

Is it possible to experiment with a universal income?

By Guillaume Allègre, [@g_allegre](#)

In a blog entitled "[Revenu universel, l'impossible expérimentation](#)" [Universal income, the impossible experiment], I underlined the limits of current and future experiments with a universal income^[1]: samples that are too small and unrepresentative; the limits intrinsic to a lottery (absence of balancing effects on the labor market; an absence of "peer effects"^[2]). Clément Cayol responded to my piece on the website of the Mouvement Français pour un Revenu de Base [French Movement for a Basic Income] ("[M Allègre : les expérimentations de revenu de base sont un chemin possible vers l'instauration](#)" [Mr Allègre: Experiments with a basic income are one possible path towards establishing it]). Cayol proposes experimenting with a universal income on "saturation sites" (for example, an employment catchment area). The idea would be to select certain employment catchment areas as a treatment group (e.g. Toulouse and Montbéliard) and to use areas with similar characteristics as control groups (Bordeaux and Besançon?). By comparing differences in behaviour between the two groups (in terms of employment, part-time work, wages, etc.), we could identify the impact of a universal income. An experiment like this has taken place in a [Kenyan village](#).

The idea of experimenting on a saturation site may seem attractive and does meet some of my criticisms (we can measure balancing effects on the labor market and peer effects). But it does not respond to others: an experiment like this is by its very nature temporary (and people will not react in the same way to a temporary incentive as to a permanent incentive); the financing side of a universal income cannot be tested (and a universal income is expensive: it will have to be financed by, for instance, income tax, which will have an

impact on financial incentives to return to work).

Experimenting on a saturation site has its own limits: it is necessary to find a control group with characteristics similar to those of the treatment group; migration has to be controlled (could I benefit from the universal income by moving from Montbéliard to Besançon?). And above all it poses legal and ethical issues [3]: can we give 500 euros per month to all the inhabitants of Toulouse and Montbéliard and have the French taxpayer finance this experiment[4]? The law allows local authorities to experiment, but only for the purpose of extending the scale of a trial, yet extending a universal income to the entire French territory is not on the cards.

[1] Also see Guillaume Allègre, 2010: « [L'expérimentation du revenu de solidarité active entre objectifs scientifiques et politiques](#) », [Experimenting with France's RSA in-work income benefit between scientific and policy objectives], *Revue de l'OFCE*, no.113.

[2] Here the peer effect refers to the fact that an individual will stop working more easily if their friends also stop working: my leisure time is complementary to that of my friends.

[3] See: <https://www.senat.fr/rap/l02-408/l02-40810.html>

[4] It is not easy to believe that experimentation creates losers among the treatment group, so funding is necessarily national.

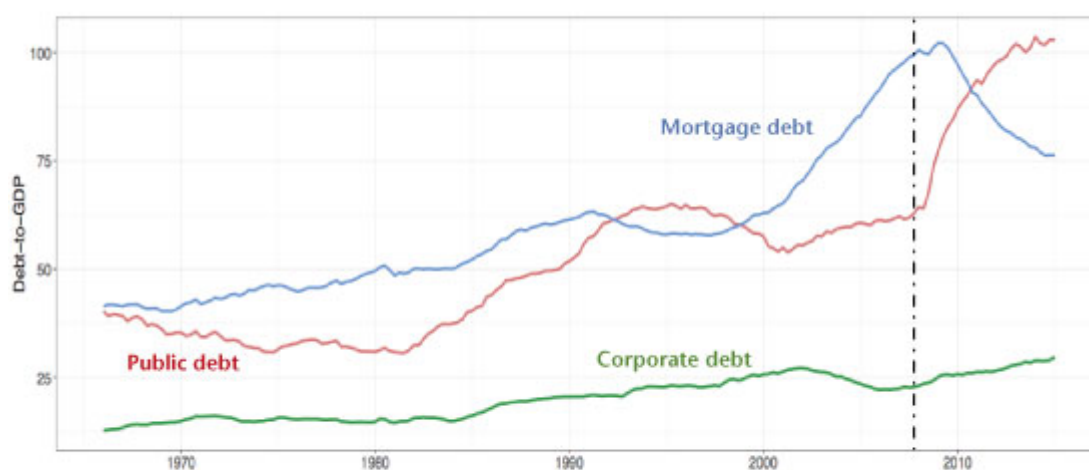
The Janus-Faced Nature of Debt

by Mattia Guerini, Alessio Moneta, [Mauro Napoletano](#), Andrea Roventini

The financial and economic crises of 2008 have been intimately intertwined with the dynamics of debt. As a matter of fact, a research by [Ng and Wright \(2013\)](#) reports that in the last thirty years all the U.S. recessions had financial origins.

[Figure 1](#) shows that both U.S. corporate (green line) and mortgage (blue line) debts have been growing steadily from the sixties to the end of the century. In the 2000s, however, mortgage debt increased from around 60% to 100% of GDP in less than a decade. The situation became unsustainable in 2008 with the outburst of the subprime real asset bubble. The trend in debt changed since then. Mortgage debt declined substantially, while the U.S. public debt-to-GDP ratio (red line) skyrocketed from 60% to a level slightly above than 100% in less than 5 years, as a consequence of the Great Recession.

Figure 1. Private and public debt-to-GDP series



The vertical dashed line represents 2007 (Q4).
Source: authors.

This surge in public debt has been raising concerns about the

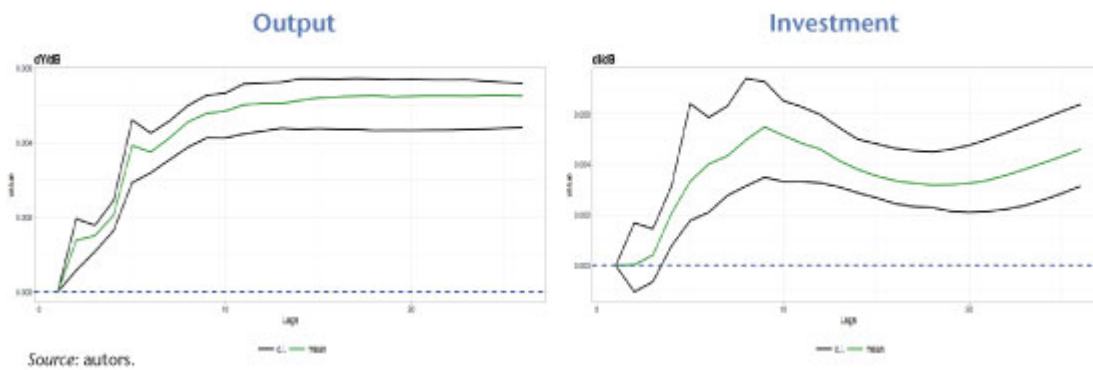
sustainability of public finances, and more generally, about the possible detrimental effects of public debt on economic growth. Some economists argued indeed that there exist a 90% threshold after which public debt harms GDP growth (see [Reinhart and Rogoff, 2010](#)). Notwithstanding a large number of empirical studies contradicting this hypothesis (see [Herdon et al., 2013](#) and [Égert, 2015](#) as recent prominent examples), the debate is still open (see [Ash et al., 2017](#) and [Chudik et al., 2017](#)).

We have contributed to this debate with a new empirical analysis that jointly investigates the impact of public and private debt on U.S. GDP dynamics and that will appear on “*Macroeconomic Dynamics*” (see [Guerini et al., 2017](#)). Our analysis keeps the *a priori* theoretical assumptions as minimal as possible by exploiting new statistical techniques that identify causal structures from the data under quite general conditions. In particular, we employ a causal search algorithm based on the Independent Component Analysis (ICA) to identify the structural form of the cointegrated VAR and to solve the double causality issue.^[1] This has allowed us to keep an “agnostic” perspective in the econometric analysis, avoiding restrictions on the model, thus “letting the data speak”.

The results obtained suggest that public debt shocks *positively* and *persistently* affect output (see [Figure 2](#), left panel).^[2] In particular, our results provide evidence against the hypothesis that upsurges in public debt hamper GDP growth in the U.S. In fact, increases in public debt—possibly channeled through an increase in public spending in investments—crowd-in private investments, (see [Figure 2](#), right panel) confirming some results already brought to the fore by [Stiglitz \(2012\)](#). This implies that government spending and, more generally, expansionary fiscal policy spur output both in the short- and in the medium-run. In that, austerity policies do not seem to be the appropriate policy answer to overcome a

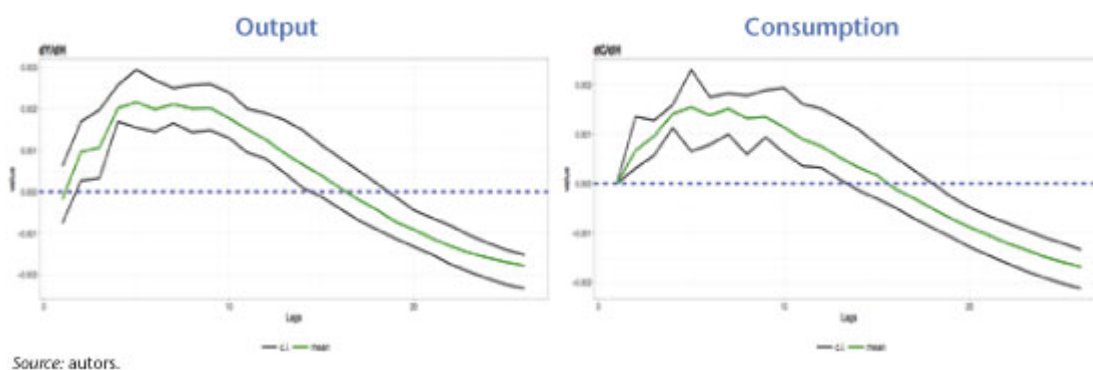
crisis.

Figure 2. Effects of public debt on output and investment



On the contrary, these positive effects are not fully observed when we look at the effects of private debt and in particular when we focus on mortgage debt. More specifically, we find that the positive effects of private debt shocks are milder than public debt's ones, and they fade out over time. Furthermore, increasing the levels of mortgage debt have a negative impact on output and consumption dynamics in the medium-run (see [Figure 3](#)), while their positive effects are only temporary and relatively mild. Such a result appears to be fully consistent with the results of [Mian and Sufi \(2009\)](#) and [Jordà et al. \(2014\)](#): mortgage debt fuels real asset bubbles, but when these bubbles burst, they trigger a financial crises that visibly transmit their negative effects to the real economic system for longer periods of time.

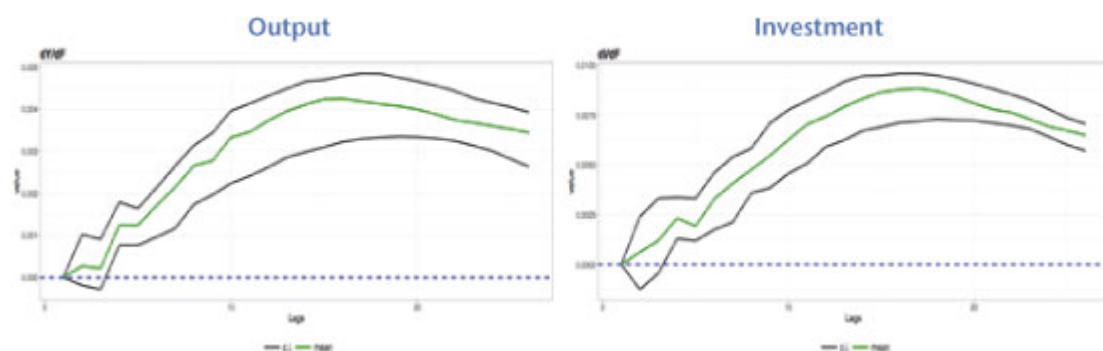
Figure 3. Effects of mortgage debt on output and consumption



Another interesting fact that emerges from our research, is that the other most important form of private debt—*i.e.* non-

financial corporations (NFCs) debt—does not generate negative medium-run impacts. As a matter of fact (as it is possible to see in [Figure 4](#)) surges in the level of NFCs debt seems to have a positive effect both on GDP and on gross fixed capital formation, hence directly increasing the level of investments.

Figure 4. Effects of corporate debt on output and investment



Source: authors.

To conclude, our results suggest that debt has a *Janus-faced* nature: different types of debts impact differently on aggregate macroeconomic dynamics. In particular, possible threats to medium- and long-run output growth do not come from government debt (which might well be a consequence of a crisis), but rather from increasing too much the level of private one. More specifically, surges in the level of mortgage debt appear to be much more dangerous than the building up of corporate debt.

^[1] _ For details about the ICA algorithm see [Moneta et al. \(2013\)](#); for details about its statistical properties see [Gourieroux et al. \(2017\)](#).

^[2] _ When computing the Impulse Response Functions, we apply a 1 standard deviation (SD) shock to the relevant debt variable. Hence, for example, on the y-axis of Figure 2, left panel, we can read that a 1 SD shock to public debt has a 0.5% positive effect on GDP in the medium run.

France's RSA income support: 35% lack of take-up?

By [Guillaume Allègre](#), [@g_allegre](#)

The lack of take-up of France's RSA income supplement benefit is often invoked as an argument for reforming the system for assisting people on low incomes (such as a Universal Income or establishment of a single social benefit that would merge the RSA, the in-work *Prime d'activité* benefit and Housing benefit). According to the CNAF, the lack of take-up of the base RSA benefit (*RSA-socle*) is 36% ([CNAF, 2012](#)). To arrive at this estimate, the CNAF relies on a quantitative survey conducted over the phone with 15,000 households selected from their tax returns. The RSA quantitative survey was specifically designed to replicate an eligibility test for the benefit. However, some households who are ineligible for the RSA claim they are benefitting from it. This category represented 524 households in the survey, i.e. 11% of the beneficiaries. This could result from a reporting error at the time of the survey, or from an approximation of the survey's eligibility test. In any case, the existence of this category shows that it is difficult to estimate the lack of take-up of a benefit using a survey, even a specific one. In addition, the Secours catholique association estimates the lack of take-up of the base RSA at 40% (out of all the households they encountered in 2016) [\[1\]](#).

There is another way to estimate the lack of take-up of the RSA. Recently, the INSEE and DREES have opened up access to the [INES](#) micro-simulation software. The INES can be used to simulate the socio-fiscal legislation by using the ERFS (Survey of Tax and Social Income). The ERFS is based on tax

declarations; the survey – based on administrative data – is therefore very exhaustive (households are required to report their income every year). The ERFIS, however, has limitations: it concerns only so-called ordinary households. It excludes people who do not have a residence (the homeless) and people who live in institutions (army, retirement homes, etc. [\[2\]](#)). The survey field is metropolitan France. The tax returns are annual, but the resource base of the RSA are quarterly revenues, which implies, to simulate the RSA, rendering income “quarterly” on the basis of ad hoc assumptions.

According to the simulation done on the INES (2015 legislation), the number eligible for the base RSA in the fourth quarter of 2015 should be around 2,000,000 households, while according to the CNAF the actual number of beneficiaries of the base RSA (RSA-socle) in December 2015 was 1,720,000 [\[3\]](#). According to the ERFIS survey (and microsimulations), the lack of take-up of the base RSA would be 14% [\[4\]](#).

So is the lack of take-up of the base RSA 14% or 36%? The truth undoubtedly lies in between, but at what level? The lack of take-up of housing benefits is estimated at 5% ([Simon, 2000](#)). But the two benefits (RSA, housing benefits) have similar target groups. The lack of take-up of the RSA is certainly higher than that for housing benefits (the target population is poorer, the administrative procedures are more extensive for the RSA). On the other hand, the difference between 5% (estimated lack of take-up for housing benefits) and 36% (lack of take-up estimated by CNAF for the RSA) is difficult to explain.

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[\[1\]](#) Source: 2017 report by Secours catholique :

https://www.secours-catholique.org/sites/scinternet/files/publications/rs17_0.pdf

[2] But this is not important for the RSA as people over age 65 are eligible for another means-tested benefit, the ASPA.

[3] Base RSA + Base RSA and RSA activité in-work benefit, metropolitan France. CAF+MSA Sources : <http://data.caf.fr/dataset/foyers-allocataires-percevant-le-revenu-de-solidarite-active-rsa-par-caf>

<http://statistiques.msa.fr/wp-content/uploads/2017/01/Situation-du-RSA-au-regime-agricole-a-fin-2015.pdf>

[4] This result varies by a few percentages depending on the year, which shows that the model is – like any model – imprecise. The INES team (INSEE-DREES) considers that the model cannot be used to measure the lack of take-up, in particular because the ERFS does not capture very low incomes well (the estimated lack of take-up using the INES would thus underestimate real non-take-up). Historically, the ERFS is not considered very good for estimating the eligibility for the base RSA. It is true that as RSA beneficiaries are by construction not taxable, they do not risk a penalty in case of misrepresentation. This problem has been solved (partially) by using pre-filled declarations.

Italy: The horizon seems to be clearing

By [Céline Antonin](#)

With growth in Italy of 0.4% in the third quarter of 2017 (see **table** below), the country's economy seems to have recovered and is benefiting from the more general recovery in the euro zone as a whole. The improvement in growth is linked to several factors: first, the continued closing of the output gap, which had worsened sharply after a double recession (2008-2009 and 2012-2013). In addition, the expansionary fiscal policy in 2017 (+0.3 fiscal impulse), mainly targeted at businesses, and thriving consumption driven by expanding employment and rising wages explain this good performance. The increase in employment is the result of the reduction in social contributions that began in 2015 as well as the pick-up in growth in 2016 and 2017.

Despite all this, Italy remains the "sick man" of the euro zone: GDP in volume is still more than 6% below its pre-crisis level, and the recovery is less solid than for its euro zone partners. Furthermore, the public debt, now over 130%, has not yet begun to fall, potential growth remains sluggish (0.4% in 2017), and the banking sector is still fragile, as is evidenced by recent bank recapitalizations, in particular the rescue of the Monte dei Paschi di Siena bank (see below).

In 2018-2019, Italy's growth, while remaining above potential, should slow down. Indeed, fiscal policy will be neutral and growth will be driven mainly by domestic demand. Unemployment will fall only slowly, as the employment support measures implemented in 2017 wind down and productivity returns to its trend level [\[1\]](#) over the forecasting horizon (see [OFCE, La nouvelle grande modération \[in French\], p. 71](#)). Furthermore, the banking sector will continue its long and difficult restructuring, which will hold back the granting of bank loans.

In the third quarter of 2017, the contribution of domestic demand to growth (consumption and investment) reached 0.8 point, but massive destocking attenuated the impact on growth (-0.6 point). Gross Fixed Capital Formation (GFCF) leapt 3% in

the third quarter of 2017, returning to its 2012 level, thanks to a strong increase in the productive sector (machinery, equipment and transport). Private consumption, the other pillar of domestic demand, grew on average by 0.4% per quarter between the first quarter of 2015 and the third quarter of 2017, thanks to falling unemployment and a reduction in precautionary savings. Credit conditions have improved slightly due to the quantitative easing policy pursued by the ECB, even though the channel for the transmission of monetary policy is suffering from the difficulties currently hitting the banking sector.

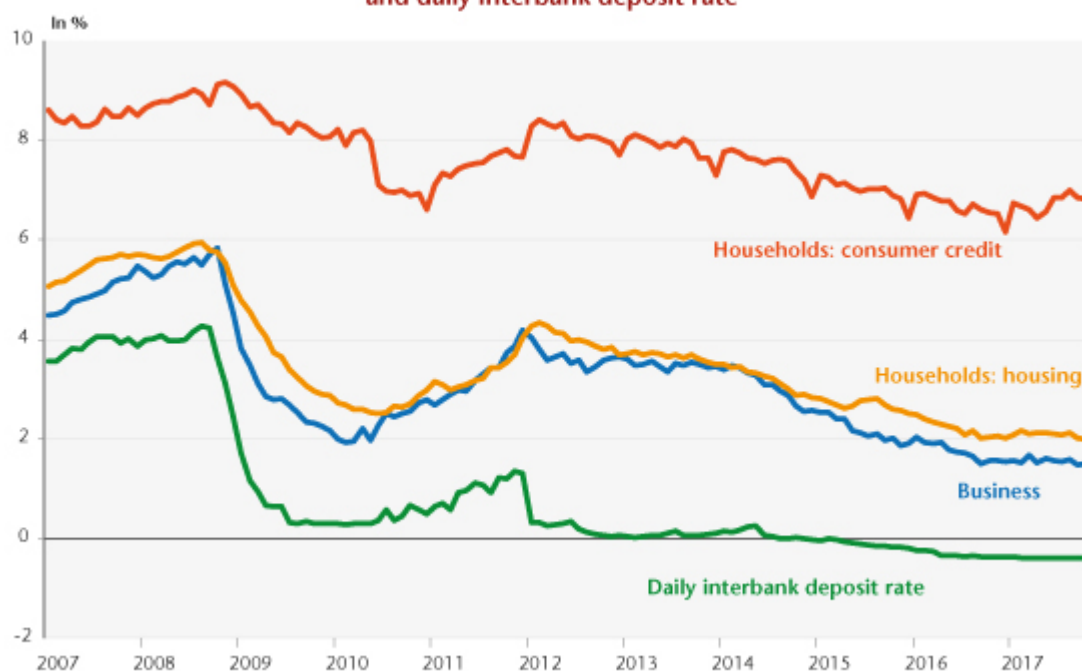
The number of people in employment rose to 23 million in the second quarter of 2017, back to its pre-crisis level, while the unemployment rate is declining only slowly due to the steady increase in the labour force [\[2\]](#). Job creation did indeed take place between 2014 and 2017 (around 700,000 jobs created, 450,000 of them permanent), mainly due to the lowering of charges on new hires in 2015 and 2016 and the resumption of growth. Moreover, according to INPS figures, the number of new hires on permanent contracts decreased (between January-September 2016 and January-September 2017) by -3.1%, as did conversions from temporary contracts to fixed-term contracts (-10.2%), while the numbers of new hires on temporary contracts exploded (+ 27.3%): in other words, it is mainly precarious contracts that are currently contributing to job growth. From 2018, the pace of job creation is expected to decline due to the winding down of the measures cutting employer social contributions (which represented a total of 3 billion euros) and the slowdown in economic growth. This underpins a forecast of a very slow decline in unemployment: employment is expected to rise more slowly in 2018 and 2019, but the labour force is also growing more slowly, due to a bending effect, a distortion linked to the slowdown in job creations and the retirement of the baby boom generation.

The productivity cycle in Italy is still in poor shape,

despite the downward revision of the productivity trend (-1.0% for the period 2015-2019). The measures taken to cut social security contributions over the 2015-2016 period will have enriched employment growth by 27,000 jobs per quarter (extrapolating the estimates by [Sestito and Viviano, Bank of Italy](#)). Our hypothesis was for a closure of the productivity cycle over the forecast horizon, with productivity picking up pace in 2018 and 2019 [\[3\]](#).

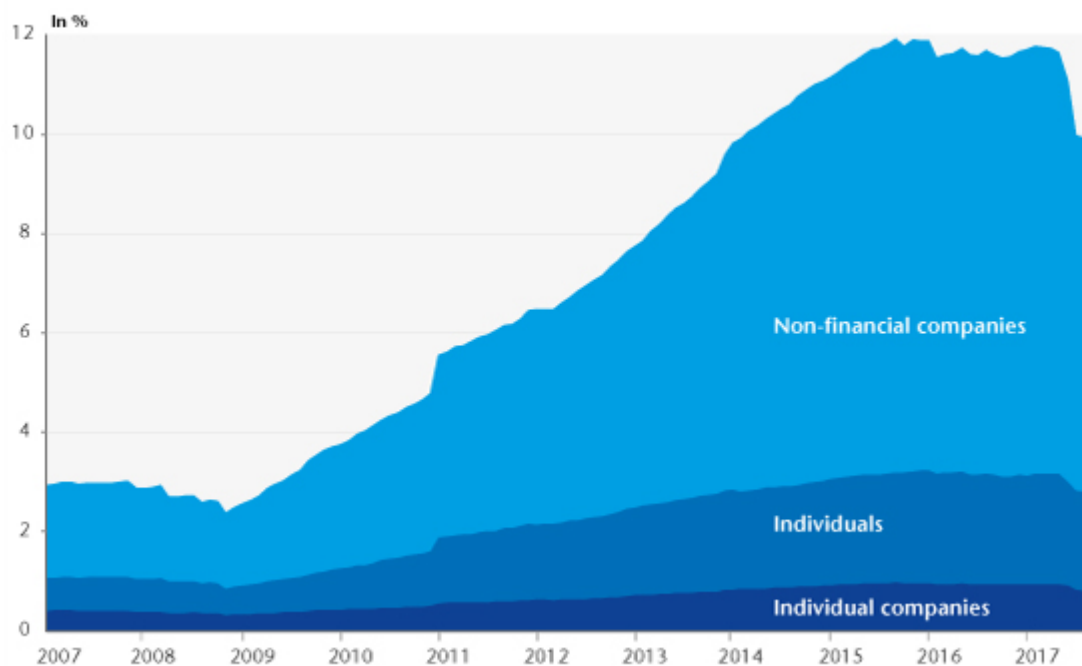
Moreover, the productive investment rate recovered strongly in the third quarter of 2017: it should continue to rise in 2018 and 2019, thanks in particular to a higher pace of extra-depreciation, to the ECB's quantitative easing programme and to clearing up the situation of the banks, which should allow a better transmission of monetary policy (**Figure 1**). In addition, the amount of bad debt (*sofferenze*) began to fall sharply (down 30 billion euros between January and October, 2 GDP points – **Figure 2**). This is linked to the gradual restructuring of bank balance sheets and the economic recovery in certain sectors, particularly construction, which accounts for 43% of business bad debt.

Figure 1. Interest rates on new loans to households and business and daily interbank deposit rate



Source: Bank of Italy.

Figure 2. Bad debt (*sofferenze*) as a share of GDP



Sources: Istat, Bank of Italy.

In 2017, it was domestic demand that was driving growth; the contribution of foreign trade was zero because of the dynamism of imports and the absence of any improvement in price competitiveness. We anticipate that the contribution of foreign trade will be null in 2018 and slightly positive in 2019 thanks to an improvement in competitiveness (Table).

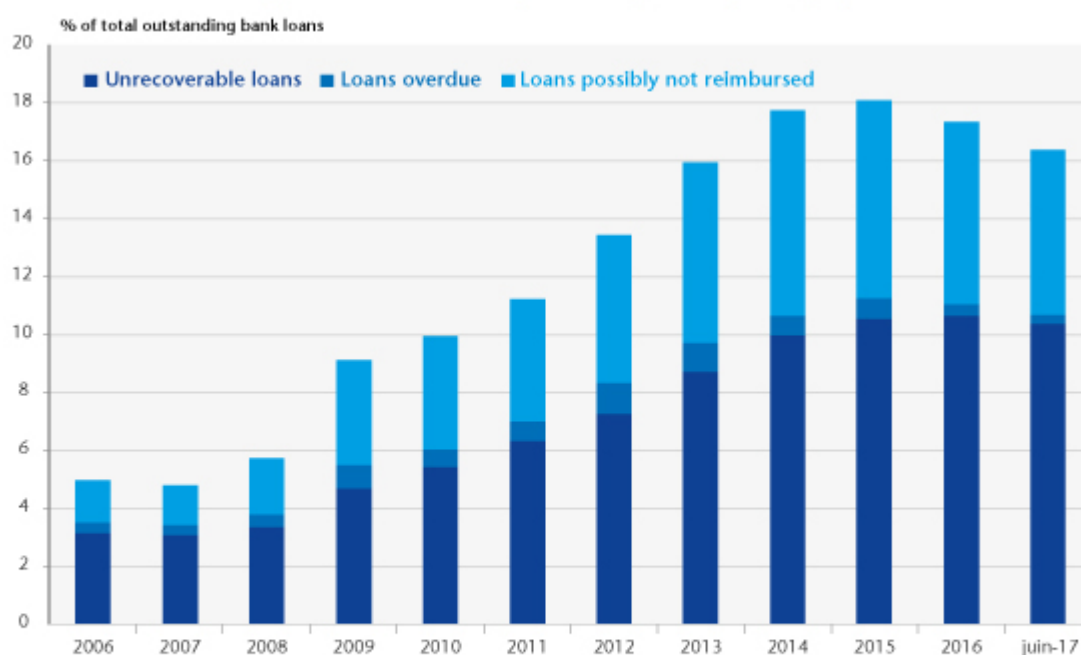
Fiscal policy was expansionary in 2017 (+0.3 point impulse) and supported growth. This has mainly benefited business: support for the world of agriculture, extra-depreciation, the reduction of the corporate tax rate (IRES) from 27.5% to 24% in 2017, a boost in the research tax credit, etc. 2018 should not see a noticeable increase in taxation, and spending is expected to increase slightly (0.3%). The additional public expenditure should reach 3.8 billion euros, for: youth bonuses (youth employment measures), prolongation of extra-depreciation in industry, the renewal of civil service contracts and the fight against poverty. As for public revenue, the government has ruled out a VAT hike that would have brought in 15.7 billion euros; the adjustment will therefore come from a smaller reduction in the deficit and an increase in revenue (5 billion euros forecast). To boost

revenue, the government is counting on the fight against tax evasion (repatriation, recovery of VAT with electronic invoicing), and the establishment of a web tax on large companies on the Net.

A banking sector in full convalescence

The deterioration in the situation of Italy's businesses, in particular small and medium-sized enterprises, has led since 2009 to a sharp increase in non-performing loans. Since 2016, the situation of the Italian banking sector has improved somewhat, with a return on equity of 9.3% in June 2017 against 1.5% in September 2016. The ROE is higher than the European average (7% in June 2017) and puts the country ahead of Germany (3.0%) and France (7.2%). In addition, at the end of June 2017, the ratio of bad debt to total loans came to 16.4% (8.4% net of provisions), of which 10.4% was for unrecoverable loans (**Figure 3**). Banks are shedding these loans at an increasing pace with various partners (Anglo-American hedge funds, doBank, Atlante and Atlante 2 funds, etc.). Hence, between 2013 and 2016, the share of bad loans that were repaid in the year rose from 6 to 9%. Overall, the amount of bad loans was cut by 25 billion euros between 2016 and June 2017, down to 324 billion euros, of which 9 billion euros came from the liquidation of the Venetian banks (Banca Popolare di Vicenza and Veneto banca). This improvement reflects the fact that the banks are increasingly adopting active management policies for bad debts. In addition, the 2015 Asset Seizure Reform reduced the length of property seizure proceedings.

Figure 3. Share of non-performing debt by category



Note: Non-performing loans can be broken down into three mutually exclusive categories:

- Unrecoverable loans, which designates exposure to a debtor who's insolvent;
- Loans possibly not reimbursed, which designates exposure to a debtor who has little chance of reimbursing in full without some action such as the invoking of guarantees;
- Loans with overdue repayments, which designates any exposure where the delay in reimbursement exceeds 90 days.

Sources: Bank of Italy, Financial stability reports.

The Italian government has implemented various reforms to cope with the difficulties facing the country's banking sector. First, it has been working to accelerate the clearance of bad debts and to reform the law on bankruptcy. Legislative Decree 119/2016 introduced the "martial pact" (*patto marciano*), which makes it possible to transfer real estate used as collateral to creditors (other than the debtor's principal residence); the real estate can then be sold by the creditor if the default lasts more than 6 months. Other rules aim at speeding up procedures: the use of digital technologies for hearings of the parties, the establishment of a digital register of ongoing bankruptcy proceedings, the reduction of opposition periods during procedures, an obligation for judges to order provisional payments for amounts not in dispute, the simplification of the transfer of ownership, etc.

In April 2016, the government introduced a public guarantee system (*Garanzia Cartolarizzazione Sofferenze, GCS*) covering bad debts, for a period of 18 months (extendable for another 18 months). To benefit from this guarantee, the bad debt must

be securitized and repurchased by a securitization vehicle; the latter then issues an asset-backed security, the senior tranche of which is guaranteed by the Italian Treasury.

The Atlante investment fund was also set up in April 2016, based on public and private capital, in order to recapitalize troubled Italian banks and redeem bad debt.

There are many lessons to be drawn from the case of the Monte dei Paschi di Siena bank (MPS, the country's fifth-largest bank), which has been a cause of major concern. The Italian State, working in coordination with the European Commission and the ECB, had to intervene as a matter of urgency, following the failure of the private recapitalization plan at the end of 2016. A system of public financial support for banks in difficulty was introduced after a government proposal – “*Salva Risparmio*” [\[4\]](#) of 23 December 2016 – was enacted on 16 February 2017. The precautionary recapitalization of MPS was approved by the Commission on 4 July 2017 [\[5\]](#), in the amount of 8.1 billion euros. The Italian State increased its stake in the bank's capital by 3.9 billion euros on the one hand, and on the other 4.5 billion euros of the bank's subordinated bonds were converted into shares. The State is also to buy 1.5 billion euros of shares resulting from the forced conversion of bonds held by individuals (i.e. a total of 5.4 billion euros injected by the State, giving it a 70% holding in the capital of MPS). MPS will also sell 26.1 billion euros of bad debt to a special securitization vehicle, and the bank will be restructured.

Two other banks, the Venetian banks Banca Popolare di Vicenza and Veneto banca (the 15th and 16th largest banks in the country in terms of capital), were put into liquidation on 25 June 2017, in accordance with a “national” insolvency procedure, which lies outside the framework set by the European BRRD Directive [\[6\]](#). The Intesa Sanpaolo bank was selected to take over, for one symbolic euro, the assets and liabilities of the two banks, with the exception of their bad

debts and their subordinated liabilities. The Italian State will invest 4.8 billion euros in the capital of Intesa Sanpaolo in order to keep its prudential ratios unchanged, and it can grant up to 12 billion euros of public guarantees.

The Italian banking sector is thus in the midst of restructuring, and the process of clearing up bad debt is underway. However, this process will take time; the ECB nevertheless seems to want to tighten the rules. In early October 2017, the ECB unveiled proposals demanding that the banks fully cover the unsecured portion of their bad debt within two years at the latest, with the secured portion of the debt to be covered within at most seven years. These proposals will apply only to new bad debt. The Italian parliament and the Italian government reacted to these announcements by warning of the risk of a credit crisis. Even though these are only proposals, for now, this indicates that it is a priority to clear Italy's bad debt rapidly, and that the government must stay the course.

Table. Italy: Summary of forecasts

Change from the preceding period (%)												
	2017				2018				2016	2017	2018	2019
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
GDP	0.5	0.3	0.4	0.3	0.3	0.3	0.2	0.3	1.1	1.5	1.2	0.9
GDP per capita	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	1.0	1.2	0.9	0.7
Household consumption	0.7	0.2	0.3	0.3	0.3	0.3	0.3	0.3	1.5	1.5	1.2	1.0
Public consumption	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.1	-0.2
Total GFCF, of which:	-2.2	1.1	3.0	0.5	0.4	0.3	0.3	0.4	3.0	3.2	3.0	1.3
Productive	-7.2	3.6	8.2	0.6	0.5	0.4	0.4	0.3	7.1	6.6	6.4	1.3
Housing	0.7	-0.3	0.4	0.2	0.2	0.2	0.2	0.2	2.8	1.8	0.7	0.6
Exports of goods and services	1.8	0.1	1.6	0.6	0.7	0.7	0.7	0.7	2.6	5.1	2.9	2.3
Imports of goods and services	0.7	1.6	1.2	0.6	0.6	0.6	0.6	0.6	3.3	5.4	2.8	2.0
<i>Contributions:</i>												
Domestic demand excl. stock	0.1	0.4	0.7	0.3	0.3	0.2	0.2	0.2	1.5	1.6	1.3	0.8
Change in stock	0.1	0.4	-0.5	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.2	0.0
Foreign trade	0.3	-0.4	0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.1	0.1
Consumer prices (HICP) ¹	1.4	1.6	1.2	1.2	0.8	0.8	0.8	0.9	-0.1	1.0	0.5	1.0
Unemployment rate	11.6	11.2	11.2	11.1	11.0	10.9	10.9	10.8	11.7	11.3	10.9	10.8
Current balance as % of GDP									2.7	2.6	2.6	2.5
Current deficit as % of GDP									-2.5	-2.0	-1.5	-1.2
Public debt as % of GDP									132.8	132.3	131.1	129.9
Fiscal impulse in GDP points									0.3	0.3	0.1	0.1
GDP – euro zone	0.6	0.7	0.6	0.4	0.4	0.4	0.4	0.4	1.8	2.4	1.9	1.6

1. For the quarters, year-on-year. For the years, annual average.

Sources: ISTAT, Author's calculations, OFCE October 2017 forecast.

[1] Estimated according to a model using trend breaks, we estimate the productivity trend at -1.0% for the period 2015-2019, due to growth that is more job-rich.

[2] This increase in the labour force is due to a higher participation rate among older workers (aged 55-64), which is linked to the lowering of the minimum retirement age. It is also due to women's increased participation in the labour market, as a result of the Jobs Act (extension of maternity leave, telecommuting, financial measures to reconcile work and family life, a budget of 100 million euros for the creation of childcare services, etc.).

[3] The increase in productivity per capita in market waged employment rose from -0.7 % in 2017 to 0.3 % in 2018 and 0.6 % in 2019.

[4] The Salva Risparmio Decree Law provides for the creation of a fund with 20 billion euros to support the banking sector. This allows the State to carry out precautionary recapitalizations of banks; it provides guarantees on new issues of bank debt; and it provides liquidity from the central bank under Emergency Liquidity Assistance (ELA). It also protects savers by providing the possibility of the State buying back subordinated bonds converted into shares prior to the public intervention.

[5] European Parliament, [The precautionary precaution of Monte dei Paschi di Siena](#)

[6] For greater detail, see the note [in French] by Thomas Humblot, [Italie : liquidation de Veneto Banca et de Banca Popolare di Vicenza](#), July 2017.

The euro zone: A general recovery

By [Christophe Blot](#)

This text is based on the 2017-2019 outlook for the global economy and the euro zone, a full version of which is available [here](#).

The euro zone has returned to growth since mid-2013, after having experienced two crises (the financial crisis and the sovereign debt crisis) that led to two recessions: in 2008-2009 and 2011-2013. According to [Eurostat](#), growth accelerated during the third quarter of 2017 and reached 2.6% year-on-year (0.6% quarter-on-quarter), its highest level since the first quarter of 2011 (2.9%). Beyond the performance

of the euro zone as a whole, the current situation is marked by the generalization of the recovery to all the euro zone countries, which was not the case in the previous phase of recovery in 2010-2011. Fears about the sustainability of the debt of the so-called peripheral countries were already being reflected in a sharp fall in GDP in Greece and the gradual slide into recession of Portugal, Spain and a little later Italy.

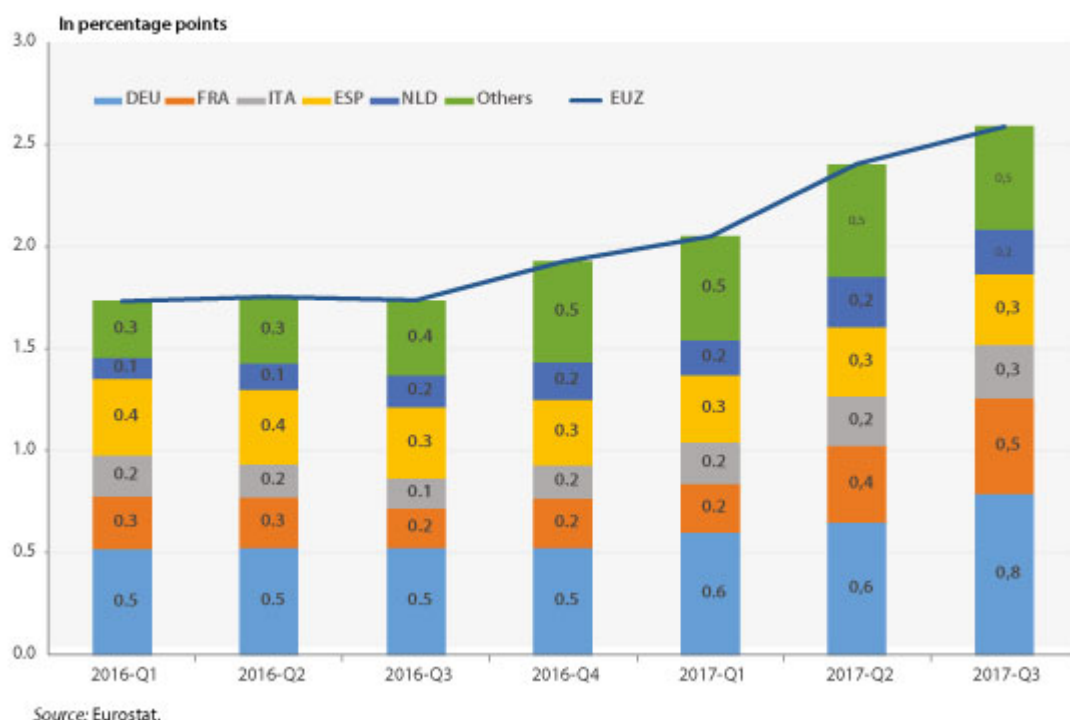
Today, while Germany remains the main engine of European growth, all of the countries are contributing to the accelerating recovery. In the third quarter of 2017, Germany's contribution to euro zone growth was 0.8 point, a faster pace than in the previous two quarters, reflecting the vitality of the German economy (see the Figure). However, this contribution was even greater in the first quarter of 2011 (1.5 points for growth of 2.9% year-on-year). This catching-up trend is continuing in Spain, which in the third quarter of 2017 had quarterly growth of 3.1% year-on-year (0.8% quarter-on-quarter), making a 0.3 point contribution to the euro zone's overall growth. Above all, activity is accelerating in the countries that up to now had been left a little bit out of the recovery, particularly in France and Italy, which contributed respectively 0.5 and 0.3 points to the growth of the zone over the third quarter^[1]. Finally, the recovery is taking root in Portugal and Greece.

This renewed dynamism of the European economy is due to several factors. Monetary policy is still very expansionary, and the securities purchases being carried out by the Eurosystem help to keep interest rates low. Credit conditions are favourable for investment, and the access to credit for SMEs is being loosened up, especially in the countries that were hit hardest by the crisis. Finally, fiscal policy is generally neutral or even slightly expansionary.

The current optimism must not nevertheless hide the scars left by the crisis. The euro zone unemployment rate is still higher

than its pre-crisis level: 9% against 7.3% at the end of 2007. The level still exceeds 10% of the active population in Italy, 15% in Spain and 20% in Greece. The social consequences of the crisis are therefore still very visible. These conditions justify the need to continue to support growth, particularly in these countries.

Figure. The contributions to growth in the euro zone



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.

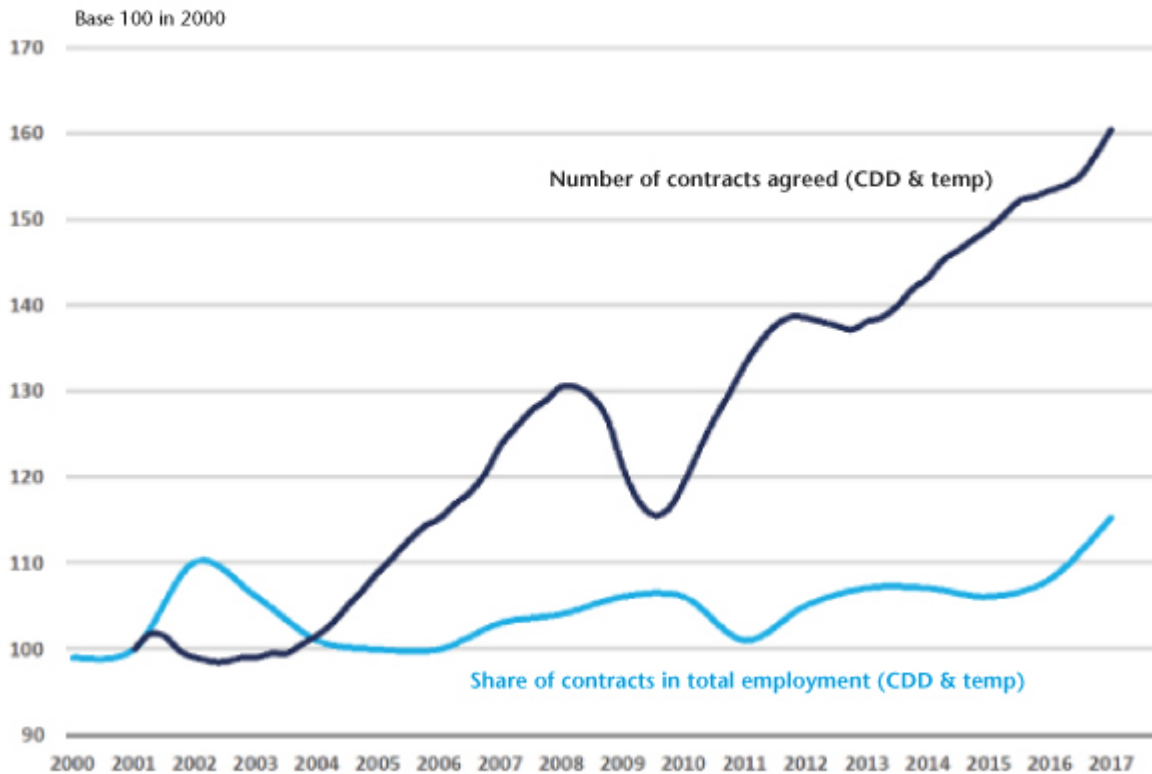
[1] See [Goodhart](#) (2010).

Short-term contracts: Not all taxes are the same

By Bruno Coquet, OFCE and IZA

Short-term contracts are useful for the proper functioning of an economy, but in France their expansion, together with shortening contract periods (Figure 1), is costing economic agents as a whole dearly, while the minority of companies that make extensive use of these is bearing only a marginal fraction of the costs.

Figure. Fixed-term (CDD) and temporary contracts: number of contracts and share of total employment (2003-2017)



Sources: Insee, Acoess, author's calculations.

Experience has shown that the use of short-term contracts in France has not been held back by what are generally considered to be strict labour regulations. It seems reasonable to think that if employers make massive use of short-term contracts, it is probably not because they are forced to do so, but because they have an interest in doing so. It then becomes clear that what needs to be influenced is the economic equations of the user companies, and not simply the law. Economic theory is inclined to modulate the prices of different employment contracts in accordance with the externalities they generate.

The State could therefore tax short-term contracts, but the role of unemployment insurance in modulating the pricing of these contracts has a stronger and more immediate impact. Indeed, unemployment insurance is in the front line of change, and its rules have evolved to better ensure that short-term contracts are adapting. But the insurer is confronted with a paradox: insuring short-term contracts creates cross-subsidies that encourage their greater use. The optimal functioning of

insurance thus now requires the modulation of the price of employment contracts.

Different levers exist to price employment contracts, but they are not all equal: the goal must be clear, as must the instrument appropriate to achieve the goal. Nor are all levers adapted to the French context, which calls for rules that are transparent, easy to administer, applicable to all employment contracts and all sectors (without exception, including the public), and encourage employers to make use of less costly choices. The pricing must be contemporaneous with expensive behaviour, but neither punitive nor symbolic, not increasing the cost of labour, and not aiming to bail out the Unedic agency.

In a [working document of the OFCE](#) [in French], we describe these different instruments for modulating the prices of employment contracts, their advantages and disadvantages, in absolute terms and in the context of France. A tax that is modulated by sector, and even more so a tax modulated by company, both appear to be ill-suited to solving the problem of short-term contracts as it is currently posed in France. They could even be counterproductive.

A contribution that is digressive according to the duration of the employment contract, together with a flat rate and a deductible, appears to be the mechanism best suited to ensure the survival of unemployment insurance in a labour market marked by the increasing use of ever shorter work contracts. It would be desirable to combine this digressive contribution with a flat-rate system designed to reduce incentives to create extremely short contracts, and with a deductible designed not to increase the labour costs of small businesses, particularly those that are growing strongly.

Our simulations illustrate that finely negotiated parameters can lead to a balance that satisfies all the stakeholders.

For more, see: [Bruno Coquet, La tarification des contrats courts : objectifs et instruments, Sciences Po OFCE Working Paper, no. 29, 2017-12-08.](#)

Brexit: Pulling off a success?

By [Catherine Mathieu](#) and Henri Sterdyniak

Will the EU summit of 14-15 December 2017 usher in a new phase of negotiations on the exit of the United Kingdom from the European Union?

British Prime Minister Theresa May wants to make Brexit a success and to arrange a special partnership between the UK and the EU, a tailor-made partnership that would allow trade and finance to continue with minimal friction after the UK leaves the EU, while restoring the UK's national sovereignty, in particular by regaining the ability to limit the immigration of workers from the EU and by no longer being subject to the European Union Court of Justice (EUCJ). For the EU-27 countries, on the contrary, it must be made clear that leaving the EU incurs a significant economic cost, with no significant budgetary gain, that those who leave must continue to accept a major share of European rules and that they cannot claim the benefits of the single market without bearing the costs. Other Member States should not be tempted to follow the British example.

This post examines the negotiating positions of the EU-27 and the British government and the divisions in the UK in the run-

up to the European summit. The negotiations, which have been going on for almost six months, are difficult and cover numerous issues: citizens' rights, financial regulations, the Irish border and the future partnership between the United Kingdom and the EU-27.

Will the EU summit of 14-15 December 2017 usher in a new phase of negotiations on the United Kingdom's departure from the European Union? As we approach the summit, the stakes are high for the British. On 23 June 2016, a majority of the British people voted in favor of leaving the EU, but it was not until 29 March 2017 that Theresa May officially notified the British decision to leave by triggering Article 50 of the Treaty on the European Union. This article stipulates that, "A Member State which decides to withdraw shall notify the European Council of its intention. In the light of the guidelines provided by the European Council, the Union shall negotiate and conclude an agreement with that State, setting out the arrangements for its withdrawal, taking account of the framework for its future relationship with the Union." The triggering of Article 50 opens a two-year period to negotiate the exit of the UK on 29 March 2019.

The negotiations have been going on for almost six months. They are difficult and cover numerous issues. This is the first time a country has asked to leave the EU, and neither the UK nor the EU-27 want to lose out. For the British government, the key goal is to establish a future commercial and financial partnership with the EU. Theresa May wants to make Brexit a success and to arrange a special partnership between the UK and the EU, a tailor-made agreement that would allow trade and finance to continue with minimal friction after leaving the EU, while restoring the UK's national sovereignty, in particular by regaining the ability to limit the immigration of workers from the EU and by no longer being subject to the EU Court of Justice. For the EU-27 countries, on the contrary, it must be shown that leaving the EU incurs a

significant economic cost, with no significant budgetary gain, that those who leave must continue to accept a major share of European rules and that they cannot claim the benefits of the single market without bearing the costs. Other Member States should not be tempted to follow the British example.

The EU-27 position and the divisions in Britain

On 29 April 2017, the European Council set out its negotiating lines and appointed Michel Barnier chief negotiator on behalf of the EU. In the EU's view the negotiations need to focus initially on an "orderly withdrawal", i.e. exclusively on three points: the rights of European citizens in the UK; a financial settlement for the British departure; and the border separating the Republic of Ireland and Northern Ireland. The EU-27 has taken a tough stance on each of these three points and is refusing to discuss any future relationship between the EU and the UK before these are settled. It has banned any bilateral talks (between the UK and an EU member country) and blocked any pre-negotiations between the UK and a third country on their future trade relations. This has placed the United Kingdom in a difficult position, as companies (British and foreign) want to remove any uncertainties about UK-EU trade conditions after March 2019, and are threatening to cut their investments in the UK, or even to relocate within the EU-27, if this uncertainty is not removed.

The EU is in a strong position, since trade with the EU is five times larger for the UK than trade with the UK is for the EU. Moreover, the EU demonstrated its unity in the face of the British exit (as it did during the Greek crisis). In both cases, firm positions prevailed. More conciliatory lines did not come out in the European Council or in the European Parliament, as if the partisans of such positions were afraid to be accused of breaking Europe's unity.

The British, in contrast, are split into four positions that divide the ranks of both Conservatives and Labour. Among the

supporters of staying in the EU, the Remainers, some, like Tony Blair and Michael Heseltine, who are very much in the minority, still hope that, in the face of difficulties, the United Kingdom will give up on leaving the EU. Lord Kerr, who drafted Article 50, has pointed out that the decision to trigger the article is reversible. But it would be contrary to British democratic tradition not to respect the popular vote. A new referendum could be organized, but in view of the polls there is no guarantee that a vote would have a different result today than it did on 23 June 2016.

For most Remainers, Brexit will indeed take place, and what is needed now is to minimize its economic cost. Some Remainers, especially in Labour, are currently advocating a “soft Brexit”, which would allow the UK to remain in the single market. But, given the conditions imposed by the EU-27 (respect for the “4 fundamental freedoms” – free movement of goods, services, capital and labor – and maintaining the CJEU’s authority), Brexit would then ultimately simply deprive the United Kingdom of having a voice in the decisions that it would have to implement. Proponents of a soft Brexit are also in favor of a transition period (provided for by the Treaty, subject to the unanimous agreement of the EU countries), which would postpone for two years the UK’s exit and avoid the risk of it leaving the EU on 29 March 2019 without a negotiated agreement.

The most ardent Brexiteers are willing to run the risk of a “hard Brexit”, i.e. leaving with no agreement with the EU. The UK would no longer have to contribute to the EU budget (about 0.5 GDP point per year in net terms), and it would have the status of a third country under WTO rules. The United Kingdom would then renegotiate trade agreements with all its partners, including the United States. Border controls would be reinstated. Proponents of a hard Brexit are not in favor of a transitional period, which they feel would only delay the moment when the United Kingdom “would regain control” and

prevent it from negotiating agreements with non-EU countries. In the case of a hard Brexit, the risk is that the multinationals would relocate their factories and head offices to continental Europe, that in general it would become less attractive to invest in the United Kingdom and that a large part of the euro zone's banking and financial activities would leave London for Paris, Frankfurt, Amsterdam or Dublin.

London could, however, play the card of tax competition (in particular by cutting the corporation tax rate) and become a regulatory paradise, especially in financial matters. However, it would be very difficult for the United Kingdom to free itself of international constraints (agreements such as COP21, on the fight against tax optimization, on the exchange of tax and banking information, or Basel III). The financial conditions for the UK's departure would be subject to a judicial settlement. For more ardent free marketeers, Brexit would help to strengthen the UK's laissez-faire model. However, it is unlikely that the United Kingdom, whose legislation is already very liberal, would enjoy a substantial growth shock induced by even more liberal reforms.

The British government is evolving an intermediate position. In 2016, when Theresa May was a minister in David Cameron's government, she called for voting to stay in the EU, but she is now aiming to make Brexit a success: the UK must become a champion of globalization ("A global Britain") and of free trade, in the British liberal tradition, which must turn its face towards the open sea. The country also has a trade surplus vis-à-vis its non-EU partners, primarily with the United States, and has maintained historical ties with the Commonwealth countries, while it has a large trade deficit with the EU countries (although it runs a surplus in services).

Theresa May has taken note of the EU-27 position that the UK will not be able to remain in the single market if it does not respect the four "fundamental freedoms". She is nevertheless

trying to maintain privileged trade and financial relations with the EU by setting up a specific free trade partnership. Since the UK wants to be able to regain control of its borders, manage the entry of workers from the EU, and no longer submit to the EU Court of Justice, and unlike the EFTA countries refuses to submit to standards on which it will have no say in exchange for free access to the European market, Theresa May is proposing that a “specific and in-depth partnership” be established between the UK and the EU. In addition, since her September 2017 speech in Florence, she has called for a two-year transition period from March 2019 to March 2021.

Theresa May held early parliamentary elections in June 2017 in an effort to strengthen her Tory majority in Parliament. In fact, Labour’s attacks on austerity and on Tory positions favouring a reduction in welfare benefits led to the loss of the Tory majority. Theresa May had to reach an agreement with the Democratic Unionist Party (DUP), a Northern Ireland pro-Union party that is conservative on social affairs, but opposed to austerity and to any compromise with the Republic of Ireland. Theresa May has therefore entered the Brexit negotiations with a weakened and divided majority, with some of her ministers (David Davis, Secretary of State for Brexit Negotiations; Boris Johnson, Secretary of State for Foreign Affairs; Liam Fox, Secretary State for International Trade) declaring themselves ready to take the risk of leaving without an agreement.

On 15 November 2017, the UK Parliament finally passed the EU Withdrawal Bill, called the “Great Repeal Bill”, ending the application of EU law in the UK and giving the government the task of transposing (or not) European laws and regulations (i.e. 12,000 texts) into British law. However, it was agreed that any agreement signed with the EU will be submitted to Parliament, with the latter’s refusal implying an exit with no agreement.

The state of negotiations on the eve of the 14-15 December summit

Five rounds of negotiations were initially planned in 2017, from June to October. The objective was that, by the European summit of 19-20 October, sufficient progress was to be made in negotiations on the three points set in April so that the EU-27 countries would agree to start negotiations over the future partnership. On 19 June in the first round, David Davis accepted the EU's request for sequencing. Thus, only the three points desired by the EU-27 have been discussed, while for the UK government (and the country's businesses), what is crucial is the future partnership. At the end of the fifth round, on 12 October 2017, the EU's chief negotiator Michel Barnier declared that the negotiations on the financial aspects were deadlocked and that he could not propose to the October 19th European summit that discussions be started on an agreement. Barnier hoped, however, that progress would be made in time for the 14-15 December EU summit. On 20 October, however, the European Council nevertheless agreed to the possibility of a transition agreement and proposed that preparatory talks be held for the December summit, which would therefore be crucial.

With regard to the rights of citizens, especially the 3.2 million EU citizens living in the UK, Theresa May proposed that all EU citizens who had settled in the UK by 29 March 2017 could obtain a residency status that guarantees them the same rights as British citizens in terms of employment and social rights. This would be automatic for those who have resided there for more than 5 years, and for the rest when they reach 5 years of residence. The negotiations hit stumbling blocks on the reference date (March 2017 or 2019?), on maintaining the right to family reunion and especially on supervision of the application of the agreement by the EUCJ, which the EU-27 is demanding in order to ensure that the UK does not tighten its regulations, but which the UK cannot

accept (it could, however, agree to the establishment of an arbitration tribunal).

On the issue of the Irish border, both parties have agreed to preserve the peace agreement in Northern Ireland and to maintain the absence of a land border, so as not to put obstacles to the lively trade between the two parts of the island or to freedom of movement between the two areas (30,000 people a day cross the border), which is difficult if the United Kingdom is no longer in the single market or in the customs union. The Republic of Ireland is refusing any hard border, and threatens to veto any agreement that would erect additional barriers between the Republic and Northern Ireland. It is asking for special status for Northern Ireland, which would keep it in the customs union. The DUP, working in a contrary sense, opposes Northern Ireland staying in the customs union after Brexit, or at least any agreement that would not apply to the whole of the United Kingdom; the British government, desirous of maintaining the integrity of the United Kingdom, must refuse to allow Northern Ireland to be subject to EU regulations with a border between Northern Ireland and the rest of the UK. The DUP proposes setting up an invisible border, which will require great creativity. On this point, the EU-27 believes that it is up to the UK to make acceptable proposals. Faced with the difficulties of reconciling the irreconcilable, the two parties could agree to postpone the issue to the end of negotiations on their future partnership.

On the issue of the financial settlement, the positions seem to have drawn closer. On the EU side, some 60 billion to 100 billion euros were mentioned as a British contribution to the European expenditures already committed, while the United Kingdom did not want to tackle the issue of a financial settlement independently of negotiations on the future agreement. In September 2017, however, Theresa May made it clear that the UK would honour its financial commitments to

the EU, namely its share of spending in 2017-19, its commitments for 2020, the investment expenditure committed beyond that, and its share of the pensions of European officials. The United Kingdom is to pay between 45 and 50 billion euros. As part of the negotiations on the future partnership, the UK government could commit to possible future contributions to the functioning of the single market.

Although none of the three initial negotiating points are really resolved today, it seems that the EU-27 will agree that negotiations on the future partnership can begin in 2018. This will require the EU-27 countries to agree on a common position, which will mean postponing the beginning of a new round of negotiations until March 2018. It is likely, and desirable, that the European Council meeting of 14-15 December accepts the British request for a two-year transition period in order to eliminate the risk that it could leave without an agreement in March 2019.

It will then be necessary to come to an agreement on the future partnership between the EU-27 and the United Kingdom. The EU-27 must not give in to the temptation to punish a departing country by applying only WTO rules to it, which would also harm EU exports to Britain, especially as the EU has a current account surplus of 130 billion euros vis-à-vis the country. Similarly, industrial cooperation agreements (Airbus, arms, energy, etc.) can hardly be called into question. It seems impossible for the EU-27 to accept that the UK remains in the single market and chooses which rules it wishes to apply. The minimum would be a trade agreement, modeled on the Canada-EU Comprehensive Economic and Trade Agreement (CETA). The most promising outcome for both parties would undoubtedly be to reach an agreement for a balanced commercial partnership that would serve as a model for creating a third circle in Europe, which could eventually make it possible to bring on board Norway, Iceland, Switzerland, Ukraine, Turkey, Morocco and other countries, and which would

avoid leaving third countries to face a choice between keeping their national sovereignty and the benefits of trade liberalization.

OPEC meeting: Much ado about nothing?

par [Céline Antonin](#)

On 30 November 2017, OPEC members decided on a nine-month extension of their 2016 agreement on production caps with country quotas, i.e. until December 2018. Other producing countries associated with the agreement, led by Russia, decided to continue their cooperation by also extending their agreement on production cuts.

This decision was highly anticipated by the markets, and thus came as no surprise, especially since the display of unity barely concealed underlying divergences between some countries: there is on one side the relatively moderate position of Russia, which dragged its feet in signing the agreement, and on the other, the proactive stance of Saudi Arabia, which has resumed more active price management after several years of a more relaxed approach. The oil-producing countries are still divided between on the one hand a desire to support prices and balance their public finances, and on the other the constant fear of market share being stolen by the inexorable rise of US shale oil. Given this dual constraint, and the prospect of a progressive rebalancing between supply and demand over the next two years, we conclude that oil prices should hover around 59-60 dollars per barrel

in 2018 and 2019.

Worldwide demand is of course continuing to grow, driven by the emerging markets and the United States, but the overall supply is still plentiful (Table 2). In our October 2017 forecast, we anticipated a continuation of quotas until March 2018; we have now extended this until December 2018, which translates into a slightly lower level of supply in 2018 (-0.2 million barrels per day below the October 2017 forecast).

The return to active management since end 2016

Since 2014, the OPEC countries have, at the instigation of Saudi Arabia, allowed, if not tacitly encouraged, the continuation of a situation of abundant supplies in order to maintain low prices and to squeeze out some of the unconventional production in the US in an effort to protect its market share. However, the position of the Saudi kingdom changed at the end of 2016: first, its offensive strategy vis-à-vis shale oil in the US did not really bear fruit, as production there continued at a steady pace. In addition, the sharp drop in prices seriously depressed Saudi public finances. The public deficit rose from 3.4% of GDP in 2014 to 15.8% in 2015, then 17.2% in 2016. At the same time, the Saudis are seeking to modernize their economy and privatize the state oil company, Saudi Aramco, and to do that they need oil to be more expensive and more profitable.

In an attempt to boost oil prices, the OPEC countries have gone outside the cartel to involve a number of non-member countries, notably Russia. Two agreements to reduce production were concluded at the end of 2016^[1]: these called for a coordinated decline of nearly one million barrels per day (mbd) for OPEC members and 0.4 mbd for the other producers (Table 1). Have these agreements been respected? And have they raised prices? Not really. One year after the agreement, the countries concerned have complied about 80% with the

production ceilings, but in a very unequal way. And the withdrawal of 1.3 mbd from the market did not have a strong impact on prices, for four reasons:

1. First is the fact that the benchmark adopted for establishing production cuts was the level in October 2016, which is high for several countries;
2. In addition, three OPEC countries were “spared” by the production cuts. Iran was for instance granted a production ceiling of 4 mbd (0.3 mbd more than in October 2016), to enable it to regain its level prior to Western sanctions. Similarly, Libya and Nigeria were not subject to a production ceiling, yet they experienced a sharp rise in production between October 2016 and July 2017 (460,000 barrels per day for Libya and 190,000 barrels per day for Nigeria);
3. Furthermore, output from non-OPEC countries continued to rise strongly, with US production increasing by 1.1 mbd between October 2016 and July 2017 and Brazilian output by 0.3 mbd, which largely offset the reductions in Russia (-0.3 mbd) and Mexico (-0.1 mbd);
4. Finally, inventories are still at high levels: they represent 102 days of demand in the United States and 99 days of demand in the OECD countries.

Table 1. Respect for the agreements to cut production, October 2017

In millions of barrels per day (mbd)

	Production october 2017	Reference: october 2016	Commitment to cut production	Actual reduction	Respect for commitment
OPEC country					
Algeria	1.02	1.05	-0.05	-0.03	60 %
Angola	1.68	1.60	-0.08	0.08	-103 %
Ecuador	0.54	0.55	-0.03	-0.01	38 %
Equatorial Guinea	0.14	0.16	-0.01	-0.02	167 %
Gabon	0.20	0.20	-0.01	0.00	0 %
Iran	3.85	3.70	0.09	0.15	167 %
Iraq	4.36	4.54	-0.21	-0.18	86 %
Kuwait	2.74	2.91	-0.13	-0.17	130 %
Qatar	0.61	0.65	-0.03	-0.04	133 %
Saudi Arabia	10.16	10.55	-0.49	-0.39	80 %
United Arab Emirates	2.91	3.07	-0.14	-0.16	115 %
Venezuela	1.91	2.09	-0.10	-0.18	189 %
Total OPEC 12	30.12	31.07	-1.18	-0.95	81 %
Libya	0.96	0.55			
Nigeria	1.69	1.47			
Total OPEC 14	32.77	33.09			
Non-OPEC countries*					
Azerbaijan	0.80	0.83	-0.04	-0.03	86 %
Kazakhstan	1.91	1.79	-0.02	0.12	-600 %
Mexico	2.27	2.42	-0.10	-0.15	150 %
Oman	1.01	1.02	-0.05	-0.01	22 %
Russia	11.13	11.45	-0.30	-0.32	107 %
Total non-OPEC	17.12	17.51	-0.50	-0.39	78 %

* Only the main non-OPEC countries that have made commitments to cut output are presented here.
Sources: EIA for production figures, International Energy Agency (Oil Market Report) for production ceilings.

The agreement of 30 November 2017 doesn't change the situation

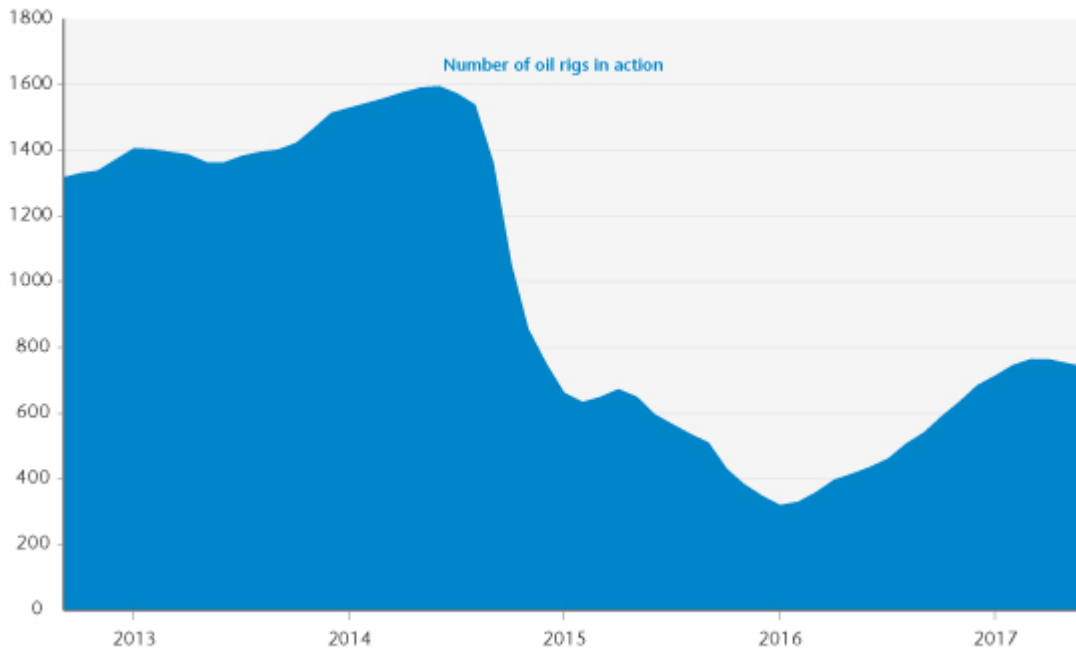
The two 2016 agreements called for limiting production until March 2018, with the possibility of an extension, and OPEC has now decided to extend this by an additional nine months, until December 2018. Moreover, Libya and Nigeria, previously not part of the agreement, have also been incorporated. This information had in fact already been reflected in the market, so the impact was relatively small (USD 5-7 per barrel of Brent). On the other hand, the November 30th meeting highlighted growing differences between the two main protagonists, Saudi Arabia and Russia. Russia had shown more and more reluctance to extend the agreement, due to several factors: first, some new Russian oil fields that were to have been put into service will now have to be postponed, which has angered the producers. Moreover, due to a floating exchange rate regime, a rise in oil prices will lead to a stronger

ruble and undermine the country's competitiveness. Finally, Russia is worried that higher oil prices will encourage American shale oil production and weaken its own market share. As a result, the unity on display in this agreement is actually fragile, and all options will be on the table at the next OPEC meeting in June 2018. Respect for the quotas could even be undermined before this deadline.

American production: Main cornerstone of global production

The way US production develops in 2018 will be of particular importance: especially since 2014, dynamic growth in the US has helped to avoid a surge in oil prices. The number of active oil rigs has been increasing there since the low point of May 2016, but is still well below the 2014 level (graph). However, thanks to more efficient drilling techniques that focus on the most productive areas of the fields (sweet spots), the output of each new well is increasing. In addition, production and investment costs have fallen: production costs are around USD 40 according to the US Bureau of Labor Statistics, which is 35% lower than at the end of 2014; upstream investment costs represent less than USD 15 per barrel produced (compared with USD 27 in 2014). Finally, according to EIA figures, expenditure on oil investment was USD 67 billion in the second quarter of 2017, a 4% year-on-year increase. This underpins our hypothesis that output will rise by 0.6 mbd in 2018 and 2019.

Figure. Number of oil rigs in action in the United States



Source: EIA.

Balancing

supply and demand by 2018-2019

We anticipate sustained growth in global demand (+1.3 mbd in 2018 and +1.4 mbd in 2019), due to the emerging countries (in particular China and India). Chinese demand should represent an additional 0.4 mbd per year, one-third of the overall increase. On the supply side, growth will come from the non-OPEC supply, which should increase by 1 mbd each year from 2017 to 2019. In 2017, the additional supply from North America will represent 0.8 mbd, including 0.6 mbd for the United States and 0.2 mbd for Canada. Kazakhstan and Brazil will contribute upwards of 0.2 mbd each. Production should fall in Mexico (-0.2 Mb) and China (-0.1 Mb). The scenarios for 2018 and 2019 are identical. Iran has the potential to increase its output by at least 0.2 mbd, and some countries could slightly relax their constraints, leading us to forecast an increase in OPEC production of 0.2 mbd in 2018.

However, it's impossible to exclude risks to the supply side. Among the bullish price risks are the likelihood of a more pronounced and coordinated cutback in OPEC production, an escalation in tension between the United States and Iran, and

renewed upheaval in Nigeria and Libya. The bearish risks are linked to the continuation of the OPEC agreement: if OPEC decides not to renew the agreement or compliance with it is limited due to diverging national interests, then prices could fall further.

Table 2. Balance on the oil market and prices of main raw industrial materials

Millions of barrels per day unless stated otherwise

	2016				2017				2018				2016	2017	2018	2019
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Global demand	96.5	96.8	96.9	97.7	97.7	98.7	98.4	98.7	99.2	99.4	99.5	99.9	97.0	98.4	99.5	100.9
<i>Growth rate¹</i>													1.6	1.5	1.1	1.4
<i>Global GDP¹</i>													3.0	3.3	3.4	3.3
<i>Oil intensity¹</i>													-1.4	-1.8	-1.9	-1.9
Global output	97.4	96.7	96.8	98.0	97.4	97.8	98.2	98.6	99.0	99.3	99.6	99.9	97.2	98.0	99.4	100.7
<i>OPEC share¹</i>	39.0	38.9	39.1	39.9	39.1	39.2	39.4	39.4	39.5	39.5	39.5	39.6	39.2	39.3	39.5	39.9
<i>Non-OPEC share</i>	58.4	57.8	57.7	58.1	58.3	58.6	58.8	59.2	59.5	59.8	60.1	60.3	58.0	58.7	59.9	60.8
Change in inventory	0.9	-0.1	-0.1	0.3	-0.3	-0.9	-0.2	-0.1	-0.2	0.1	0.3	0.3	0.2	-0.4	0.1	0.3
<i>OPEC share¹</i>	0.6	0.1	-0.2	0.0	0.4	-0.7	-0.6	0.2	0.1	0.4	0.2	0.1	0.1	-0.2	0.2	0.0
Oil price – Brent in \$²	34.1	45.6	45.9	49.5	53.8	49.8	52.1	61.0	60.0	60.0	58.0	58.0	43.8	54.2	59.0	60.0
Price of industrial raw materials ²	-17.4	25.6	3.2	11.2	5.8	-7.5	2.5	10.8	-11.7	0.0	-0.1	-0.1	-12.7	19.8	-5.6	-0.4
Exchange rate 1 € = ...\$	1.09	1.14	1.11	1.10	1.06	1.09	1.16	1.20	1.20	1.20	1.20	1.20	1.1	1.1	1.2	1.2
Brent price in €	31.3	40.1	41.2	45.1	50.7	45.6	45.0	50.8	50.0	50.0	48.3	48.3	39.5	46.5	49.2	50.0

1. Change in % from preceding period.

2. In dollars, average over the period.

Sources: EIA (oil), Hamburg HWWA index (industrial raw materials), OFCE calculations and forecasts, October 2017.

[1] The two agreements to cut production concluded at the end of 2016 are the agreement of 30 November 2016 (Vienna Agreement) between the OPEC countries, which provides for pulling 1.2 mbd out of the market compared to October 2016, and the agreement of 10 December 2016, among non-OPEC countries, which provides for cutting production by 0.55 mbd.

Labour force participation rates and working time:

differentiated adjustments

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

In the course of the crisis, most European countries reduced actual working time to a greater or lesser extent by making use of partial unemployment schemes, the reduction of overtime or 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. In contrast, the favourable trend in US unemployment is explained in part by a significant fall in the participation rate.

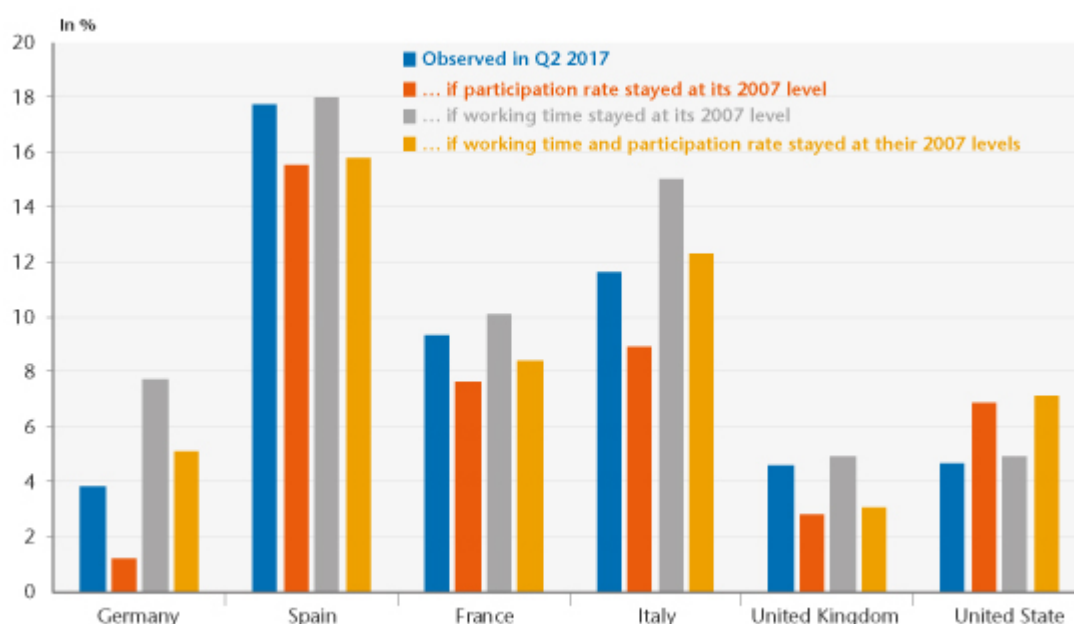
Assuming that, for a given level of employment, a one-point increase in the participation rate (also called the “activity rate”) leads to a rise in the unemployment rate, it is possible to measure the impact of these adjustments (working time and participation rates) on unemployment, by calculating an unemployment rate at a constant employment level and controlling for these adjustments. In all the countries studied, the active population (employed + unemployed) increased by more than the general population, except in the United States, which was due in part to pension reforms. Mechanically, without job creation, demographic growth results in increasing the unemployment rate of the countries in question.

If the participation rate had remained at its 2007 level, the unemployment rate would be lower in France by 1.7 points, by 2.7 points in Italy and by 1.8 points in the United Kingdom (see figure). On the other hand, without the sharp contraction in the US labour force, the unemployment rate would have been more than 3 points higher than that observed in 2016. Germany has also experienced a significant decline in unemployment since the crisis (-5.1 points) even though its participation rate increased by 2.2 points. Given the same participation rate, Germany’s unemployment rate would be... 1.2%. However,

changes in participation rates are also the result of structural demographic factors, meaning that the hypothesis of a return to 2007 rates is arbitrary. For the United States, part of the decline in the participation rate can be explained by changes in the structure of the population. The underemployment rate might well also be overstated.

As for working time, the lessons seem very different. It thus seems that if working time had stayed at its pre-crisis level in all the countries, the unemployment rate would have been 3.9 points higher in Germany, 3.4 points higher in Italy and 0.8 point higher in France. In Spain, the United Kingdom and the United States, working time has not changed much since the crisis. By controlling for working time, the unemployment rate is therefore changing along the lines seen in these three countries.

Figure. Unemployment rate observed at Q2 2017 and unemployment rate if....



Sources: National accounts, OFCE calculations.

It should not be forgotten that there is a tendency for working time to fall, which is reflected in developments observed during the crisis independently of the specific measures taken to cushion the impact on employment through mechanisms such as short-time working or the use of time

savings accounts. Since the end of the 1990s, working time has fallen substantially in all the countries studied. In Germany, between 1998 and 2008, it fell by an average of 0.6% per quarter. In France, the switch to the 35-hour work week resulted in a similar decline over the period. In Italy, the United Kingdom and the United States, average working hours fell each quarter by -0.3%, -0.4% and -0.3%, respectively. In total, between 1998 and 2008, working time declined by 6% in Germany and France, 4% in Italy, 3% in the United Kingdom and the United States and 2% in Spain, which was de facto the only country that during the crisis intensified the decline in working time begun in the late 1990s.