

Is the recovery on the right path?

Analysis and Forecasting Department

This text is based on the 2016-2018 outlook for the world economy and the euro zone, a full version of which is available [here](#) [in French].

The growth figures for 2016 have confirmed the picture of a global recovery that is gradually becoming more general. In the euro zone, which up to now had lagged behind, growth has reached 1.7%, driven in particular by strong momentum in Spain, Ireland, the Netherlands and Germany. The air pocket that troubled US growth at the start of the year translated into slower GDP growth in 2016 than in 2015 (1.6% vs. 2.6%), but unemployment has continued to decline, to below the 5% threshold. The developing countries, which in 2015 were hit by the slowdown in the Chinese economy and in world trade, picked up steam, gaining 0.2 point (to 3.9%) in 2016.

With GDP growing at nearly 3%, the world economy thus seems resilient, and the economic situation appears less gloomy than was feared 18 months ago – the negative factors have turned out to be less virulent than expected. The Chinese economy's shift towards a growth model based on domestic demand has led not to its abrupt landing but to a controlled slowdown based on the implementation of public policies to prop up growth. Even though the sustainability of Greece's debt has still not been resolved, the crisis that erupted in the summer of 2015 did not result in the disruption of the monetary union, and the election of Emmanuel Macron to the presidency of the French Republic has calmed fears that the euro zone would break up. While the question of Brexit is still on the table, the fact remains that until now the shock has not had the catastrophic effect some had forecast.

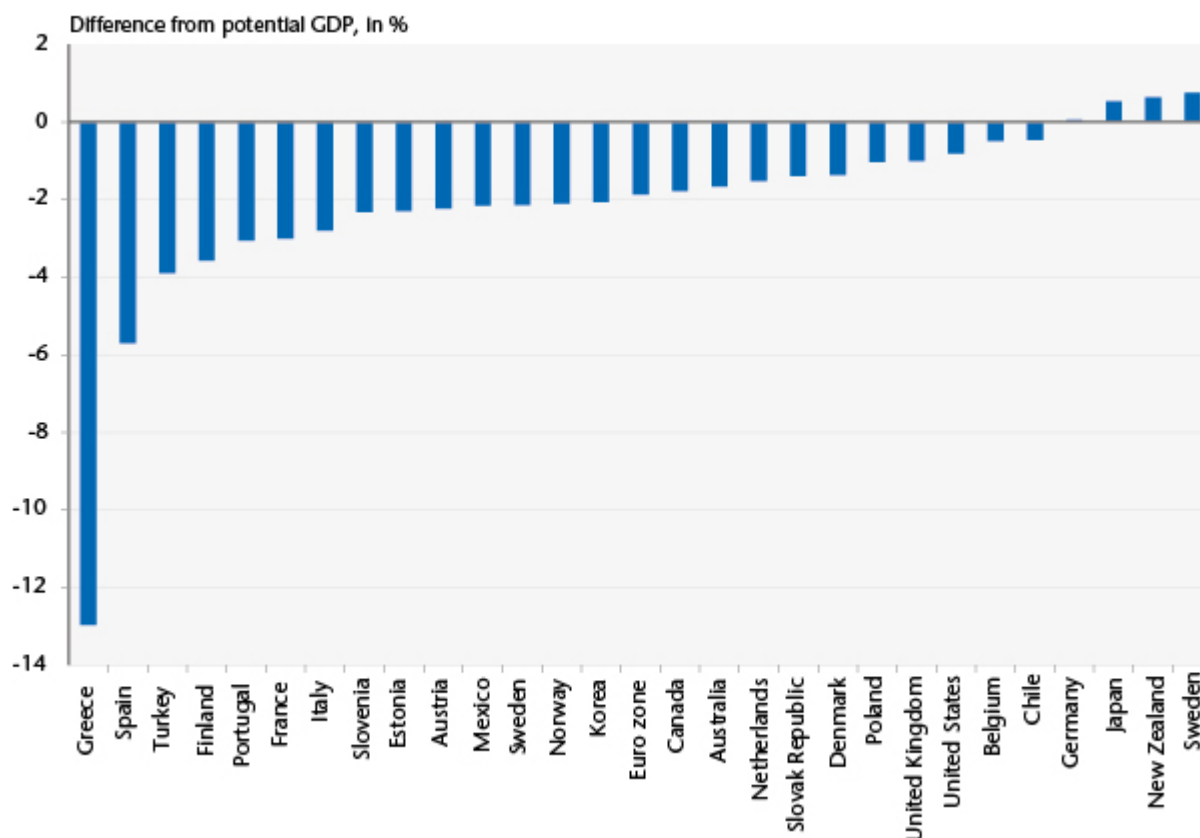
This pattern is expected to continue in 2017 and 2018 as a result of monetary policies that will continue to boost economic activity in the industrialized countries and somewhat scaled down fiscal efforts. US fiscal policy should become even more expansionary, allowing for a rebound in growth, which should once again surpass 2% in 2018. While oil prices have recently risen, they are not expected to soar, which will limit the negative impact on household purchasing power and business margins. The rise should even revive the previously moribund rate of inflation, thereby lowering the deflationary risk that has hovered over the euro zone. Pressure on the European Central Bank to put an end to unconventional measures could mount rather quickly.

Although the recovery process is consolidating and becoming more widespread, output in most of the developed economies is still lagging behind in 2016, as is illustrated by the gap in output from the potential level, which is still negative (Figure). This situation, which contrasts sharply with the past cyclical behavior of economies as GDP swung back towards its potential, raises questions about the causes for the breakdown in the growth path that has been going on for almost ten years now. One initial element in an explanation could be the weakening of potential GDP. This could be the result of the scale of the crisis, which would have affected the level and / or growth of the supply capacity of the economies due to the destruction of production capacity, the slowdown in the spread of technological progress and the de-skilling of the unemployed.

A second factor would be the chronic insufficiency of demand, which would keep the output gap in negative territory in most countries. The difficulty in once again establishing a trajectory for demand that is capable of reducing underemployment is related to the excessive indebtedness of private agents prior to the recession. Faced with swelling liabilities, economic agents have been forced to cut their

spending to shed debt and restore their wealth. In a situation like this, unemployment or underemployment should continue to fall, but this will take place more slowly than in previous recovery phases. Ten years after the start of the Great Recession, the global economy has thus still not resolved the macroeconomic and social imbalances generated by the crisis. The recovery is therefore well under way, but it is still not fast enough.

Figure: Output gaps in 2016



Sources : OECD, *Economic Outlook*, November 2016, OFCE Calculations.

Beyond the unemployment rate. An international comparison

since the crisis

By [Bruno Ducoudré](#) and [Pierre Madec](#)

[According to figures from the French statistics institute \(INSEE\) published on 12 May 2017](#), non-agricultural commercial employment in France increased (+0.3%) in the first quarter of 2017 for the eighth consecutive quarter. Employment rose by 198,300 in one year. Despite the improvement on the jobs front experienced since 2015, the impact of the crisis is still lingering.

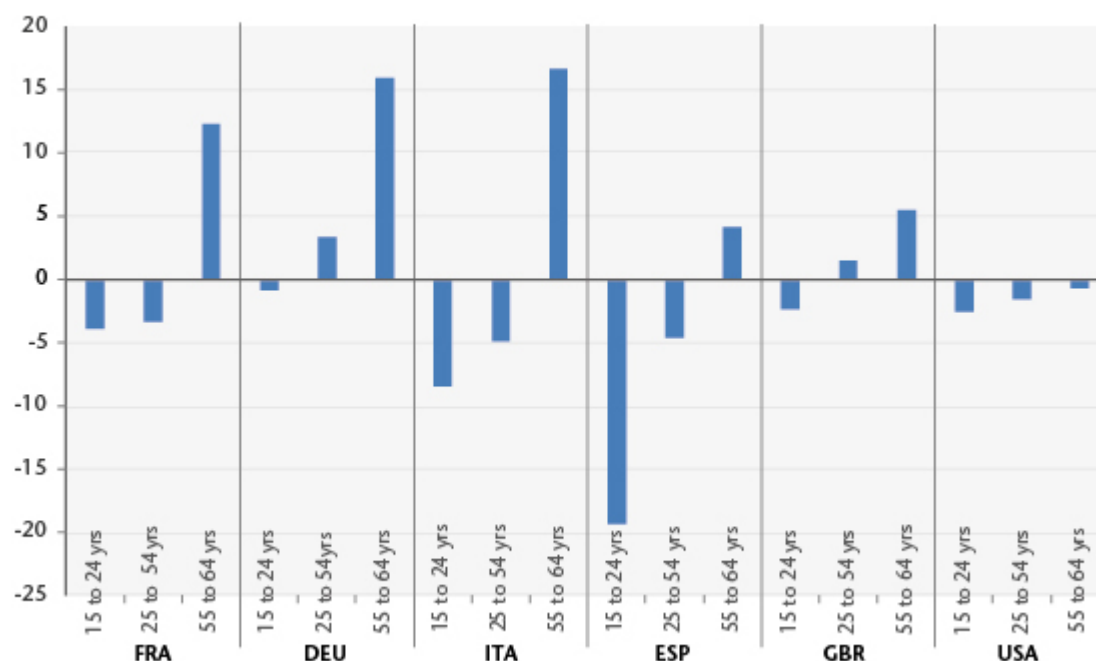
Since 2008, employment trends have differed significantly within the OECD countries. Unemployment rates in the United States, Germany and the United Kingdom are now once again close to those seen before the onset of the crisis, while the rates in France, Italy and particularly Spain still exceed their pre-crisis levels. Changes in unemployment reflect the gap between changes in the active population and changes in employment. An improvement in unemployment could therefore mask less favourable developments in the labour market, in terms of employment behaviour (changes in the labour force participation rate and the “unemployment halo”) or an increase in precarious employment (involuntary part-time work, etc.). In this paper we take another look at the contribution of changes in participation rates and in working time duration relative to changes in unemployment rates and to a broader measure of the unemployment rate that encompasses the “halo of unemployment” and involuntary part-time work.

Unemployment rates are marked by the crisis and reforms

With the exception of the United States, employment rates have changed considerably since 2008. In France, Italy and Spain, the employment rate for 15-24 year-olds and for those under age 55 more generally has fallen sharply (Figure 1). Between the first quarter of 2008 and the last quarter of 2016, the

employment rate for 18-24 year-olds fell by 19 percentage points in Spain, by more than 8 percentage points in Italy and by almost 4 percentage points in France, while at the same time the unemployment rates in these countries rose by 9, 5 and 3 percentage points respectively. The poor state of the economy in these countries, accompanied by negative or weak job creation, has hit young people entering the labour market hard. Conversely, over this same nine-year period, the employment rate of individuals aged 55 to 64 increased in all the above countries. In France, as a result of successive pension reforms and the [elimination of the job search exemption](#), the employment rate of older workers increased by 12.3 percentage points in nine years to 50% in Q4 2016. In Italy, even though the labour market worsened, the employment rate of 55-64 year-olds has risen by almost 18 percentage points.

Figure 1. Change in employment rate by age between Q1 2008 and Q4 2016



Sources: OECD, OFCE calculations.

A sharp impact of the participation rate on unemployment, offset by a reduction in working time

During the course of the crisis, most European countries reduced the actual working hours to a greater or lesser extent

by means of partial unemployment schemes, the reduction of overtime and the use of time-savings accounts, but also through the expansion of part-time work (particularly in Italy and Spain), including involuntary part-time work. On the other hand, the favourable trend in unemployment in the US (Table 1) is explained partly by a significant decline in the labour force participation rate of people aged 15 to 64 (Table 2). The rate in the last quarter of 2016 was 73.1%, i.e. 2.4 points less than at the beginning of 2007.

Table 1. Change in ILO unemployment rate (in % points)

	Q1 2007 – Q4 2011	Q1 2012 – Q4 2016	Q1 2007 – Q4 2016
DEU	-3,4	-1,7	-5,1
ESP	14,6	-4,2	10,3
FRA	0,9	0,7	1,6
ITA	3,1	2,7	5,8
GBR	2,9	-3,6	-0,7
USA	4,1	-3,8	0,4

Source: National accounts, OFCE calculations.

Table 2. Change in the participation rate (in % points)

	Q1 2007 – Q4 2011	Q1 2012 – Q4 2016	Q1 2007 – Q4 2016
DEU	2,1	0,6	2,8
ESP	2,5	0,0	2,5
FRA	0,6	1,2	1,8
ITA	0,5	2,7	3,2
GBR	0,2	1,7	1,9
USA	-2,3	-0,2	-2,4

Sources: National accounts, OFCE calculations.

Assuming that a one percentage point increase in the labour force participation rate leads, holding employment constant, to a 1 percentage point increase in the unemployment rate, it is possible to measure the impact of these adjustments (working hours and participation rate) on unemployment, by calculating an unemployment rate at constant employment and controlling for these adjustments. Except in the United States, all the countries studied saw a greater increase in their labour force (employed + unemployed) than in the general population, owing, among other things, to pension reforms.

Mechanically, absent job creation, this demographic growth has the effect of increasing the unemployment rate of the countries concerned.

If the labour force participation rate remained at its 2007 level, the unemployment rate would fall by 1.7 percentage points in France, 2.8 percentage points in Italy and 1.8 percentage points in the United Kingdom (Table 3). On the other hand, without the large contraction in the US labour force, the unemployment rate would have been at least 2.3 percentage points higher than in 2016. It also seems that Germany experienced a significant decline in the level of its unemployment (-5.1 points), even though the participation rate rose by 2.8 percentage points. For an unchanged employment rate, the German unemployment rate would be 1.3% (Figure 2).

As regards working hours, the lessons seem quite different. It seems that if working time had been maintained in all the countries at its pre-crisis level, the unemployment rate would be higher by 3.4 points in Germany, 3.1 points in Italy and 1.5 points in France. In Spain and the United Kingdom, working time has changed very little since the crisis. By controlling for working time, the unemployment rate changes in line with what was observed in these two countries. Finally, without adjusting for working time, the unemployment rate in the United States would be 1 point lower.

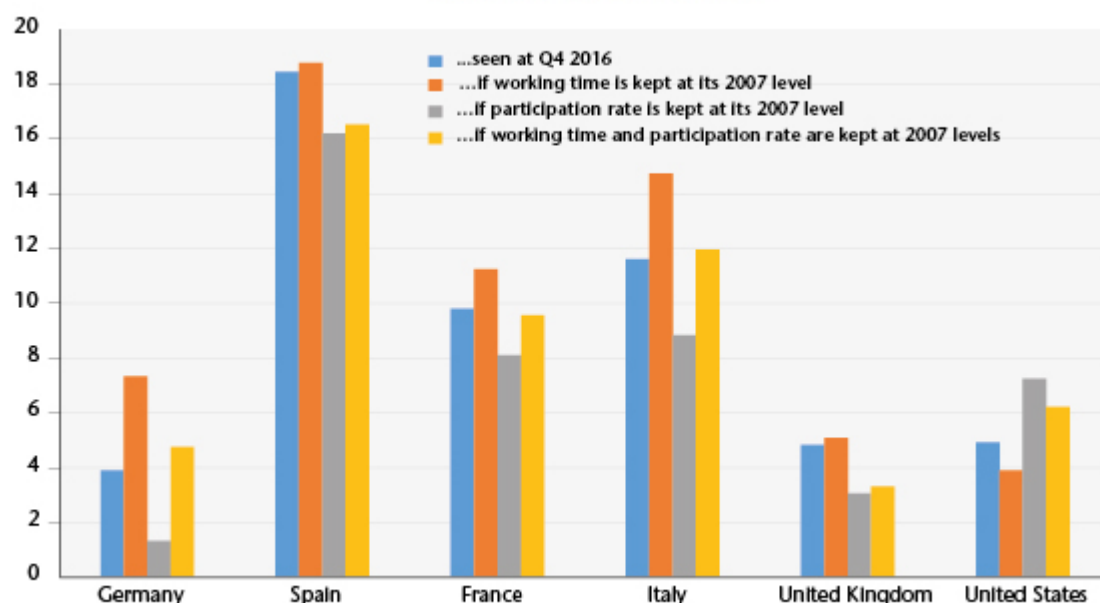
Table 3. Difference between the unemployment rate seen at Q4 2016 and the unemployment rate in case of ... (in % points)

	...keeping working time at its 2007 level	... keeping the participation rate at its 2007 level	...keeping working time and the participation rate at their 2007 levels
DEU	-2,6	3,4	0,9
ESP	-2,2	0,3	-1,9
FRA	-1,7	1,5	-0,2
ITA	-2,8	3,1	0,3
GBR	-1,8	0,3	-1,5
USA	2,3	-1,0	1,3

Sources: National accounts, OECD, OFCE calculations.

Note that this trend towards a reduction in working hours is an old one. Indeed, since the end of the 1990s, all the countries studied have experienced large reductions in working time. In Germany, this decline averaged 0.5% per year between 1998 and 2008. In France, the transition to the 35-hour work week resulted in a similar decrease (-0.6% per year) over that period. Overall, between 1998 and 2008, working hours were down 5% in Germany, 6% in France, 4% in Italy, 3% in the United Kingdom and the United States, and 2% in Spain.

Figure 2. Unemployment rate...



Sources: National accounts, OECD, OFCE calculations.

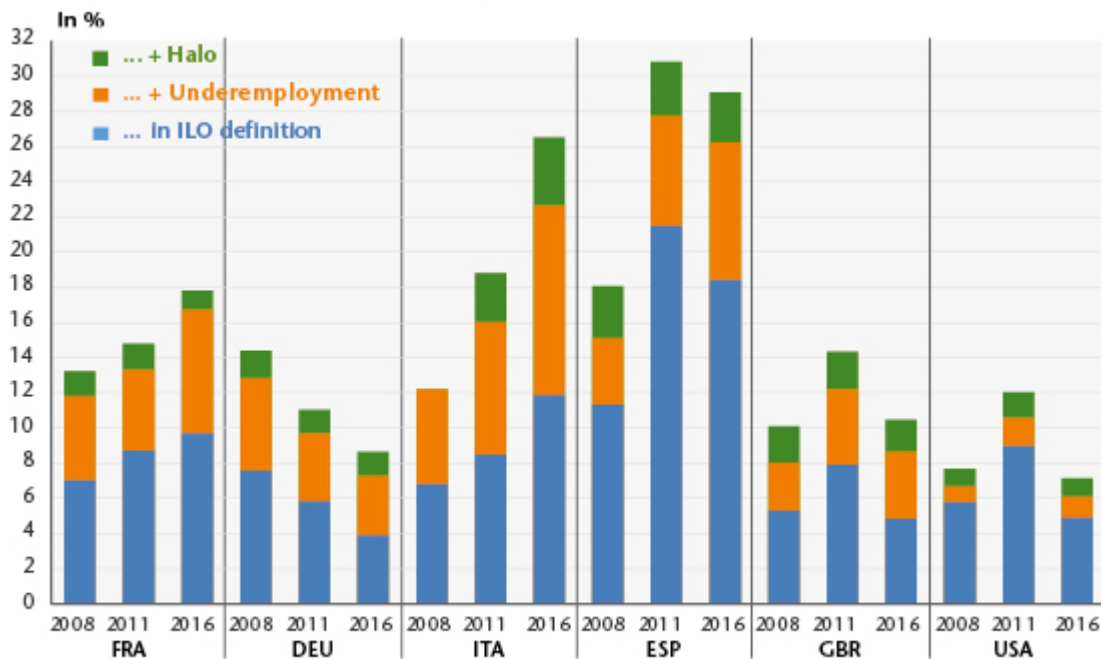
Beyond the “unemployment rate”

In addition to obscuring the dynamics affecting the labour market, the ILO’s (International Labour Organization) strict definition of unemployment does not take into account situations on the margins of unemployment. So people who wish to work but are considered inactive in the ILO sense, either because they are not quickly available for work (in under two weeks) or because they are not actively seeking employment, form what is called a “halo” of unemployment.

The OECD’s databases can be used to integrate into the unemployed category people who are excluded by the ILO definition. Figure 3 shows for the years 2008, 2011 and 2016

the observed unemployment rate, to which are added, first, people who are employed and declare that they want to work more, and second, individuals who are inactive but want to work and are available to do so. In Germany, the United Kingdom and the United States, changes in these various measures seem to be in line with a clear improvement in the labour market situation. On the other hand, between 2008 and 2011, France and Italy experienced an increase in their unemployment rates, especially from 2011 to 2016, both in the ILO's strict sense of the term and in a broader sense. In Italy, the ILO unemployment rate increased by 3.4 percentage points between 2011 and 2016. At the same time, underemployment rose by 3.2 percentage points and the proportion of individuals maintaining a "marginal relationship" with employment by 1 percentage point. Ultimately, in Italy, the unemployment rate including some of the jobseekers excluded from the ILO definition came to 26.5% in 2016, more than double the ILO unemployment rate. In France, because of a lower level of unemployment, these differences are less significant. Despite this, between 2011 and 2016, underemployment increased by 2.4 points while unemployment in the strict sense grew "only" by 1 percentage point. In Spain, although there was notable improvement in ILO unemployment over the period (-3 points between 2011 and 2016), underemployment continued to grow strongly (+1.5 points). By 2016, Spain's ILO unemployment rate was 7 percentage points higher than it was in 2008. By including jobseekers excluded from the ILO measure, this difference comes to 11.0 percentage points.

Figure 3. Unemployment rate at Q4 2016...



Note : For 2016, as all the data were not available, we assume that the "halo" changed in line with 2015.

Sources : OCDE, calculs OFCE.

The reduction of the US Fed's balance sheet: When, at what pace and with what impact?

By [Paul Hubert](#)

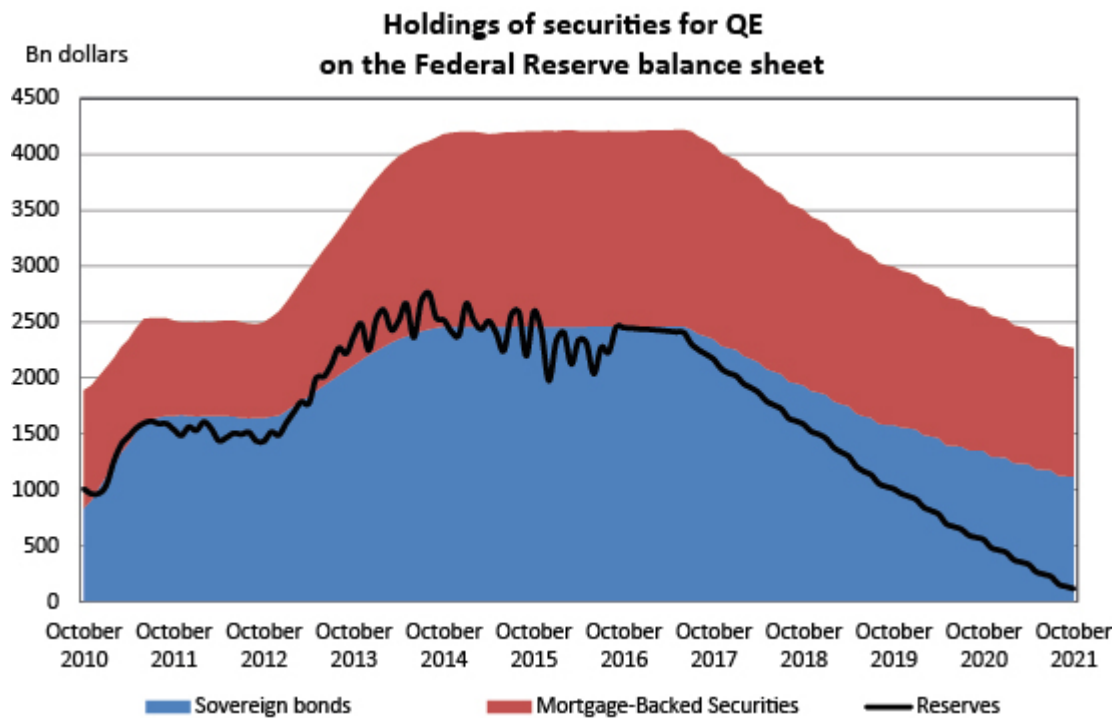
US monetary policy began to tighten in December 2015, with the Fed's key rate moving from a target range of 0 – 0.25% to 0.75 – 1% in 15 months. To complement its monetary policy, the Fed also manages the size of its balance sheet, which is a result of programmes to purchase financial stock (also called [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.

Leave the euro?

By [Christophe Blot](#), [Jérôme Creel](#), [Bruno Ducoudré](#), [Paul Hubert](#), [Xavier Ragot](#), [Raul Sampognaro](#), [Francesco Saraceno](#), and [Xavier Timbeau](#)

Evaluating the impact of France leaving the euro zone ("Frexit") is tricky, as many channels for doing this exist and the effects are uncertain. However, given that this proposal is being advanced in the more general debate over the costs and benefits of membership in the European Union and the euro, it is useful to discuss and estimate what is involved.

There is little consensus about the many points involved in an analysis of the issue of membership in the euro. On the one hand, the benefits linked to the single currency 18 years after its creation are not viewed as completely obvious; on the other, it is not evident that the monetary zone has become less heterogeneous, and, possibly linked to that, the current account imbalances built up in the first decade of the euro zone's existence, which have grown since then due to the consequences of the 2008 global financial crisis, are putting

constraints on economic policy.

The dissolution of Europe's monetary union would be an unprecedented event, not only for the member states but also from the point of view of the history of monetary unions. Not that there have been no experiences of dissolution – [Rose](#) (2007) counted 69 cases of withdrawal from a monetary union since the end of the Second World War – but in many respects these experiences offer little if any basis for comparison ([Blot & Saraceno, 2014](#)). Nor do they reveal any empirical patterns that could inform us about the possible misfortunes or chances of success that a break-up of the euro zone might have.

However, the reference to past episodes is not the only tool with which the economist can carry out an analysis of a break-up of the euro zone. It is indeed possible to highlight the mechanisms that would be at work if the monetary union project in Europe were to be wound up. There are numerous possible pathways to a break-up of the euro zone, and any analysis of the costs and benefits must be interpreted with the utmost caution, since in addition to uncertainty about any quantitative assessment of what is involved, there is also the issue of what scenario an exit would create. In these circumstances, a departure from the euro zone cannot necessarily be understood solely from the point of view of its impact on exchange rates or its financial effects. It is very likely that an exit would be accompanied by the implementation of alternative economic policies. The analysis carried out here does not enter this territory, but merely explains the macroeconomic mechanisms at work in the event of a break-up of the euro zone, without detailing the reaction of economic policy or second-round effects.

The central hypothesis adopted here is that involving a complete break-up of the monetary union, and not the simple departure of France alone. Indeed, if France, the second-largest euro zone economy, were to exit, the very existence of

the monetary zone would be called into question. The devaluation of the French franc against the southern Europe countries remaining in the euro zone would destabilize their economies and push them out of the scaled-down euro zone. We do not deal here with all the technical elements related to how a break-up would be organized [1] – launching the circulation of new currencies, liquidation of the ECB and termination of the TARGET system, etc. – but rather on an analysis of the macroeconomic effects [2]. Two types of effects would then be at work. First, the dissolution of the European monetary union would de facto lead to a return to national currencies, and therefore to a devaluation or revaluation of the currencies of the euro zone countries vis-à-vis not only their euro zone partners but also non-euro zone countries. Second, the redenomination of assets and liabilities now denominated in euros and the prospect of exchange movements would have financial effects that we analyze in the light of past financial crises. Our scenario is therefore for a contained crisis.

A unilateral exit from the euro zone by France and the ensuing break-up of the euro zone exclude a scenario for a common currency where strong cooperation between the old member states would help to maintain a high level of exchange stability and effectively continue the economic status quo. There is little likelihood of a scenario like this, since it would lead to not using the margins of maneuver opened up by the exit and to maintaining the much-denounced and presumed straitjacket. The crisis would be contained in that the most violent effects would be reduced by coordinated policies. This would mean exchange movements that are rapid and substantial, but which stabilize over a time horizon of a few quarters [3]. We assume, furthermore, that each country pursues its own interest without special co-operation.

I – A summary of the economic mechanisms at work

The gains expected from leaving the euro zone

In the first place, leaving the euro zone would mean that the exchange rates between the currencies of the countries that compose it could once again vary against each other. Given this, the question arises of the value at which the exchange rates of these currencies will tend to converge. The expected gains would be, on the one hand, an improvement in competitiveness due to the devaluation of the franc. A devaluation would lead to imported inflation in the short term, before increasing purchasing power and spurring growth. The second gain involves the possibility of defining a monetary and fiscal policy that is differentiated by country, and therefore more appropriate to France's situation.

An exit from the euro zone would also make it possible to set tariffs less favorable to imports from other countries, and thus more favorable to producers on the national territory, but which would also affect consumer prices and thus consumer purchasing power[\[4\]](#).

The costs of leaving the euro zone

France's exit from the euro zone would lead to the departure of other countries, which would see their currencies depreciate against the franc, especially the southern European countries. The net effect on competitiveness may prove ambiguous.

A Frexit would lead to currency movements, which would translate into a return of transaction costs on currency exchanges between euro zone countries. Moreover, the break-up of the euro zone would also lead to a redenomination of assets and debts in the national currency. Beyond the legal aspects, these balance sheet effects would impoverish agents who hold assets denominated in a depreciating currency or debts redenominated in an appreciating currency (and enrich those in the reverse situation). Uncertainties about balance sheet effects, particularly for financial intermediaries and banks, could be expected to lead to a period experiencing a sharp

downturn in lending.

How much additional autonomy would be acquired for monetary policy is uncertain at present. Indeed, it is difficult to conceive of a monetary policy that is much more expansionary than the ECB's policy of negative rates and security redemptions [5]. The Banque de France could, of course, buy back the national public debt by creating money, but, in light of the low current interest rates on French sovereign debt, it is not clear that this would lead to significant gains [6]. It should be noted that a persistent current account deficit would need to be financed by external savings and that this external constraint could affect monetary policy, for example by requiring an increase in short-term and long-term interest rates that could impose capital controls by the government.

Finally, the introduction of trade protectionism would obviously lead to retaliation by the aggrieved partners, which would hurt French exports. The overall net effect on world trade would be negative, with no gain at the national level.

II – The impact on exchange rates and competitiveness

A Frexit would not lead to strong gains in competitiveness. We simulated the effect of a Frexit in the following way:

1. We assume that a Frexit would lead to a rapid disintegration of the euro zone;
1. We then use our estimates of long-run equilibrium exchange rates presented in Chapter 4 of the *2017 iAGS Report*. It appears that the equilibrium parity for the new franc would correspond to an actual effective devaluation of 3.6% compared to the current level of the euro. This is a real change, once it has been corrected for the effects of inflation and is effective, that is, taking into account exchange rate fluctuations in relation to different trading partners, possibly in the opposite direction. The new franc would be devalued

relative to the German currency, but would appreciate relative to the Spanish currency;

2. Using the empirical estimates of exchange rate adjustments (Cavallo et al., 2005), we determine a short-term exchange rate trajectory. Our estimate is for a 13.7% depreciation of France's effective exchange rate with respect to the other euro zone countries, and an appreciation of 8.6% with respect to the countries that do not belong to the euro zone.

Using simulations with the *emod.fr* model, we estimate a modest increase in competitiveness. The effect on GDP would be close to 0 in the first year and 0.4% after three years. These figures are low and refer to a scenario without any readjustment within the euro zone. If we consider the possibility of a gradual adjustment within the euro zone (based on the mechanisms, for example, referred to in *iAGS 2016*), the potential gain would be even lower. Once again it is possible to envisage that the monetary policy conducted by the Banque de France would seek to devalue the French currency more strongly than that of its competitors. But in such a scheme, it is very likely that the latter will in turn wish to preserve their competitiveness and engage in a policy of competitive devaluations.

III – The financial impact: The effects of the banking crises

The dissolution of the euro zone and the return to national currencies would have significant repercussions for the national banking and financial systems through their international business, and it would bring about a return of exchange rate risk within the euro zone. We first assess the risks that the collapse of the euro zone would have for the banking system. The mechanisms at work are likely to provoke a banking crisis, which could have a high cost for economic activity.

The return to national currencies in a financially integrated

space would necessarily entail a major upheaval for the financial system. These effects would not be comparable to those observed at the time the euro was adopted. Indeed, as [Villemot et Durand \(2017\)](#) have shown, potentially the balance sheet effects would be significant for a low coordination scenario.

The balance sheet effects could be reduced if there were international coordination when leaving the euro. Such coordination would make it possible to distribute the ECB's assets and liabilities in a coherent way, notably within the framework of TARGET 2. However, it's difficult to assume a significant level of coordination when leaving the eurozone, and it is illusory to believe that the difficulties in achieving coordination will lessen. On the contrary, they are likely to increase in a climate of instability instead of one with a shared destiny. As a result, the scenario we use for leaving the euro zone excludes the establishment of a new financial or monetary architecture.

The risk of a banking or financial crisis is central to understanding the impact of the break-up of the euro zone. The impacts would pass through three main channels. The first involves a flight of deposits and savings and the distress liquidation of financial assets. The second is related to the effects of currency misalignments on banks' balance sheets and insurers. The third concerns the sovereign risk that would affect either the public debt and its financing, or if this debt were subject to uncontrolled monetization, the return of intense external pressure. The economic literature includes recent efforts (notably Rogoff and Reinhart, Borio, Schularik, the IMF) to try to evaluate banking or financial crises. It should be clarified at the outset that this literature does not deal with the dissolutions of monetary unions. In the various banking crises recorded since the 1970s by Laeven and Valencia (2010 and 2012), there is no mention of a crisis linked to the dissolution of a monetary union. Nevertheless,

the financial dynamics in play in the event of the break-up of the euro zone would be, as mentioned above, risk factors for a banking or financial crisis.

Moreover, the economic literature on currency crises has pointed to the link with banking crises (Kaminsky and Reinhart, 1999). The collapse of a monetary union in reality reflects a crisis situation for the exchange rate system, which leads to revaluations and devaluations with the over-adjustment of exchange rates, as highlighted in the previous section. The reference to the cost of banking crises thus illustrates the potentially negative effects of exiting the euro zone. However, it should be remembered that these costs correspond to an overall assessment of banking crises that does not make it possible to identify precisely the mechanisms through which the financial shock is propagated into the real economy – an assessment that would involve identifying the impact of rising risk premiums and the effect of credit rationing, where it is much more difficult to determine the uncertainty. An analysis by Bricongne et al. (2010) of the various channels through which the 2007-2008 financial crisis was transmitted suggests that a significant amount remains unexplained. Also, in the absence of a more detailed analysis, we make the assumption that the historical experiences of banking crisis are the main quantitative element that can be used to get close to the eventual negative impact – via the financial effects – of a break-up of the euro zone.

Laeven and Valencia (2012) analysed 147 banking crises in developed and emerging countries over the last few decades (1970-2011). They calculated the losses in production as the three-year cumulative loss of actual GDP relative to trend GDP [\[7\]](#). For the developed countries, the cumulative loss of growth was on average 33 GDP points. During these three crisis years, the public debt increased on average by 21 GDP points (partly due to bank recapitalizations), the central bank's balance sheet increased by 8 GDP points, and the level of non-

performing loans increased by 4 percentage points. It should be noted that there was a high degree of heterogeneity in the cost of the crises, depending on the crisis and country in question. For example, the authors' assessment of the cost of the 2008 banking crisis in terms of growth following the bankruptcy of Lehman Brothers was 31 GDP points for the United States and 23 GDP points for the euro zone as a whole. Hoggarth, Reis and Saporta (2002) conducted a similar study and sought to provide robust assessments of trend GDP. They noted cumulative production losses during crisis periods ranging from 13 to 20 GDP points, depending on the indicator chosen. However, these estimates of the cost of banking crises are to be taken with caution, since they are based on numerous assumptions, in particular on the trajectories that countries would have followed in the absence of a crisis.

IV – The gains from monetary autonomy

The gains from an alternative monetary policy would depend on the new direction taken by a monetary policy that remains to be defined and that will determine the conditions for financing the economy. Such a policy would probably be ultra-accommodative due to the financial and banking instability generated by the balance sheet effects.

Evaluations of the contribution of financial conditions in France from 2014 to 2018, however, suggest that these are not the most important factor explaining the sluggishness of economic activity. Over this period, the contribution of financial and monetary conditions to GDP growth is between -0.1 and 0.2 points [\[8\]](#). There is thus little gain to be expected from a new ultra-accommodative monetary policy (independently of the effects on exchange rates discussed in the first section or the impact of external pressure).

Conclusion

This text has attempted to outline the possible consequences

of a Frexit, without going into too detailed and therefore perilous quantification.

1. Contrary to what is sometimes advanced, there is little to be expected in terms of competitiveness or manoeuvring room for short-term monetary policy;
2. The main cost would come from the banking or financial crisis arising from balance sheet effects, particularly given the context of a disorderly exit.

At this stage of the analysis, it is difficult to identify the potential positive economic effects of a Frexit, while the risks of a negative impact due to financial effects seem to be very significant.

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[1] These points are to a large extent discussed in *Capital Economics* (2012).

[2] It is difficult to develop a long-term counterfactual scenario in the case of exiting the euro. We therefore focus on the short- and medium-term effects of possible transitions.

[3] We implicitly eliminate the scenario of a currency war where each country would try to gain competitiveness by devaluations that would permanently lead us away from convergence towards a real equilibrium exchange rate.

[4] The introduction of tariffs like this calls for leaving the European Union. Without developing this analysis here, it is very likely that leaving the euro zone would lead to leaving the European Union. There have been assessments of the EU's contribution to intra-European trade and growth that we are not using here in our short-term approach.

[5] Through its quantitative easing program, the ECB essentially purchases sovereign debt bonds, including French debt securities. In February 2017, the outstanding securities held by the ECB under this programme ([PSPP](#)) amounted to € 1,457.6 billion. Breaking down the purchases based on the share of the ECB's capital subscribed by the central banks of the member states, the fraction of French debt securities exceeds 200 billion euros.

[6] Getting free from the constraints of the Stability and Growth Pact could be a gain in itself. This assumes that the

constraints of the SGP go beyond simply the sustainability of the public debt demand.

[7] These evaluations show, however, that there is a high degree of heterogeneity in the assessed costs depending on the country in question.

[8] <https://www.ofce.sciences-po.fr/pdf/documents/prev/prev1016/france.pdf>