, 156 (2018).

Trump's budget policy:

Mortgaging the future?

By Christophe Blot

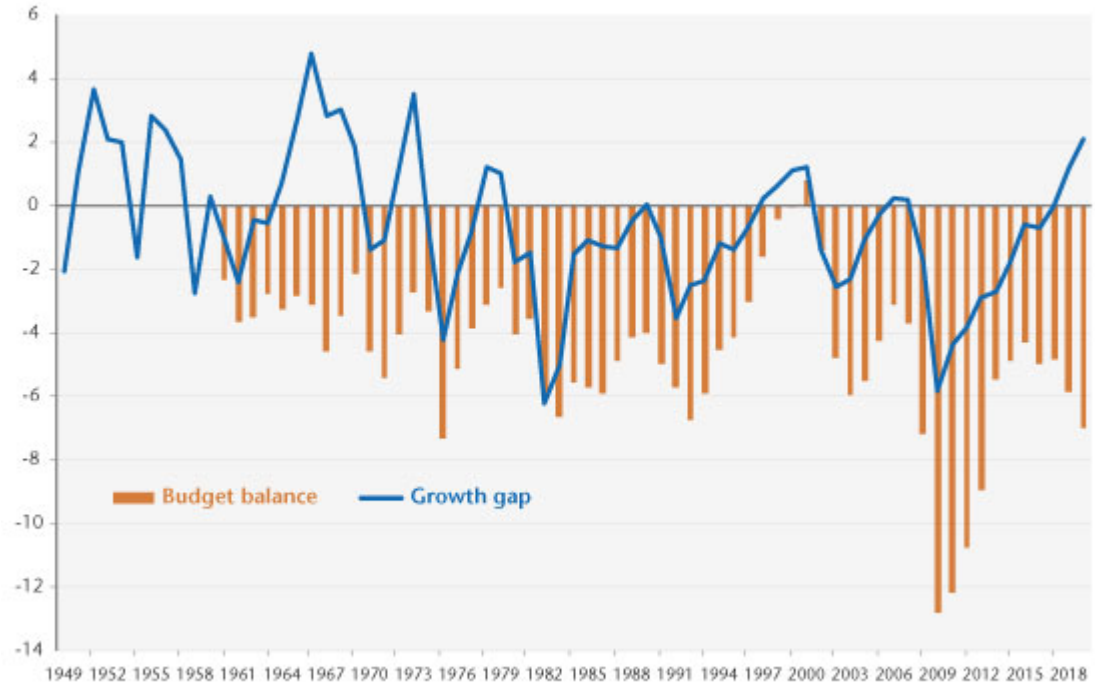
While the momentum for growth has lost steam in some countries – Germany, France and Japan in particular – GDP in the United States is continuing to rise at a steady pace. Growth could even pick up pace in the course of the year as a highly expansionary fiscal policy is implemented. In 2018 and 2019, the fiscal stimulus approved by the Trump administration – in December 2017 for the revenue component, and in February 2018 for the expenditure side – would amount to 2.9 GDP points. This level of fiscal impulse would come close to that implemented by Obama for 2008. However, Trump's choice has been made in a very different context, since the unemployment rate in the United States fell back below the 4% mark in April 2018, whereas it was accelerating 10 years ago, peaking at 9.9% in 2009. The US economy should benefit from the stimulus, but at the cost of accumulating additional debt.

Donald Trump had made fiscal shock one of the central elements of his presidential campaign. Work was begun in this direction at the beginning of his mandate, and came to fruition in December 2017 with the passing of a major tax reform, the Tax Cuts and Jobs Act [1], which provided for a reduction in household income tax – in particular by reducing the maximum marginal income tax rate – and corporation tax, whose effective rate would fall from 21% to 9% by 2018 [2]. In addition to this initial stimulus, expenditure will also rise in accordance with the agreement reached with the Democrats in February 2018, which should lead to raising federal spending by USD 320 billion (1.7 GDP points) over two years. These choices will push up domestic demand through boosting household disposable income and corporate profitability, which should stimulate consumption and investment. The multiplier effect – which measures the impact on GDP of a one dollar increase in public spending or a one dollar cut in taxes –

will nevertheless be relatively small (0.5) because of the US position in the cycle.

Moreover, the public deficit will expand sharply, to reach a historically high level outside a period of crisis or war (graph). It will come to 5.8% of GDP in 2018 and 7.0% in 2019, while the growth gap will become positive [3]. While the risk of overheating seems limited in the short term, the fact remains that the fiscal strategy being implemented could push the Federal Reserve to tighten monetary policy more quickly. However, an excessive rise in interest rates in a context of high public debt would provoke a snowball effect. Above all, by choosing to re-launch the economy in a favourable environment, the government risks being forced to make adjustments later when the economic situation deteriorates. This pro-cyclical stance in fiscal policy risks amplifying the cycle by accelerating growth today while taking the risk of accentuating a future slowdown. With a deficit of 7% in 2019, fiscal policy's manoeuvring room will actually shrink.

Figure. A pro-cyclical budget policy



Sources: CBO and NIPA, OFCE April 2018 forecasts.

[1] See the section on Budget policy: Crisis-free acceleration ["Politiques budgétaires : accélération sans crise"] in our April 2017 forecast for greater detail.

[2] See here for more on this.

[3] The growth gap expresses – as a % of potential GDP – the difference between observed GDP and potential GDP. Recall that potential GDP is not observed but estimated. The method of calculation used by the Congressional Budget Office (CBO) is explained here.

The ECB is still worried about the weakness of inflation

By Christophe Blot, Jérôme Creel and Paul Hubert

The President of the European Central Bank, Mario Draghi, recently announced that the increase in the ECB's key interest rate would come "well past" the end of the massive purchases of bonds (scheduled for September 2018), mainly issued by the euro zone countries, and at a "measured pace". The increase in the key rate could therefore occur in mid-2019, a few weeks before the transfer of power between Mario Draghi and his successor.

In his quarterly hearing with MEPs, Mario Draghi proved to be cautious about the intensity and sustainability of the economic recovery [1]. Listening to him, the euro zone has not necessarily closed its output gap (actual GDP would have

remained below its potential) despite the recovery in recent quarters. This is not the time to change the direction of monetary policy at the risk of weakening the recovery. It is also undeniable that the effects of the recovery are only materializing slowly and gradually in wage increases, which partly explains why the euro zone inflation rate remains below its mid-term target.

The ECB President has also been confident that companies are gradually anchoring their price (and wage) expectations on the ECB's inflation target of 2% per year. Mario Draghi also appeared very confident in the effectiveness of monetary policy. He announced that the measures undertaken since 2014 would contribute to a (cumulative) increase of 2 percentage points, respectively in real growth and inflation between 2016 and 2019.

If the ECB's forecast of inflation back to its target in 2019 is contradicted by Hasenzagl et al. (2018), we find these same determinants of European inflation. In a recent study, we also show that the two main determinants of inflation in the euro area are inflation expectations and wage growth. Without anchoring the former on the medium-term target of the ECB and without a second-round effect of monetary policy on wages, inflation will not return to its target in the short term. Structural reforms may have increased potential GDP, as argued by Mario Draghi, but they have so far more certainly weighed on wage and price developments.

[1] Once a quarter, a monetary dialogue is organized between the President of the ECB and the members of the Monetary Affairs Committee of the European Parliament. This dialogue allows the President of the ECB to explain the direction of monetary policy in the euro area and to express his point of view on topics defined upstream. Une fois par trimestre un dialogue monétaire est organisé entre le Président de la BCE

et les membres de la Commission des Affaires monétaires du Parlement européen. Ce dialogue permet au Président de la BCE d'expliquer l'orientation de la politique monétaire dans la zone euro et d'exprimer son point de vue sur des sujets définis en amont.

What role for central bank balance sheets in the conduct of monetary policy?

By Christophe Blot, Jérôme Creel and Paul Hubert

By adjusting the size and composition of their balance sheets, the central banks have profoundly changed their monetary policy strategy. Although the implementation of these measures was initially envisaged for a period of crisis, questions are now arising about the use of the balance sheet as an instrument of monetary policy outside periods of crisis.

The central banks' securities purchase policy has resulted in significantly expanding the size of their balance sheets. In September 2017, the balance sheets of the Federal Reserve and the European Central Bank amounted, respectively, to nearly 4,500 billion dollars (23.3% of US GDP) and 4,300 billion euros (38.5% of euro zone GDP), while in June 2007 they were 870 billion dollars (or 6.0% of GDP) and 1,190 billion euros (12.7% of GDP). The end of the financial crisis and the economic crisis calls for a gradual tightening of monetary policy, which is already underway in the United States and forthcoming in the euro zone. The Federal Reserve, for

instance, has raised the key interest rate five times since December 2015, and in October 2017 it began to reduce the size of its balance sheet. However, no precise indication has been given as to the size of the bank's balance sheet once the process of normalization has been completed. Beyond simply size, there is also the question of the role that these balance sheet policies will play in the conduct of monetary policy in the future.

Initially, the measures taken during the crisis had to be exceptional and temporary. The aim was to satisfy a need for substantial liquidity and to act directly on the prices of certain assets or on the long end of the yield curve at a time when the standard monetary policy instrument – short-term interest rates – was constrained by the zero lower bound (ZLB). The use of these measures over a prolonged period – the last ten years – suggests, however, that the central banks could continue to use their balance sheets as a tool of monetary policy and financial stability, including in so-called "normal" periods, that is to say, even when there is enough maneuvering room to lower the key rate. Not only have these unconventional measures demonstrated some effectiveness, but their transmission mechanisms do not seem to be specific to periods of crisis. Their use could thus both enhance the effectiveness of monetary policy and improve the central banks' ability to achieve their macroeconomic and financial stability objectives. We develop these arguments in a recent publication that we summarize here.

In an article presented at the 2016 Jackson Hole conference, Greenwood, Hanson and Stein suggested that the central banks could use their balance sheets to provide liquidity to meet a growing need in the financial system for liquid, risk-free assets. The extra reserves thus issued would increase the stock of safe assets that could be drawn on by commercial banks, enhancing financial stability. The central banks could also intervene more regularly in the markets to influence the

price of certain assets or risk premiums or term premiums. What is involved here is not necessarily a matter of increasing or reducing the size of the balance sheet, but of modulating its composition in order to correct any distortions or to strengthen the transmission of monetary policy by intervening in all segments of the rate curve. During the sovereign debt crisis, the ECB launched a Securities Market Programme (SMP) aimed at reducing the risk premiums on the yields of several countries (Greece, Portugal, Ireland, Spain and Italy) and at improving the transmission of the common monetary policy to these countries. In 2005, the Chairman of the Federal Reserve encountered an enigma on the bond markets when noting that long-term rates did not seem to be responding to the ongoing tightening of US monetary policy. The use of targeted purchases of securities with longer maturities would no doubt have improved the transmission of the monetary policy, as was being sought at that time by the Federal Reserve.

In practice, the implementation of a strategy like this in "normal" times raises several issues. First, if the balance sheet policy complements the interest rate policy, the central banks will have to accompany their decisions with the appropriate communications, specifying both the overall direction of monetary policy and the reasons justifying the use and the goal of such a policy. It seems that they managed to do this during the crisis, even as the number of programmes proliferated; there is therefore no reason to think that suddenly communications like this would become more difficult to implement in a "normal" period. Furthermore, using the balance sheet as a monetary policy instrument more frequently would result in holding more, and potentially riskier, assets. In these circumstances, there would be a trade-off between the efficacy that could be expected from monetary policy and the risks being taken by the central bank. It should also be noted that using the balance sheet does not necessarily mean that its size would be constantly growing. Central banks could just

as easily choose to sell certain assets whose price was deemed to be too high. However, in order to be able to effectively modulate the composition of the central bank's assets, its balance sheet must be large enough to facilitate its portfolio operations.

It should be recognized that economists have not yet fully analyzed the potential effects of balance sheet policies on macroeconomic and financial stability. But the remaining uncertainty should not prevent the central banks from making use of balance sheet policies, as only experience can lead to a comprehensive assessment of the power of balance sheet policies. The history of the central banks is a reminder that the objectives and instruments used by central banks have changed steadily [1]. A new paradigm shift thus seems possible. If balance sheet policies are able to enhance the effectiveness of monetary policy and improve financial stability, central banks should seriously consider their use.

For more, see: Christophe Blot, Jérôme Creel, Paul Hubert, "What should the ECB 'new normal' look like?", *OFCE policy brief* 29, 20 December.

[1] See Goodhart (2010).

The ECB on neutral ground?

By Christophe Blot and Jérôme Creel

The involvement of the European Central Bank (ECB) in the fiscal management of the euro area member states has been a subject of ongoing controversy. Since the implementation of

the ECB programme to purchase sovereign debt, it has been accused of profiting off of troubled states and taking the risk of socializing losses. The rise of these controversies results from the difficulty in understanding the relationship between the ECB, the national central banks (NCBs), and the governments. The European monetary architecture comes down to a sequence of delegations of power. Decisions on the conduct of monetary policy in the euro area are delegated to an independent institution, the European Central Bank (ECB). But, under the European subsidiarity principle, the implementation of monetary policy is then delegated to the national central banks (NCBs) of the euro area member states: the ECB and NCBs taken together are called the Eurosystem. While up to now this dimension of the organization of the euro area's monetary policy has not attracted much attention, debate has recently arisen in the course of the implementation of the quantitative easing programme. According to commentators and journalists, some national central banks are profiting more than others from the policy of buying and supporting their national public debts, which are riskier than the debt in more "virtuous" countries[1]. The profiting banks are viewed as escaping the ECB's control and not strictly applying the policy decided in Frankfurt.

In a recent paper prepared as part of the European Parliament's Monetary Dialogue with the ECB, we show that these concerns are unfounded for the simple good reason that, on average, since the beginning of the implementation of this policy, the theoretical distribution key has been respected (graphic). This distribution key stipulates that purchases of bonds by the Eurosystem are to be made pro rata to a state's participation in the ECB's capital. Remember that part of the purchases – 10 of the 60 billion in monthly purchases made under the programme – are made directly by the ECB[2]. The other purchases are made directly by the NCBs. As each central bank buys securities issued by its own government, the NCBs' purchases of public bonds do not entail risk-sharing between

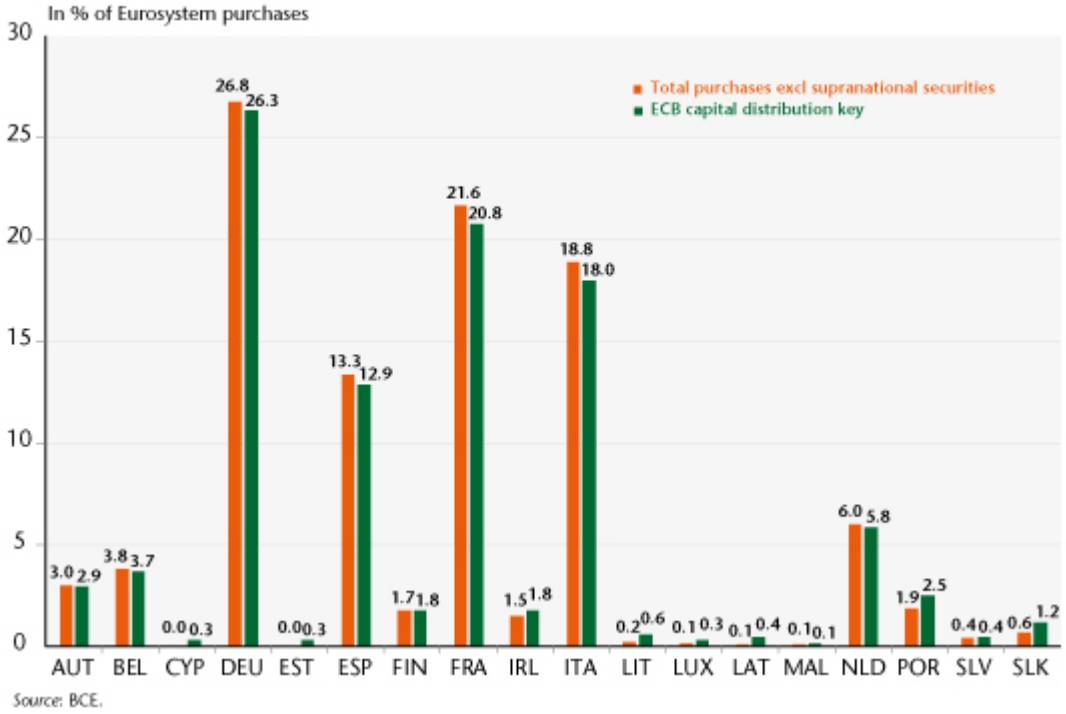
member states. Any profits or losses are kept on the NCBs' balance sheets or transferred to the national governments in accordance with the agreements in force in each country.

This distribution of public bond purchases, which is intended to be neutral in terms of risk management, isn't entirely so, but not for the reasons that seem to have worried the European Parliament's Committee on Economic and Monetary Affairs. This distribution favours the maintenance of very low rates of return on the debts of certain member states. In fact, by not basing itself on the financing needs of the member states or on the size of their public debts, it can produce distortions by reducing the supply of public bonds available on the secondary markets. Such may be the case in Germany, Spain and the Netherlands, whose shares of the European public debt are smaller than their respective shares in the ECB's capital (table). Conversely, the purchases of Italian bonds are smaller with the current distribution key than they would be with a distribution key that took into account the relative size of the public debt. The ECB's policy therefore has less impact on the Italian debt market than it does on the German market.

This orientation could also constrain the ECB's decision about continuing quantitative easing beyond December 2017. Let's agree that the ECB's best policy would be to continue the current policy beyond December 2017, but to stop it once and for all in July 2018. Given the current distribution rules, this policy would be subject to all countries having exchangeable government bonds until July 2018, including those who issue public debt only rarely because they have low financing needs. It could be that it is impossible to continue this policy under the rules currently adopted by the ECB, because some countries do not have sufficient debt available. It would then be necessary to implement a different policy by drastically reducing the monthly purchases of short-term securities (say in January 2018), while possibly pursuing this

policy for a longer time period (beyond the first half of 2018). The decision not to use risk-sharing in the management of European monetary policy is therefore far from being neutral in the way this policy is actually implemented.

Figure. Distribution by the cumulative securities purchases by the national central banks



Source: BCE.

Table. Weighting by country using different measures

In %

	ECB capital distribution key	Weighting based on relative size of...	
		...GDP	...the public debt
BEL	3.5	3.9	4.6
DEU	25.6	29.2	21.8
EST	0.3	0.2	0.0
IRL	1.6	2.6	2.0
GRC	2.9	1.6	3.2
ESP	12.6	10.3	11.3
FRA	20.1	20.7	21.9
ITA	17.5	15.5	22.6
CYP	0.2	0.2	0.2
LAT	0.4	0.2	0.1
LTH	0.6	0.4	0.2
LUX	0.3	0.5	0.1
MAL	0.1	0.1	0.1
NLD	5.7	6.5	4,4
AUT	2.8	3.2	3.0
PRT	2.5	1.7	2.5
SLV	0.5	0.4	0.3
SLK	1.1	0.8	0.4
FIN	1.8	2.0	1.4

Sources: ECB and Eurostat.

[1] Mario Draghi was questioned about the distribution of the public sector purchase programme (PSPP) at the press conference he held on 8 September 2017.

[2] There is risk-sharing on this sum: the gains or losses are shared by all the NCBs in proportion to their contribution to the ECB’s capital.

Growth and inequality in the European Union

By Catherine Mathieu and Henri Sterdyniak

"Growth and Inequality: Challenges for the Economies of the European Union" was the theme of the 14th EUROFRAME Symposium on Economic Policy Issues in the European Union held on 9 June 2017 in Berlin. EUROFRAME is a network of European economic institutes that includes DIW and IFW (Germany), WIFO (Austria), ETLA (Finland), OFCE (France), ESRI (Ireland), PROMETEIA (Italy), CPB (Netherlands), CASE (Poland) and NIESR (United Kingdom). Since 2004, EUROFRAME has organized a symposium on an important subject for the European economies every year.

This year, 27 contributions from researchers, selected by a scientific committee, were presented at the symposium, most of which are available on the conference web page. This text provides a summary of the studies presented and discussed at the symposium.

As DIW President Marcel Fratzcher pointed out in his opening remarks, the rise in inequality over the last 30 years has meant that inequalities that were previously subjects of study reserved for researchers in social policy have now become subjects for numerous economists. Several questions were posed: why this rise in inequality? Is the increase in inequality in each country a necessary consequence of the reduction in inequality between countries, in Europe or at the global level? What are the macroeconomic consequences of this increase? What economic policies could avoid this?

Income inequality: the facts. Mark Dabrowski (CASE, Warsaw) – "Is there a trade-off between global and national inequality?" – stresses that the growth of inequalities within each country

(especially in the United States and China) goes hand in hand with the reduction of inequalities between countries, as both are fuelled by commercial and financial globalization. However, some advanced countries have succeeded in halting the growth in internal inequalities, which shows the continuing importance of national policy.

Oliver Denk (OECD) – "Who are the Top 1 Percent Earners in Europe?" – analyses the structure of the 1% of employees earning the highest incomes in the EU countries. They represent between 9% of total payroll in the United Kingdom to 3.8% in Finland (4.7% in France). Statistically, they are older than the mass of overall employees (this is less clear in the East European countries), more masculine (this is less clear in the Nordic countries), and more highly educated. They are more numerous in finance, communication and business services.

Tim Callan, Karina Doorley and Michael Savage (ESRI Dublin), analyse the growth in income inequality in the countries most affected by the crisis ("Inequality in EU crisis countries: Identifying the impacts of automatic stabilisers and discretionary policy"). In these five countries, Spain, Greece, Ireland, Portugal and Cyprus, primary income inequalities have increased due to the crisis, but thanks to automatic tax and social transfers, inequalities in disposable income have remained stable in Ireland and Portugal and (to a lesser degree) in Greece.

Carlos Vacas-Soriano and Enrique Fernández-Macías (Eurofound) – "Inequalities and employment patterns in Europe before and after the Great Recession" – show that income inequality decreased overall in the EU before 2008, as new entrants caught up with the older members. Since 2008, the Great Recession has deepened inequalities between countries and within many countries. The growth of internal inequality is due mainly to rising unemployment; it is striking traditionally egalitarian countries (Germany, Sweden,

Denmark); and it is mitigated by family solidarity and social protection, whose roles are nevertheless under question.

Modelling the growth / inequality relationship. Alberto Cardiac (University of Cattolica del Sacro Cuore, Milan) and Francesco Saraceno (OFCE, Paris) – "Inequality and Imbalances: An open-economy agent-based model" – present a two-country model. In one, the search for external surpluses leads to pressure on wages and a depression of domestic demand, which is offset by export earnings. In the other, the growth of inequality leads to a downward trend in consumption, which is offset by the expansion of credit. The result is an endogenous debt crisis when the household debt of the second country reaches a limit value.

Alain Desdoigts (IEDES, University of Paris 1 Panthéon-Sorbonne) and Fernando Jaramillo (Universidad del Rosario, Bogota) – "Learning by doing, inequality, and sustained growth: A middle-class perspective" – present a model where innovations can be applied in production only in sectors with a sufficient size, hence those that produce the goods purchased by the middle class (so neither in the luxury goods sector nor in the low-end goods sector). Growth is therefore stronger as the middle class expands. Redistribution is favourable to growth if it is made from the rich to the middle class, and unfavourable if it goes from the middle class to the poor.

Inequality, financialisation, monetary policy. The article by Dirk Bezemer and Anna Samarina (University of Groningen) – "Debt shift, financial development and income inequality in Europe" – distinguishes between two types of bank credit: credit for financial and real estate activities, and credit for non-financial enterprises and consumption. They explain the growth of inequality in the developed countries by the growing role of credit that finances finance to the detriment of credit that finances production.

The article by Mathias Klein (DIW Berlin) and Roland Winkler (TU Dortmund University) – "Austerity, inequality, and private debt overhang" – argues that restrictive fiscal policies have little impact on activity and employment when private debt is low (because there is a full Barro effect); they have a restrictive effect on activity and increase income inequality when private debt is high. Therefore, fiscal restraint should be applied only once private debt has been reduced.

Davide Furceri, Prakash Loungani and Aleksandra Zdzienicka (IMF) – "The effect of monetary policy shocks on inequality" – point out that the impact of monetary policy on income inequality is ambiguous. An expansionary policy can reduce unemployment and lower interest rates (which reduces inequality); it can also lead to inflation and raise the price of assets (which increases inequality). Empirically, it appears that a restrictive policy increases income inequality unless it is caused by higher growth.

Inequalities and social policy. Alexei Kireyev and Jingyang Chen (IMF) – "Inclusive growth framework" – advocate for growth indicators that include trends in poverty and in inequality in income and consumption.

Dorothee Ihle (University of Muenster) – "Treatment effects of Riester participation along the wealth distribution: An instrumental quantile regression analysis" – analyses the impact of Riester pension plans on the wealth of German households. They significantly increase the wealth of the participating households at the bottom of the income distribution, but these are relatively few in number, while this mainly has wealth redistribution effects for middle-class households.

Inequality, poverty and mobility. Katharina Weddige-Haaf (Utrecht University) and Clemens Kool (CPB and Utrecht University) – "The impact of fiscal policy and internal migration on regional growth and convergence in Germany" –

analyse the factors for convergence of per capita income between the old and new German Länder. Convergence has been driven by internal migration, investment subsidies and structural funds, but fiscal transfers in general have had no effect. The 2008 crisis favoured convergence by hitting the richest regions in particular.

Elizabeth Jane Casabianca and Elena Giarda (Prometeia, Bologna) – "From rags to riches, from riches to rags: Intra-generational mobility in Europe before and after the Great Recession" – analyse the mobility of individual incomes in four European countries: Spain, France, Italy and the United Kingdom. Before the crisis, this was strong in Spain and weak in Italy. It declined markedly after the crisis, particularly in Spain; it remained stable in the United Kingdom.

Luigi Campiglio (Università Cattolica del S. Cuore di Milano) – "Absolute poverty, food and housing" – analyses absolute poverty in Italy using an indicator based on food consumption. He shows that poor families bear particularly high housing costs, which cuts into their food consumption and health care spending. Poor families with children are tenants and were hit especially hard by the crisis. Social policy should offer them better protection through targeted transfers in cash or in kind (health, education).

Georgia Kaplanoglou and Vassilis T. Rapanos (National and Kapodistrian University of Athens and Academy of Athens) – "Evolutions in consumption inequality and poverty in Greece: The impact of the crisis and austerity policies" – point out that the crisis and austerity policies have reduced GDP and household consumption by about 30% in Greece. This has been accompanied by an increase in inequality in consumption, which the paper documents in detail. It analyses in particular the effect of VAT hikes. Families with children were especially hard hit.

Labour market. Christian Hutter (IAB, German Federal

Employment Agency) and Enzo Weber (IAB and Universität Regensburg) – "Labour market effects of wage inequality and skill-biased technical change in Germany" – use German data to estimate a structural vector model for analysing the link between wage inequalities, employment, neutral technical progress and technical progress favouring skilled labour. The latter raises labour productivity and wages, but also wage inequalities, and it reduces employment. Wage inequalities have a negative impact on employment and overall productivity.

Eckhard Hein and Achim Truger (Berlin School of Economics and Law, Institute for International Political Economy) – "Opportunities and limits of rebalancing the Eurozone via wage policies: Theoretical considerations and empirical illustrations for the case of Germany" – analyse the impact of wage increases in Germany on the rebalancing of current account balances in Europe. They show that these play a role not only through a competitiveness effect, but also through a demand effect by modifying the wage / profit distribution and by boosting consumption. They must therefore also be supported by an increase in public spending.

Camille Logeay and Heike Joebges (HTW Berlin) – "Could a wage formula prevent excessive current account imbalances in euro area countries? A study on wage costs and profit developments in peripheral countries" – show that the rule "wages must grow in line with labour productivity and the inflation target" should have had stabilizing effects in Europe both on the competitiveness of the member countries as well as on their domestic demand. This nevertheless assumes that companies do not take advantage of this to boost their profits and that no country seeks to increase its competitiveness.

Hassan Molana (University of Dundee), Catia Montagna (University of Aberdeen) and George E. Onwordi (University of Aberdeen) – "Reforming the Liberal Welfare State: International Shocks, unemployment and household income shares" – construct a model to show that a free market

country, such as the United Kingdom, could improve the functioning of its labour market by reducing flexibility to move towards a flexi-security model: higher unemployment benefits, restrictions on redundancies, greater spending on training, and support for hiring. By boosting labour productivity, this strategy would reduce the structural unemployment rate and increase the share of profits.

Guillaume Claveres (Centre d'Economie de la Sorbonne, Paris) and Marius Clemens (DIW, Berlin) – "Unemployment Insurance Union" – propose a model for European unemployment insurance that would cover part of the expenses of unemployment benefits. This could reduce fluctuations in consumption and unemployment resulting from specific shocks. This assumes, however, that it would apply only to cyclical unemployment, which is difficult to define.

Bruno Contini (Università di Torino and Collegio Carlo Alberto), José Ignacio Garcia Perez (Universidad Pablo de Olavide), Toralf Pusch (Hans-Boeckler Stiftung, Düsseldorf) and Roberto Quaranta (Collegio Carlo Alberto) – "New approaches to the study of long-term non-employment duration via survival analysis: Italy, Germany and Spain" – analyse involuntary non-activity (people who would like to work but have given up looking for a job and lost their rights to unemployment benefits) in Germany, Italy and Spain. This is particularly important and sustainable in Spain and Italy. They caution against measures to encourage redundancies, job insecurity and incentives for undeclared work.

Taxation. Markku Lehmus, (ETLA, Helsinki) – "Distributional and employment effects of labour tax changes: Finnish evidence over the period 1996-2008" – uses a general equilibrium model with heterogeneous agents to evaluate the impact of the reduction in the taxation of employment in Finland from 1996 to 2008. He shows that this explains only a small share of the rise in employment (1.4 points out of 16%) and of the rise in income inequality.

Sarah Godar (Berlin School of Economics and Law) and Achim Truger (IMK and Berlin School of Economics and Law) – "Shifting priorities in EU tax policies: A stock-taking exercise over three decades" – analyse the evolution of taxation in the EU states: from 1980 to 2007, taxation became less progressive with lower marginal rates of income tax and corporation tax, and preferred treatment of capital income. The crisis of 2008 and the difficulties with the public finances temporarily slowed this trend; an increase in revenues was, however, often sought by raising VAT.

Alexander Krenek and Margit Schratzenstaller (WIFO) – "Sustainability-oriented future EU funding: A European net wealth tax" – argue for the introduction of a European household wealth tax, which could help finance the European budget.

The macroeconomic consequences of inequalities. Bjoern O. Meyer (University of Rome – Tor Vergata) – "Savings glut without saving: Retirement saving and the interest rate decline in the United States between 1984 and 2013" – explains 60% of the decline in the interest rate in the United States, despite the decline in the overall household saving rate, by demographic factors (the differential rise in life expectancy), the slowdown in labour productivity gains and the increase in income inequality.

Marius Clemens, Ferdinand Fichtner, Stefan Gebauer, Simon Junker and Konstantin A. Kholodilin (DIW Berlin) – "How does income inequality influence economic growth in Germany?" – present a macroeconomic model in which short-term income inequalities increase the productivity of each asset (incentive effect), but reduce overall consumption (savings effect); in the long term, they have a negative impact on the formation of the human capital of young people in the working classes. Hence an exogenous increase in income inequalities first has a negative effect on GDP (demand effect), then positive (individual incentive effect) and then again negative

in the long term (human capital effect). The effect is always negative on household consumption and positive on the external balance.

The European Central Bank is readying the future

By Christophe Blot and Paul Hubert

At the press conference following the meeting of the ECB's Governing Council on Thursday, 8 June, Mario Draghi announced that the Bank's key interest rates would remain unchanged (0% for the main refinancing operations rate, a negative 0.40% for the deposit facility rate and 0.25% for the lending facility rate). In particular, Draghi gave some valuable insights into the future direction of the euro zone's monetary policy by changing its message. Whereas he had systematically stated that rates could be cut ("at lower levels"), he now stated that they would be maintained at the "present level" for an "extended period of time" and "well past the horizon of our net asset purchases".

By announcing that there would be no further rate cuts, the ECB believes that the current monetary policy stance should enable it to achieve its objectives, and it is taking the first step towards a further tightening of monetary conditions. However, it should be noted that at the same time the ECB does not expect inflation to return to its 2% target by 2019. The Eurosystem's new macroeconomic projections published during the press conference foresee inflation at 1.5% in 2017, 1.3% in 2018 and 1.6% in 2019[1]. Although the recovery is continuing, inflation will remain below its target

level for a period of at least three years, which justifies maintaining an expansionary monetary policy. By clarifying that the rates will not go up upon the termination of the net asset purchases[2], the ECB clearly intends to continue to support economic activity.

Then comes the matter of the date when the asset purchase programme will end. According to the current discourse, the purchases will continue until December 2017, but they could be extended if the ECB deems it necessary. What strategy will the ECB adopt after that? It is possible that the asset purchases will diminish gradually along the lines of what the Federal Reserve did in 2014 [3]. In this case, the end of quantitative easing would take a few more months. This is currently the most likely option, which would push off the interest rate hike until the end of 2018. It is possible, however, that announcements of a reduction in purchases could be made by year end, which could lead to winding up QE by early 2018. Whichever option is chosen, the ECB will undoubtedly take care to communicate its strategy in order to gradually shape expectations about the first rate rise.

However, while this is one important element in the strategy for the normalization of the euro zone's monetary policy, the matter is not limited to the issue of rate rises. The ECB must also provide information about its intentions regarding its negative interest rate policy or about the moment it will decide to no longer satisfy all the requests for fixed-rate refinancing, as it has done since October 2008. Finally, it also needs to indicate the pace at which it plans to cut down the size of its balance sheet as the Federal Reserve has recently begun to do (see here). The ECB also needs to be transparent on these issues.

[1] These expectations have even been revised downwards since March 2017.

[2] Since April 2017, net asset purchases have come to 60 billion euros per month, compared with 80 billion in the months before that.

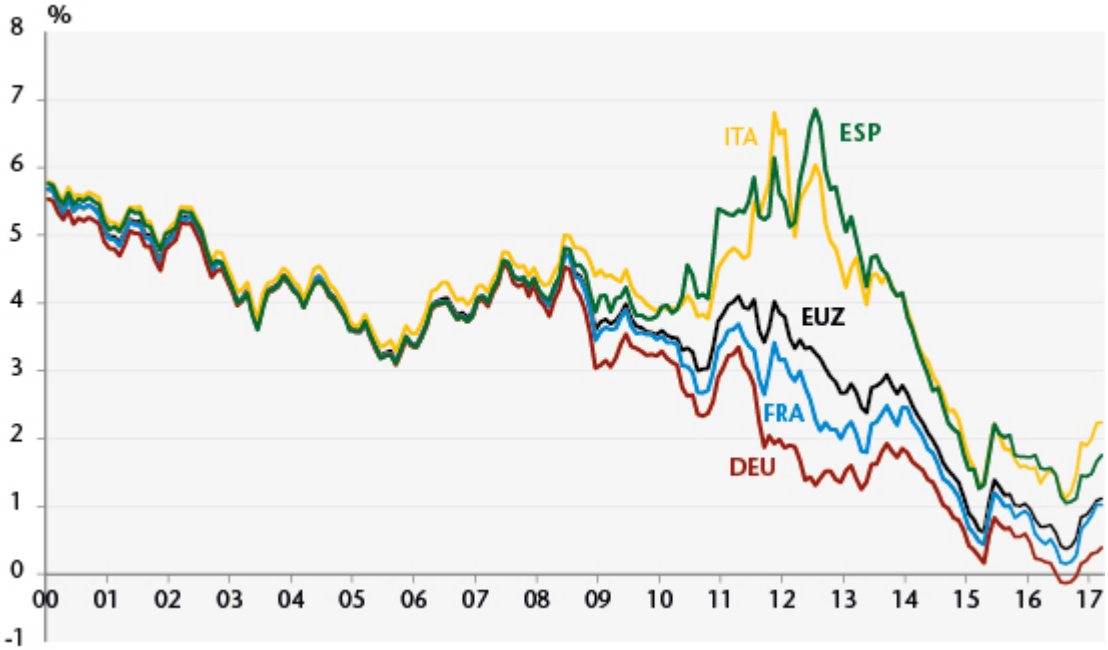
[3] The Federal Reserve spread out the reduction of its securities purchases from January to October.

What factors are behind the recent rise in long-term interest rates?

By Christophe Blot, Jérôme Creel, Paul Hubert and Fabien Labondance

Since the onset of the financial crisis, long-term sovereign interest rates in the euro zone have undergone major fluctuations and periods of great divergence between the member states, in particular between 2010 and 2013 (Figure 1). Long-term rates began to fall sharply after July 2012 and Mario Draghi's famous "whatever it takes". Despite the implementation and expansion of the Public Sector Purchase Programme (PSPP) in 2015, and although long-term sovereign interest rates remain at historically low levels, they have recently risen.

Figure 1: Long-term sovereign interest rates in the euro zone



Source : European Central Bank.

There may be several ways of interpreting this recent rise in long-term sovereign interest rates in the euro zone. Given the current economic and financial situation, it may be that this rise in long-term rates reflects the growth and expectations of rising future growth in the euro zone. Another factor could be that the euro zone bond markets are following the US markets: European rates could be rising as a result of rising US rates despite the divergences between the policy directions of the ECB and of the Fed. The impact of the Fed's monetary policy on interest rates in the euro zone would thus be stronger than the impact of the ECB's policy. It might also be possible that the recent rise is not in line with the zone's fundamentals, which would then jeopardize the recovery from the crisis by making debt reduction more difficult, as public and private debt remains high.

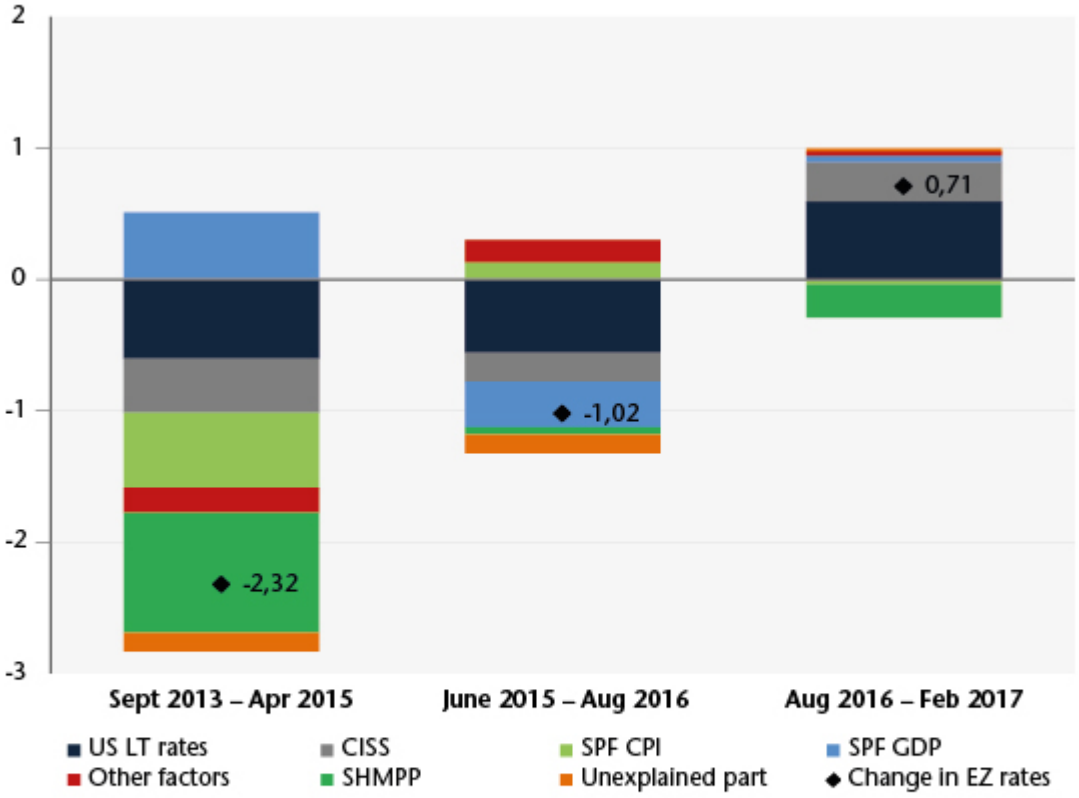
In a recent study, we calculate the contributions of the different determinants of long-term interest rates and highlight the most important ones. Long-term interest rates can respond to private expectations of growth and inflation, to economic fundamentals and to monetary and fiscal policy, both domestic (in the euro zone) and foreign (for example, in

the United States). The rates may also react to perceptions of different financial, political and economic risks[1]. Figure 2 shows the main factors that are positively and negatively affecting long-term interest rates in the euro zone over three different periods.

Between September 2013 and April 2015, the euro zone's long-term interest rate decreased by 2.3 percentage points. During this period, only expectations of GDP growth had a positive impact on interest rates, while all the other factors pushed rates down. In particular, the US long-term interest rate, inflation expectations, the reduction of sovereign risk and the ECB's unconventional policies all contributed to the decline in euro zone interest rates. Between June 2015 and August 2016, the further decline of about 1 percentage point was due mainly to two factors: the long-term interest rate and the expectations of GDP growth in the United States.

Between August 2016 and February 2017, long-term interest rates rose by 0.7 percentage point. While the ECB's asset purchase programme helped to reduce the interest rate, two factors combined to push it up. The first is the increase in long-term interest rates in the United States following the Fed's tightening of monetary policy. The second factor concerned political tensions in France, Italy and Spain, which led to a perception of political risk and higher sovereign risk. While the first factor may continue to push up interest rates in the euro zone, the second should drive them down given the results of the French presidential elections.

Figure 2: Contributions to changes in long-term sovereign rates in the euro zone



Note: SPF corresponds to the Survey of Professional Forecasters and measures private agent expectations of inflation (CPI – Consumer Price Index) and of GDP (Gross Domestic Product). The CISS (Composite Indictor of Systemic Stress) is an indicator of stress on the financial markets. The SHMPP (Securities Held for Monetary Policy Purposes), in the Weekly financial statements published by the ECB, measures the amount of purchases of bonds made by the ECB as part of its un-conventional policy.

Source: calculation OFCE.

[1] The estimate of the equation for the determination of long-term rates was calculated over the period January 1999 – February 2017 and accounts for 96% of the change in long-term rates over the period. For details on the variables used and the parameters estimated, see the study.

Where are we at in the euro zone credit cycle?

By Christophe Blot and Paul Hubert

In December 2016, the European Central Bank announced the continuation of its Quantitative Easing (QE) policy until December 2017. The continuing economic recovery in the euro zone and the renewal of inflation are now raising questions about the risks associated with this programme. On the one hand, isn't the pursuit of a highly expansionary monetary policy a source of financial instability? Conversely, a premature end to unconventional measures could undermine growth as well as the ECB's capacity to achieve its objectives. Here, we study the dilemma facing the ECB [in French] based on an analysis of credit cycles and banking activity in the euro zone.

The ECB's announcement gives us two signals about the direction of monetary policy. On the one hand, by delaying the end date of QE, the ECB is implicitly announcing that the normalization of monetary policy, in particular a hike in its key rate, will not take place before early 2018. The ECB will thus continue its expansionary policy of increasing the size of its balance sheet. On the other hand, the reduction in monthly purchases is also a sign that it is toning down its expansionary character. The announcement is similar to the "tapering" that began in January 2014 by the US Federal Reserve. Purchases of securities were cut back gradually, until they actually stopped at the end of October 2016.

The undeniably expansionary nature of monetary policy in the euro zone suggests that the ECB still considers it necessary to implement a stimulus in order to achieve its ultimate monetary policy objectives. The first of these is price stability, which is defined as inflation that is lower than

but close to 2% per year. There are no signs of either runaway inflation or growth [1] [2]. The securities buyback programme should help to consolidate growth and push inflation towards the 2% target. At the same time, the liquidity issued by the central bank in its securities purchase programmes and the low level of interest rates (short and long term) are fuelling fears that monetary stability might have an adverse effect on financial stability[3].

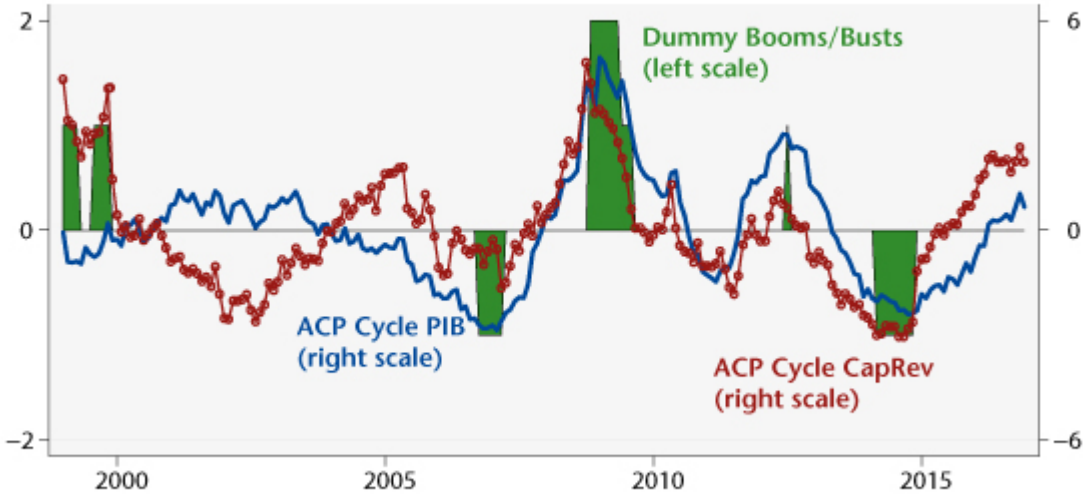
The result leaves the ECB facing a dilemma. Putting a premature end to quantitative easing could keep the euro zone in a state of low inflation and low growth. Unnecessarily prolonging QE, while the US Federal Reserve has begun normalizing its monetary policy, could create a risk of financial instability, resulting in an uncontrolled surge in asset prices, credit, and more broadly the risk taken on by the financial system.

We assess this dual risk using indicators on the activity of the banking system of the euro zone as a whole and of the countries that make it up. Credit, whether granted to households or to non-financial enterprises, is central to bank assets and often at the heart of risks to financial instability[4]. Here we propose extending the analysis to the size of the balance sheet and to total loans granted – including credit to other monetary and financial institutions – which makes it possible to measure the risk associated with the banking system as a whole[5].

These different variables are related either to GDP, which makes it possible to capture the disconnection between banking activity and real activity, or to the capital and reserves of the banking system, which makes it possible to capture the leverage effect, i.e. the capacity of the system to absorb losses. Here we focus on quantities rather than prices, using indicators such as the ratio of credit granted on equity and the ratio of credit received on income. These are central to reflecting the transmission of monetary policy and to

assessing the risk of financial instability.

Figure. Credit in the euro zone



Sources : Blot and Herbert (2017) and ECB data.

The graph shows the changes in the credit cycle, relative to GDP (blue line) and relative to the capital and reserves of the banking system (red line) [6]. The green areas indicate periods when credit deviates significantly above or below its long-term trend. In general, the analysis of credit and of the size of the banking system's balance sheet points to a recovery in activity but it does not suggest either a credit boom or an excessive contraction in the euro zone in the recent period. While credit is evolving in a relatively more favorable direction relative to its trend in France and Germany, the cycle does not indicate an excessive increase. The Netherlands and Spain are distinguished by a low level of credit relative to GDP. For the Netherlands, this trend is confirmed by the indicators relative to the banking system's capital and reserves, while in Spain, outstanding loans relative to capital and reserves are at a historically high level, suggesting an excessive level of risk-taking given the economic situation.

[1] Translation errorDespite the recent rebound in inflation, which is largely linked to the rise in oil prices and inflation expectations, inflationary pressures are still

moderate, and getting inflation back to the 2% target is not sufficiently sure to warrant a change in the direction of monetary policy.

[2] Unemployment is still high, fuelling deflation.

[3] A recent analysis by Borio and Zabai (2016) of the effectiveness of unconventional monetary policy suggests that its effectiveness could decrease even as the risks involved increase. The role of asset prices has been studied by Andrade et al. (2016), showing that asset prices had reacted, as expected, following the measures taken by the ECB, and by Blot et al. (2017) on an assessment of the risk of bubbles.

[4] See Jorda *et al.*, 2013 and 2015.

[5] Translation errorThe Basel III legislation is based on risk indicators calculated at the level of banking establishments, while our approach is based on macroeconomic indicators.

[6] Translation errorThese cycles are obtained using a principal component analysis (PCA) of several types of trend / cycle breakdowns: the Hodrick-Prescott filter, the Christiano-Fitzgerald filter, and the moving average.

The reduction of the US Fed's balance sheet: When, at what

pace and with what impact?

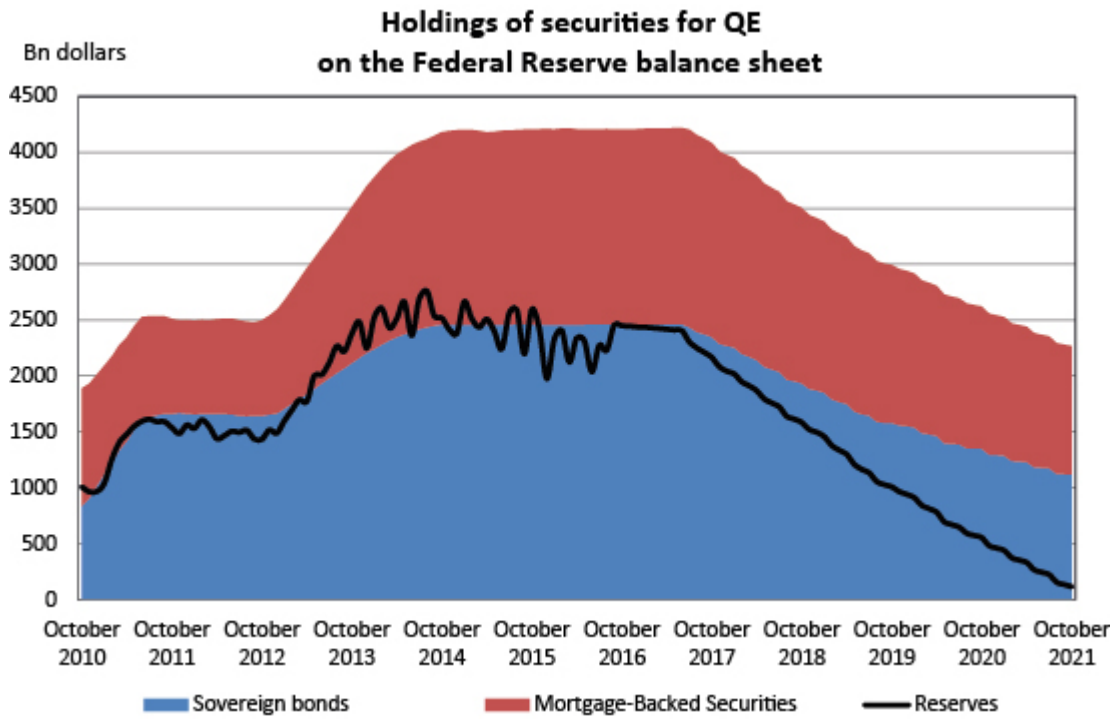
By Paul Hubert

US monetary policy began to tighten in December 2015, with the Fed's key rate moving from a target range of 0 – 0.25% to 0.75 – 1% in 15 months. To complement its monetary policy, the Fed also manages the size of its balance sheet, which is a result of programmes to purchase financial stock (also called quantitative easing programmes). The Fed's balance sheet now comes to 4,400 billion dollars (26% of GDP), compared with 900 billion dollars in August 2008 (6% of GDP). The improvement in the economic situation in the United States and the potential risks associated with QE pose questions about the timing, pace and consequences of the normalization of this unconventional tool.

The minutes of the meeting of the Monetary Policy Committee (FOMC) on 14 and 15 March 2017 provide some answers: the Fed's procedure for reducing the balance sheet calls for not reinvesting the proceeds of securities arriving at maturity. Today, at a time when the QE programmes have not been active since October 2014 and the Fed is no longer creating money to buy securities, it is continuing to hold the size of its balance sheet constant by reinvesting the amounts of securities reaching maturity. The FOMC is to stop this policy of reinvestment "later this year" [1] and as a consequence begin to reduce the size of its balance sheet.

In accordance with the principles for policy normalization published in September 2014 and December 2015, the Fed will not sell the securities it holds, thus on the financial markets it will not modify the equilibrium situation on the stocks but only on the flows. Uncertainty remains as to the rate at which the non-reinvestment will be carried out, depending on the securities concerned by the non-reinvestment and the desired final size of the Fed's balance sheet.

A reading of the minutes of the March meeting also indicates that “participants generally preferred to phase out or cease reinvestments of both Treasury securities and agency MBS”. In January 2017, the Fed’s economists published in *FEDS Notes* a simulation of the size of the Fed’s balance sheet based on the assumptions set out above. Assuming that non-reinvestment begins in October 2017, and using their data on the assets portfolio held by the Fed, the following graph was developed.



These projections show that a non-reinvestment policy implies that the balance sheet will shrink by about 600 billion dollars a year up to October 2019, by 400 billion in the third year and by 300 billion in the fourth year. Treasury bonds will decline by 1.2 trillion dollars while holdings of MBS fall by USD 600 billion[2]. Based on these assumptions, the level of the reserves will be 100 billion dollars in October 2021, i.e. their pre-crisis level, and the Fed will have an equivalent amount of Treasury and MBS debt at that time (approximately 1,100 billion each). The question arises as to

the size of the balance sheet that the central bank wishes to return to: the nominal pre-crisis amount, the amount expressed as a share of pre-crisis GDP, or a higher level (with its holding of securities serving its goals of macroeconomic stabilization and financial stability [3])? By not responding explicitly to this question, the Fed is giving itself the possibility both to adjust its target according to the reaction of the market and to take time to decide what size to target if it wishes to use this instrument on an ongoing basis.

The economic and financial impact of a decline this large in the size of the balance sheet could be limited. While private expectations about these changes in the size and composition of the Fed's balance sheet should affect financial conditions, modifying the balance of supply and demand for financial securities, the various announcements related to this policy normalization have not had any impact as yet. Following the publication of the minutes of the last meetings of the FOMC and of the *FEDS Notes* describing this reduction policy, there was no reaction in interest rates or the exchange rate for the dollar or on the stock markets. Either the financial markets have not taken this information on board (because it has gone unnoticed or is not credible) or it has already been incorporated into asset prices and future expectations.

In other words, it does not seem that the coming reduction in the size of the balance sheet, if it is done on the basis of the mechanisms communicated, will tighten monetary and financial conditions beyond what is expected from the future increases in interest rates, monetary policy's conventional instrument[4]. If this proves to be the case, normalization would indeed live up to its name. Applied to the euro zone, this would tend to show that an ultra-expansionary monetary policy is not irreversible.

[1] More specifically: ” Provided that the economy continued to perform about as expected, most participants … judged that a change to the Committee’s reinvestment policy would likely be appropriate later this year.”

[2] Assuming that the US government’s net borrowing requirements will be about 300 billion dollars a year over these four years, the decline in the Federal Reserve’s demand for government securities will be on a similar order of magnitude.

[3] This issue has been extensively debated in the academic literature since the implementation of the QE programmes; see among others Curdia and Woodford (2011), Bernanke (2016), Reis (2017).

[4] While the reduction in the balance sheet should theoretically mainly affect long-term interest rates, the lack of a response coupled with recent increases in short-term interest rates may result in flattening the yield curve in the United States, and thus reduce the banks’ intermediation margin.