

# The potential headache of measuring economies in public expenditure

By Raul Sampognaro

Since 2009, the French budget deficit has been cut by 3.3 GDP points, from 7.2 percent of GDP in 2009 to 3.9 points in 2014, even though the economic situation has been weighing heavily on the public purse. This improvement was due to the implementation of a tighter budget policy. [Between 2010 and 2013, most of the consolidation effort came from higher taxes](#), but since 2014 the effort has largely involved savings in public expenditure. In 2014, public expenditure excluding tax credits<sup>[1]</sup> recorded its weakest growth since 1959, the year when INSEE began to publish the national accounts: in value, spending excluding tax credits increased by 0.9%, though only 0.3% in volume terms (deflated by the GDP deflator).

At first glance it may seem counter-intuitive to talk about savings on spending even though the latter has been rising constantly. This rise is, however, well below potential growth, which reflects a real long-term effort to reduce the ratio of spending to GDP. Indeed, the formula usually used to calculate the effort on spending depends on the hypothesis adopted on potential growth:

To understand why the extent of the effort on public expenditure is dependent on potential growth, one must understand the underlying concept of the sustainability of the debt. There is a consensus on the theoretical definition of the sustainability of the public debt: it is sustainable if the current stock of debt could be repaid by the anticipated future stream of the State's net revenues<sup>[2]</sup>. While the concept is clear, its practical application is more difficult. In

practice, fiscal policy is deemed sustainable when it makes it possible to stabilize the ratio of public debt to GDP at a level deemed consistent with maintaining refinancing by the market.

Thus, changes in spending that are in line with that goal should make it possible to stabilize the share of public expenditure to GDP over the long term. However, as public spending essentially responds to social needs that are independent of the economic situation (apart from certain social benefits such as unemployment insurance), stabilizing its share in GDP at any given time (which would imply it changes in line with GDP) is neither assured nor desirable. In order to deal with this, changes in the value of public expenditure are compared to the nominal growth rate of potential GDP<sup>[3]</sup> (which depends on the potential growth rate and the annual change in the GDP deflator).

An increase in expenditure that is above (respectively below) the potential reflects a positive (negative) impulse, because in the long run it leads to an increase (decrease) in the ratio of public spending to GDP. While the application of this concept may seem easy, potential growth is unobservable and uncertain because it is highly dependent on the assumptions made about demographic variables and future changes in productivity. In the 2016 Budget Bill (PLF), the government revised its potential growth assumptions for the years 2016 and 2017 upwards (to 1.5% instead of 1.3% as adopted at the time of the vote on the LPFP supplementary budget bill in December 2014).

This revision was justified on the basis of taking into account the structural reforms underway, in particular during the vote on the Macron Act. This was the second revision of potential since April 2014 when it was estimated at 1.6% (2014-2017 Stability Programme). The government is not the only one to repeatedly revise its assessments of potential

growth. When the European Commission published its latest projections[4], it revised its assessment of potential growth even though its previous assessment had been issued only in May[5]. It is not easy to see what new information could change its assessment now. These recurring revisions generally complicate the economic debate[6] and cloud discussion of the budget.

Hence using identical sets of hypotheses about the public finances, a measurement of savings on spending, and thus of the structural adjustment, would depend on the potential growth adopted (Table). Assuming a value for the growth in public spending (excluding tax credits) of +1.3% in 2016 and in 2017, the scale of the effort on spending was evaluated at 0.7 GDP point in October 2015 (using the hypotheses in the 2016 PLF) but 0.6 point in December 2014 (2014-2019 LPFP).

**Table 1. Evaluation of the effort on public expenditure based on different hypotheses for potential growth**

In %

	Potential growth			Effort on spending		
	2015	2016	2017	2015	2016	2017
2016 PLF, October 2015	1,1	1,5	1,5	-0,6	-0,7	-0,5
2014-2019 LPFP, December 2014	1,1	1,3	1,3	-0,6	-0,6	-0,4
2015 PLF, October 2014	1,1	1,3	1,3	-0,6	-0,6	-0,4
2014-2017 Stability Programme, April 2014	1,5	1,6	1,6	-0,8	-0,7	-0,5
2014 PLF, September 2013	1,5	1,6	1,6	-0,8	-0,7	-0,5
2012-2017 LPFP, January 2013	1,5	1,6	1,6	-0,8	-0,7	-0,5
November 2015 forecast	1,0	1,1	1,2	-0,5	-0,4	-0,3
May 2015 forecast	1,0	1,1	—	-0,5	-0,4	—
Ageing Working Group*, May 2015	1,1	1,1	—	-0,6	-0,4	—
Ageing Working Group**, May 2015	1,6	1,6	1,6	-0,8	-0,7	-0,5

\* simple average of the potential growth of 2013 and of 2020 published In *The 2015 Ageing Report*.

\*\* average of the 2013-2060 potential growth published In *The 2015 Ageing Report*.

Sources : PLF, LPFP, European Commission forecasts, *The 2015 Ageing Report*.

While the differences identified above may seem small, they can have significant consequences on the implementation of fiscal rules, which can lead the various players to act on their assumptions in order to change the effort shown [7]. Even though this notion should guide the vision of the future trajectory of Europe's economies, the debate winds up being

hijacked. Recurrent revisions in potential growth focus discussion on the more technical aspects, even though the method of estimating potential growth is uncertain by definition and there is not even a consensus among economists. Thus, the European Semester, which should set the framework for discussion and coordination between Member States in determining the economic policy that best suits the macroeconomic context, for France and for the euro zone as a whole, gets lost amidst technical discussions that are of no particular interest.

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[1] Reimbursable tax credits – essentially the CICE and the CIR credits – are recognized in public expenditure on the basis of the 2010 national accounts. In order to remain closely in line with economic concepts, public spending will be analyzed excluding tax credits, which will be considered as a component of taxation.

[2] This definition is accepted both by the academic literature (see for example, D’Erasmus P., Mendoza E. and Zhang J., 2015, “What is a Sustainable Public Debt?”, *NBER WP*, no 21574, September 2015, and by international organizations (see IMF, 2012, “Assessing Sustainability”).

[3] It can also be compared to an underlying trend in public expenditure which itself takes into account the changing needs to which spending responds.

[4] The European Commission expects France to grow by 1.1% in 2015, 1.4% in 2016 and 1.7% in 2017.

[5] The evaluation has changed to the second decimal.

[6] For this debate, see H. Sterdyniak, 2015, “Faut-il encore utiliser le concept de croissance potentielle?” [Should the

concept of potential growth still be used?], *Revue de l'OFCE*, no. 142, October 2015.

[7] The revisions of potential growth may have an impact on the implementation of procedures. These revisions cannot give rise to penalties. At the sanctions stage, the European Commission's hypothesis on potential growth, made at the recommendation of the Council, is used in the discussion. However, it is likely that a difference of opinion on an unobservable variable could generate friction in the process, reducing the likelihood of sanctions and making the rules less credible.

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## **The labour market: is the unemployment rate a good indicator?**

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

Considering the euro zone on the one hand and the United States and the United Kingdom on the other, changes in unemployment rates are a reflection of the divergences in growth highlighted in our [last fiscal year forecast](#). While between 2008 and late 2010, trends in unemployment reflected the sharp deterioration in growth and did not differ much between the euro zone, the UK and the USA, differences began to emerge from 2011. In the United Kingdom and the United States, unemployment has been falling since 2011, whereas, after a brief respite, a second phase of rising rates took place in most euro zone countries (Table 1). It was only more recently that the unemployment rate has really begun to fall in Europe (late 2013 in Spain and early 2015 in France and

Italy). Overall, for the period 2011-2015 the rate rose overall (+2.7 points) in Spain. In Italy, this deterioration in the labour market even worsened (+4.5 points in this period, against +2.2 points from early 2007 to late 2010). France, though to a lesser extent, was not spared.

An analysis of the unemployment rate does not however convey the full dynamics at work in the labour market (Tables 2 and 3), in particular in terms of underemployment. Thus during the crisis most European countries reduced the effective working time [\[1\]](#) to a greater or lesser degree, through policies on partial unemployment, the reduction of overtime, or the use of working-time accounts, but also through the expansion of part-time work (especially in Italy and Spain), including on an involuntary basis. Conversely, the favourable trend in the US labour market is partly due to a significant decline in the participation rate, which stood in the first quarter of 2015 at 62.8%, 3.3 points lower than eight years ago.

**Table 1. Changes in the ILO unemployment rate**

In % points

	Q1 2007 - Q4 2010	Q1 2011 - Q1 2015	Q1 2007 - Q1 2015
Germany	-2.4	-1.4	-4.2
Spain	12.1	2.7	+15.0
France	0.7	1.3	+1.9
Italy	2.2	4.5	+6.4
United Kingdom	2.4	-2.2	0.0
United States	5.0	-3.5	+1.1

Sources: National accounts, OFCE calculations.

**Table 2. Changes in the labour force participation rate**

In % points

	Q1 2007 - Q4 2010	Q1 2011 - Q1 2015	Q1 2007 - Q1 2015
Germany	+1.5	+0.7	+2.2
Spain	+1.3	-0.7	+0.7
France	+0.5	+1.3	+1.8
Italy	+0.1	+1.8	+1.9
United Kingdom	-0.2	+1.3	+1.1
United States	-1.9	-1.4	-3.3

Sources: National accounts, OFCE calculations.

**Table 3. Changes in working time**

In %	Q1 2007 - Q4 2010	Q1 2011 - Q1 2015	Q1 2007 - Q1 2015
Germany	-2.0	-2.1	-4.1
Spain	+0.5	-3.5	-3.0
France	-0.9	-0.8	-1.7
Italy	-2.9	-2.4	-5.3
United Kingdom	-0.9	+1.4	+0.5
United States	-0.7	+0.8	+0.1

Sources: National accounts, OFCE calculations; Scope: total employment.

In order to measure the impact of these adjustments (working time and participation rate) on unemployment, it is possible, subject to a number of assumptions [21], to calculate the unemployment rate at constant employment and control for these adjustments. Except for the United States, where the participation rate has fallen sharply since 2007, all the countries studied experienced an increase in their labour force (employed + unemployed) that was greater than in the general population; in many countries this was due to pension reforms. Mechanically, in the absence of job creation, the impact of this demographic trend is to push up the unemployment rate in the countries concerned. For instance, if the participation rate had remained at its 2007 level, the unemployment rate would be lower by 1.6 points in France and 1.1 points in Italy (Table 4). Conversely, without the significant contraction in the US labour force, the unemployment rate would have been more than 3 points higher than what was seen in 2015. Also note that since the crisis Germany has experienced a significant drop in unemployment (-4.2 points) even though its participation rate grew by 2.2 points. Assuming an unchanged participation rate, Germany's unemployment rate would be 3.1% (Figure 1).

In terms of working time, the lessons seem quite different. It thus appears that if working time had been maintained in all the countries at its pre-crisis level, the unemployment rate would have been more than 3 points higher in Germany and Italy and about 1 point higher in France and Spain, countries in which working time decreased sharply only from 2011. In the US

and UK, the situation is very different: working time has changed only very little since the crisis. By controlling for working time, the unemployment rate thus changes along the lines observed in the two countries.

The tendency for working time to fall is a familiar story. Since the late 1990s, all the countries studied have greatly reduced their working hours. In Germany, between 1998 and 2008, the reduction was on average 0.6% per quarter. In France, the transition to the 35-hour week caused a similar reduction over the period. In Italy, the United Kingdom and the United States, the downward shifts in average working hours were respectively -0.3%, -0.4% and -0.3% per quarter. In total, between 1998 and 2008, working time fell 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 that started in the late 1990s.

**Table 4. Difference between the unemployment rate observed in the first quarter 2015 and the unemployment rate observed in case of ...**

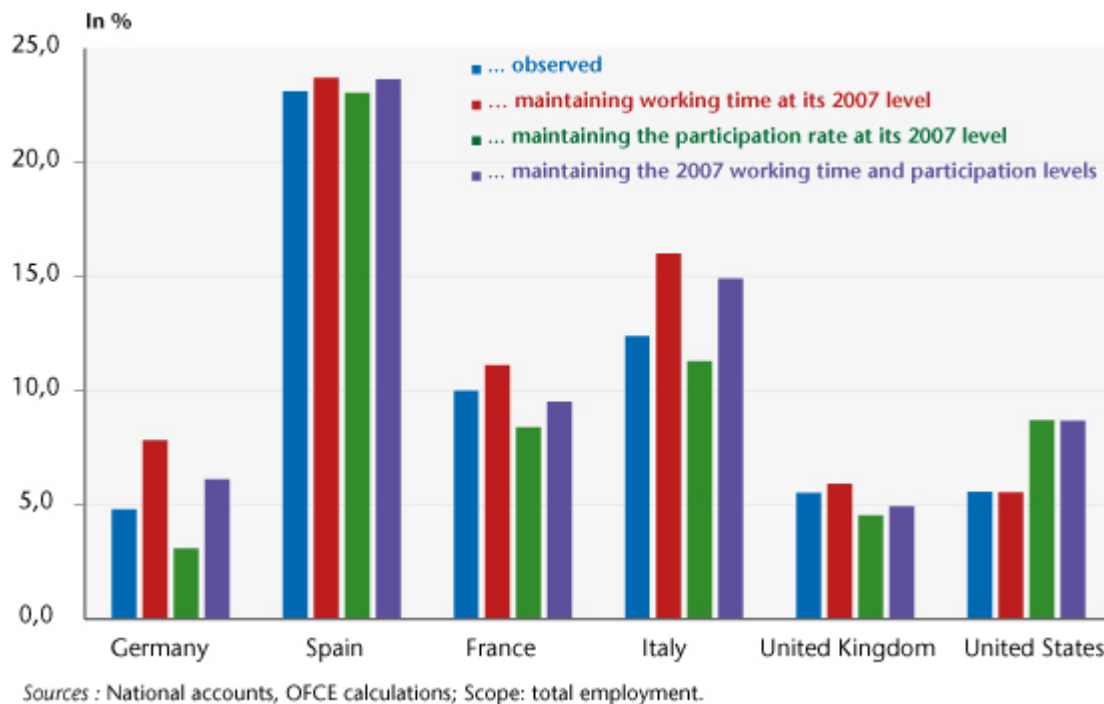
In %

	... maintaining working time at its 2007 level	...maintaining the participation rate at its 2007 level	...maintaining the 2007 participation rate and working time levels
Germany	+3.1	-1.7	+1.4
Spain	+1.0	-0.1	+0.9
France	+1.2	-1.6	-0.4
Italy	+3.6	-1.1	+1.5
United Kingdom	0.0	-1.0	-1.0
United States	0.0	+3.1	+3.1

Sources : National accounts, OFCE calculations.



Figure 1. Unemployment rate in first quarter 2015 in the case of ...



[1] Working time is understood here as the total number of hours worked by employees and the self-employed (i.e. total employment).

[2] It is assumed that, at constant use, a one-point increase in the participation rate leads to an increase in the unemployment rate. Employment and working time are not considered here in full-time equivalents. Finally, neither the “halo of unemployment” nor any possible “bending effects” are taken into account.

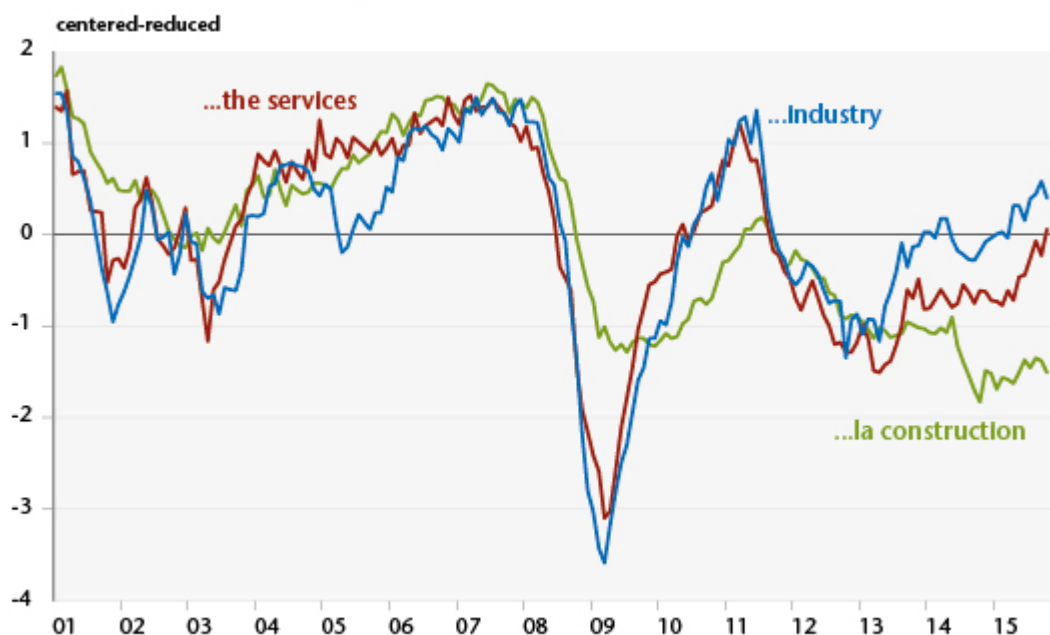
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# The French economy on the road to recovery

by Hervé Péléraux

The publication of the INSEE's business surveys on October 22 confirms the French economy's positive situation in the second half of 2015, suggesting that the negative performance in the second quarter of 2015 (0%) will turn out to have been merely "an air pocket" after the strong growth seen in the first quarter (+0.7%). The business climate in industry has exceeded its long-term average for the seventh month in a row, and the service sector has been recovering rapidly since May 2015 and has climbed back to its average, the highest level in four years (Figure 1). The business climate in the construction sector nevertheless is still suffering from the crisis that hit it, but its downward trend halted at the end of 2014; despite monthly hiccups, the sector has begun a slow recovery that could signal the end of its woes in the coming quarters.

Figure 1. Business climate in ...



Source : INSEE.

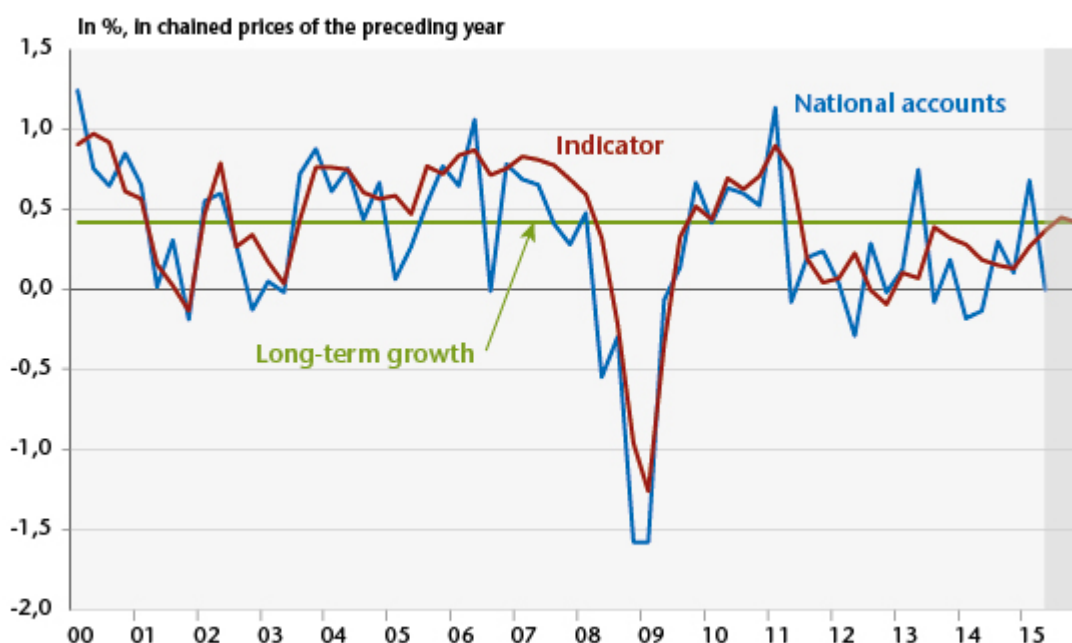
The confidence indicators, which provide qualitative information summarizing the balance of opinion on the various questions posed about business activity, consumer confidence and the situation in commerce, can be converted into quantitative information by means of an econometric equation linking these to the quarterly GDP growth rate<sup>[1]</sup>. Doing this makes it possible to use these purely qualitative data to estimate the GDP growth rate in the past and near future (two quarters), given that the publication of the surveys precede that for GDP. Among the sectoral indicators available, only the business climate in industry, services and construction provide econometrically useful information to trace the trajectory of the GDP growth rate. The other series are not significant, in particular the indexes for consumer confidence and for confidence in the retail and wholesale trade.

The leading index, which has a significantly more smoothed profile than GDP growth rates, cannot fully capture the volatility of activity and therefore should not strictly speaking be considered a predictor of growth (Figure 2). On the other hand, from a more qualitative viewpoint, it manages to delineate quite correctly the phases during which growth is

above or below average (or the long-term) determined by the estimate. From this perspective, the indicator can be seen as marking a turning point in the economic cycle. Since the second quarter 2011, the indicator has not depicted any crossing of the long-term growth rate, despite the false signs of recovery raised by the quarterly GDP figures for Q2 2013 and Q1 2015.

Based on the survey data available up to October, the growth foreseen by the indicator is 0.4% in the third and fourth quarter of 2015, exactly equal to long-term growth<sup>[2]</sup>. While a signal of recovery is not yet clearly given by the indicator, it should be noted that the information on the fourth quarter, which is limited to the October surveys, is quite partial. The confidence climates, which are extrapolated to the end of the year, are based on conservative assumptions and are likely to be upgraded if the surveys continue to improve from now to December.

**Figure 2. GDP growth rate observed and estimated by the indicator**

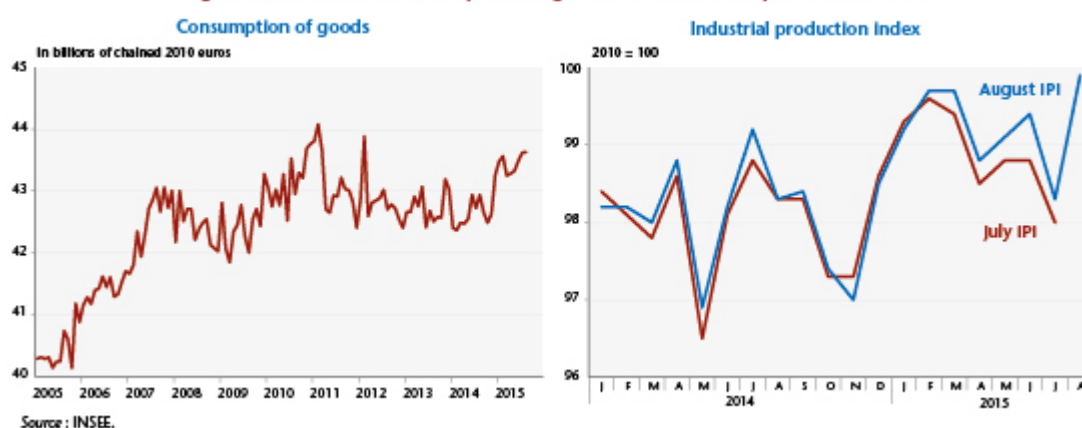


Source : INSEE, OFCE calculations and forecasts.

The quantitative information available at this time for the third quarter of 2015 also gives cause for optimism, after the disappointment of the second quarter. Under the impact of the

disinflation brought on by lower energy prices, which enabled a sharp rebound in purchasing power, household consumption of goods recovered sharply at the beginning of the year (Figure 3). The rise was interrupted in the second quarter, due to poor sales in March, which pulled down the figures, but consumption has resumed its upward trajectory continually since then. The carry-over in August for the third quarter was clearly positive (+0.6%), which suggests that the consumption of goods will again contribute positively to GDP growth for the quarter.

**Figure 3. Household consumption of goods and Industrial production Index**



The projection of a return to growth in the third quarter is also confirmed by trends in the industrial production index (IPI), which rose sharply in August (+1.6% for the total IPI, and +2.2% for the manufacturing index itself). This rebound followed a drop in production after the peak in February-March 2015 [3], which contributed to the poor performance of GDP in the second quarter (Figure 3), and nourished the idea that the second quarter was not an “air pocket” but the continuation of a long phase of stagnation for a France that was unable to take advantage of the favourable winds blowing from outside [4]. The carry-over in industrial production in August now stands at 0.3%, while it was -0.7% in the old series available in July.

The recent trends in the monthly indicators augur a renewal of growth in the third quarter of 2015. The extrapolation of GDP

growth using the leading indicator, supplemented by the already available quantitative data, also points to a 0.4% increase in activity in the third quarter, which, if it is realized, would then put the economy on a firm track to finally initiate a recovery.

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[1] For greater detail, see: « [France : retour sur désinvestissement, Perspectives 2015-2017 pour l'économie française](#) » [The 2015-2017 forecast for the French economy], pp. 34-37.

[2] The long-term growth considered here is not the potential growth estimated by its structural determinants using a production function, but the average GDP growth rate as reflected in the estimate of the indicator.

[3] It should be noted that the statistical revisions can change the perception of the economy's dynamics in the very short term. The IPI series published on 9 October 2015 by the INSEE has revised the level of the index significantly upwards compared to the previous publication. The IPI is still on a downward trend between February and July 2015, but the trajectory described is less negative, and the quarterly average of the index in the second quarter of 2015 is affected: according to the old series, it stood at -0.7%, compared with -0.4% according to the revised series.

[4] See Heyer E. and R. Sampognaro, 2015, « [L'impact des chocs économiques sur la croissance des pays développés depuis 2011](#) », [The impact of economic shocks on the growth of the developed countries since 2011], *Revue de l'OFCE*, no. 138, June 2015.

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# The labour market on the road to recovery

By [Bruno Ducoudré](#)

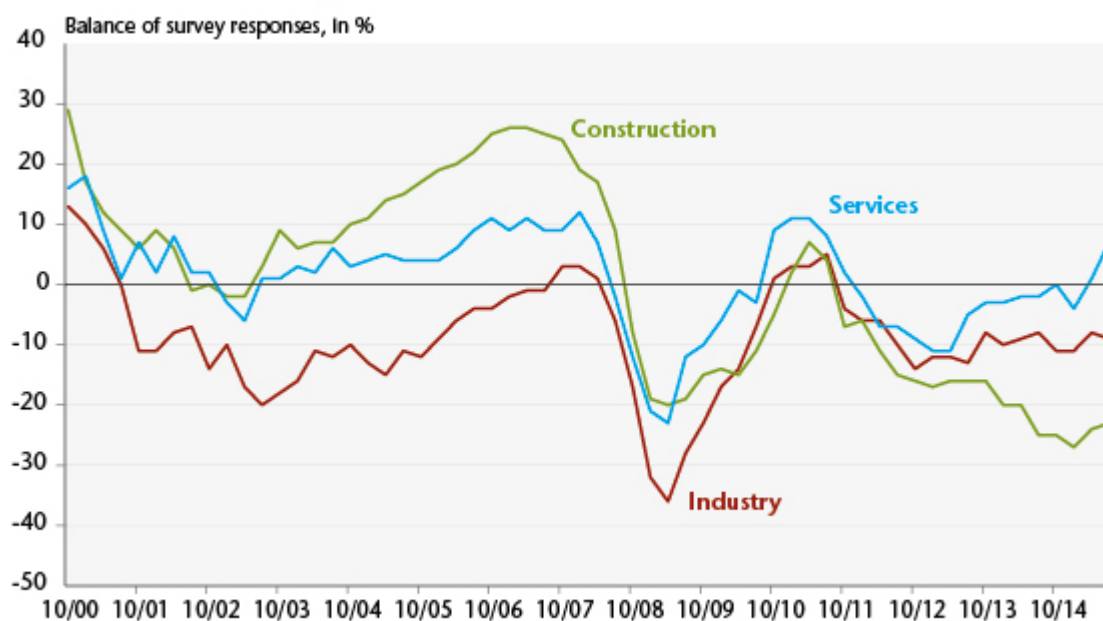
A look at the figures just published by France's Pôle Emploi job centre for the month of September 2015 shows that the number of job seekers who were registered and inactive (category A) has declined significantly (-23,800), following an increase in August (+20,000). While this is encouraging news, the decrease has to be compared with the increases seen in categories B and C (+25,600). So while employment has indeed picked up, this has not resulted in the numbers of people exiting unemployment as measured by the job centre, *i.e.* it has not put a stop to the continuing rise in the number of long-term unemployed (+10.4% in one year). Nevertheless, these trends do support the conclusions drawn from current analysis which indicate that [a recovery has indeed begun](#).

After seeing 76,000 jobs created in France in 2014 due to growth in non-commercial jobs, the first half of 2015 was marked by an increase in the workforce in the commercial sector (+26,000), which resulted in an acceleration of job creation in the economy overall (+45,000) over the first half of the year. The recently released statistics on employment confirm the accelerating trend in the third quarter of 2015: hence, over a year, declarations on job hires of over one month recorded by ACOSS rose by 3.7%, following 0.7% in the previous quarter. Business surveys also point to an increase in hiring intentions in the third quarter; these have turned positive in the service sector since the year started, which is also when the low point seen in construction was probably

reached (see Figure 1).

Our analysis of the labour market up to 2017, which was spelled out in the latest OFCE forecasts of October 2015, indicates that the commercial sector will continue to generate jobs up to the end of 2015 (+0.1% in the third and fourth quarters). The pace of job creation will nevertheless remain too low to foresee a fall in the unemployment rate by year end, particularly in light of our forecast for the GDP growth rate (0.3% in Q3 2015 and 0.4% in Q4) and the existence of overstaffing in companies, which we estimate at 100,000 in Q2 2015. The unemployment rate should remain stable at 10% until year end. With GDP growth of 1.8% in 2016, job creation will pick up markedly in the commercial sector once the overstaffing has been absorbed by companies, allowing the unemployment rate to fall starting in the second quarter of 2016. This decline will continue until the end of 2017.

**Figure 1. Forecast of labour force trends**



Sources: INSEE, business surveys.

The last three years of weak growth have hurt employment in the commercial sector (-73,000 jobs between the start of 2012 and the end of 2014, cf. the Table). The strength of employment in the non-commercial sector, supported by the ramp-up of subsidized contracts (the “jobs for the future”



programme and non-commercial job integration contracts) helped to offset the loss of commercial sector jobs, with total employment rising by 164,000 over the same period, which slowed the increase in the ILO unemployment rate: this figure for mainland France rose from 9% of the labour force in late 2011 to 10.1% at end 2014, i.e. a 1.1 point increase.

**Tableau. Employment and unemployment**

Annual change in 1000s, at last quarter						
Year on year	2012	2013	2014	2015*	2016*	2017*
Observed labour force	265	46	203	62	134	139
Total employment	31	57	76	103	193	242
- Commercial sector	0	-38	-35	73	238	245
Employed	-63	-58	-43	60	209	216
Unemployed	63	20	8	14	28	29
- Non commercial sector	31	95	111	29	-45	-3
Subsidized jobs	5	60	21	17	-54	-4
Non-subsidized jobs	26	35	90	12	10	1
Unemployment	234	-11	127	-41	-58	-103
Unemployment rate at Q4 (%)	9,7	9,7	10,1	10,0	9,8	9,4
GDP growth rate (%)	0,3	0,8	0,2	1,1	1,8	2,0

\* OFCE forecast

Sources : INSEE and Ministry of Labour, OFCE forecasts, e-mod.fr 2015-2017, October 2015.

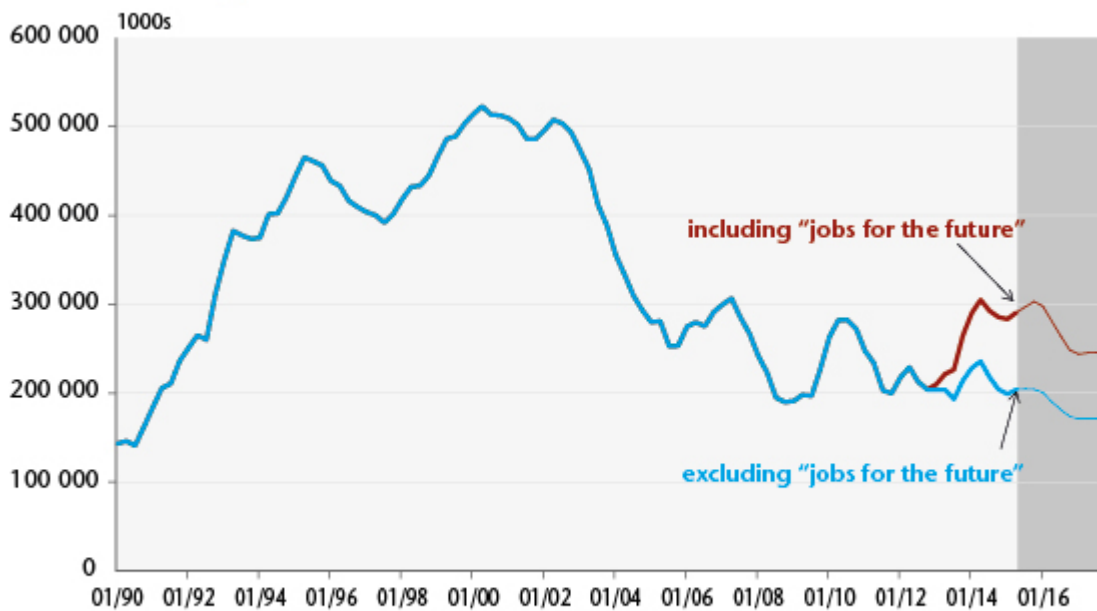
2015 is a year of transition, with a resumption of job creation in the commercial sector (+73,000 expected for the year as a whole) but less dynamic job creation in the non-commercial sector. For the full year, job creation will be boosted by the acceleration of growth (an annual average of +1.1% expected in 2015 but 1.4% yoy) and the implementation of policies to cut labour costs (CICE tax credit and the Responsibility Pact). The cumulative impact of the CICE and the Responsibility Pact, after taking into account the effect of financing, will create or save 42,000 jobs in 2015. However, job creation will be hampered by the presence of overstaffing<sup>[1]</sup>: as economic activity picks up pace, companies typically absorb underutilized labour before increasing the volume of employment.

As for the non-commercial sector, employment policy is continuing to support the labour market in 2015 through the increase in subsidized job contracts. This increase has

nevertheless been slower than in previous years, with the number of “jobs for the future” contracts peaking in 2015 (Figure 2). Ultimately, total employment will increase by 103,000 in 2015, with the unemployment rate remaining stable at 10% till year end.

For 2016 and 2017, the acceleration of growth (at respectively 1.8% and 2%) combined with the ongoing implementation of policies to cut labour costs and the closing of the productivity cycle in the course of 2016 will lead to accelerating job creation in the commercial sector. This will increase, year on year, to 238,000 in 2016 and 245,000 in 2017 for the commercial sector alone, a rate comparable to what was seen between mid-2010 and mid-2011 (234,000 jobs created). However, in 2016, the number of subsidized contracts in the non-commercial sector set out in the 2016 Finance Bill will be down from previous years (200,000 CUI-CAE jobs and 25,000 “jobs for the future” in 2016, compared with 270,000 and 65,000 respectively for 2015). For 2017, we are assuming stability in the stock of subsidized non-commercial job contracts (see Figure 2). Overall, the long-term return of job creation by business will trigger a decline in the unemployment rate starting in the second quarter of 2016. Although sluggish, this fall should be sustainable, with the unemployment rate down to 9.8% of the labour force at end 2016 and 9.4% by end 2017.

**Figure 2. Subsidized contracts in the non-commercial sector**



Note :The fall in CUI-CAE contracts seen in the second half of 2014 comes from the switch from CAE job Integration contracts to CDD fixed-term contracts.

Scope: Mainland France.

Sources : DARES, OFCE forecasts *emod.fr* 2015-2017, October 2015.

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[1] The presence of overstaffing in businesses derives from the gap between labour productivity and its long-term trend, called the productivity cycle. This reflects the time employment takes to adjust to economic activity. See Ducoudré and Plane, 2015, « [Les demandes de facteurs de production en France](#) » [The demand for production factors in France], *Revue de l'OFCE*, no.142.

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# An ever so fragile recovery

By the Department of Analysis and Forecasting, under the direction of [Eric Heyer](#) and [Xavier Timbeau](#)

This text summarizes the OFCE's [economic forecast for 2015-2017](#) for the euro zone and the rest of the world.

The figures for euro zone growth in the first half of 2015 have confirmed the upswing glimpsed at the end of 2014. While the zone's return to growth might once have been taken to indicate the end of the global economic and financial crisis that struck in 2008, the turbulence hitting the emerging countries, particularly over the summer in China, is a reminder that the crisis ultimately seems to be continuing. China's economic weight and its role in world trade are now so substantial that, even in the case of a soft landing, the impact on growth in the developed countries would be significant. We nevertheless anticipate that the scenario for a recovery need not be called into question, and that euro zone growth will be broadly supported by favourable factors (lower oil prices and ECB monetary support) and by some weakening of unfavourable factors (easing of fiscal policies). But the fact remains that the situation in the developing world will add new uncertainty to an already fragile recovery.

Between 2012 and 2014, the euro zone economies stagnated at the very time that the United States turned in average GDP growth of 2%. The recovery that got underway after the sharp contraction in 2008-2009 was quickly cut short in the euro zone by the sovereign debt crisis, which led almost immediately to the uncontrolled tightening of financial conditions and the reinforcement of the fiscal consolidation being implemented in the Member States, as they searched for market credibility.

The euro zone then plunged into a new recession. In 2015,

these economic policy shocks are no longer weighing on demand. The ECB helped to reduce sovereign debt risk premiums by announcing the Outright Monetary Transaction programme (OMT) in September 2012 and then by implementing quantitative easing so as to improve financial conditions and promote a fall in the euro. In terms of fiscal policy, while in some countries the consolidation phase is far from over, the measures being taken are smaller in scale and frequency. Furthermore, growth will also be helped by the fall in oil prices, which should last, and the resulting gains in household purchasing power should in turn fuel private consumption. These factors thus reflect an environment that is much more favourable and propitious for growth.

However, it is clear that this scenario depends on some volatile elements, such as the fall in oil prices and the weaker euro. The Chinese slowdown adds another element of risk to the scenario, which is based on the assumption that China will make a smooth transition from an export-oriented growth model to one driven by domestic demand. We expect the euro zone to grow at a rate of 1.5% in 2015 and 1.8% in 2016 and 2017. The main short-term risks to this scenario are negative. If oil prices go up and the euro doesn't stay down, and if the slowdown in the emerging countries turns into an economic and financial crisis, then growth worldwide and in the euro zone will be significantly lower. This risk is particularly critical given the very high level of unemployment still plaguing the zone (11% in August 2015). Nevertheless, given the pace of anticipated growth, we expect the unemployment rate to fall in 2016-2017 by around 0.6 percentage point per year. At this pace, it will take almost seven years to bring the rate back to its pre-crisis level. So while the prospects for recovery from the 2008 crisis are uncertain, the social crisis undoubtedly has a long time to run.

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# Investing in the zero carbon economy in order to escape secular stagnation

By [Xavier Timbeau](#)

What the downward revisions of various forecasts ([IMF](#), [OECD](#), [OFCE](#)) presented in early autumn 2015 tell us about the euro zone is not very comforting. A recovery is underway, but it is both sluggish and fragile (see: "[A very fragile recovery](#)"). The unemployment rate in the euro zone is still very high (almost 11% of the labour force in the second quarter), and a sluggish recovery means such a slow fall (0.6 point per year) that it will take more than seven years to return to the 2007 level. Meanwhile, the European Central Bank's unconventional monetary policy is having difficulty re-anchoring inflation expectations. The announcement of quantitative easing in early 2015 pushed up the 5-year/5-year forward inflation rate [\[1\]](#), but since July 2015 the soufflé has collapsed once again and medium-term expectations are 0.8% per year, below the ECB target (2% per year). Underlying inflation has settled in at a low level ([0.9% per year](#)), and there is a high risk that the euro zone will be frozen in a state of low inflation or deflation, strangely resembling what Japan has experienced from the mid-1990s to today. Low inflation is not good news because it is triggered by high unemployment and slowly rising nominal wages. The result is real wages growing more slowly than productivity. Little or no inflation means both real interest rates that remain high, which increases the burden of debt and paralyzes investment, but also an unconventional monetary policy that undermines the ability to measure risks and which gradually loses its

credibility for maintaining price stability, i.e. to keep inflation within declared targets. At the [Jackson Hole Symposium](#) in August 2014, Mario Draghi announced that, in the face of persistent unemployment, monetary policy cannot do everything. Structural reforms are necessary (what else could a central banker say?). But a demand policy is also needed. Not having one means [running the risk of secular stagnation](#), as was formulated by Hansen in the late 1930s and recently brought up to date by Larry Summers.

Europe does not, however, lack investment opportunities. The [COP21 commitments](#), though timid, assume a reduction in CO<sub>2</sub> emissions (equivalent) per capita from 9 tons to 6 tons within 15 years, and investment will need to pick up pace in a big way if the change in global temperature is not to exceed 2°C. This means aiming to put an end to the use of petroleum and coal (or the large-scale development of carbon capture and storage) within 35 years. Achieving this will require investment on a massive scale, which is estimated in the [European Commission's Energy Road Map](#) at over 260 billion euros (nearly 2% of GDP) per year by 2050. The social profitability of such investments is substantial (since it helps to avoid climate catastrophe and makes it possible to meet the EU's commitments to the world's other countries), but – and this is the problem posed by our sluggish recovery – their private profitability is low, and uncertainty about future demand together with poor coordination could give pause to the “animal spirits” of our entrepreneurs. Secular stagnation results from the very low profitability of investments, particularly after taking into account the real rates anticipated and the risk of a more serious depression. To avoid this trap, the social returns on investment in a zero carbon economy need to become evident to all, and in particular they need to coincide with private returns. There are numerous tools that can do this. We can use carbon pricing and markets for trading in emission rights; we can use a carbon tax; we can develop certificates for new investments

(assuming we know how to ensure that they reduce CO2 emissions compared to an opposing counterfactual) or impose standards (if these are followed!). The difficulties of the transition and the acceptance of a relatively painful change in prices can be eased by compensatory measures (which have a budgetary cost, [see Chapter 4 of the IAGS 2015 report](#), but are part of the stimulation package). It might also be desirable to draw on monetary policy to amplify the stimulus (see [this proposal by Michel Aglietta and Etienne Spain](#)). The implementation of artillery like this to reduce emissions and boost the European economy is not straightforward and would require wrenching the institutional framework. But that's the price to pay in order to avoid sinking into a long period of stagnation which, with the inequalities and impoverishment that it would generate, would certainly break up the European project.

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## **Lower taxation on business but higher on households**

By [Mathieu Plane](#) and Raul Sampognaro

Following the delivery of the Gallois Report in November 2012, the government decided at the beginning of Francois Hollande's five-year term to give priority to reducing the tax burden on business. But since 2015, the President of the Republic seems to have entered a new phase of his term by pursuing the objective of reducing the tax burden on households. This was seen in the elimination of the lowest income tax bracket and the development of a new allowance mechanism that mitigates tax progressivity at the lower levels of income tax. But more



broadly, what can be said about the evolution of the compulsory tax burden on households and businesses in 2015 and 2016, as well as over the longer term?

Based on data provided by the INSEE, we have broken down trends in the tax burden since 2001, distinguishing between levies on companies and those on households (Figure). While this is purely an accounting analysis and is not based on the final fiscal impact, it nonetheless gives a view of the breakdown of the tax burden [\[1\]](#). In particular, this exercise seeks to identify the tax burden by the nature of the direct payer, assuming constant wages and prices (excluding tax). This accounting breakdown does not therefore take into account macroeconomic feedback and does not address the distributional and intergenerational impacts [\[2\]](#) of taxation.

For the period from 2001 to 2014, the data is known and recorded. They are *ex post* and incorporate both the effects of the discretionary measures passed but also the impact of fiscal gains and shortfalls that are sensitive to the business cycle. However, for 2015 and 2016, the changes in the tax burden for households and businesses are *ex ante*, that is to say, they are based solely on the discretionary measures that have an impact in 2015 and 2016 and calculated in the Social, Economic and Financial Report of the 2016 Finance Bill for 2016 [[Rapport économique social et financier du Projet de loi de finances pour 2016](#)]. They therefore do not, for both years, include [potential effects related to variations in tax elasticities that could modify the apparent tax burden rates](#). Furthermore, under the new accounting standards of the European System of Accounts (ESA) tax credits, such as the CICE, are considered here as reductions in the tax burden, and not as a public expenditure. Furthermore, the CICE tax credit is recognized at the tax burden level in terms of actual payments and not on an accrual basis.

Several major points emerge from this analysis of the recent period. First, tax rates rose sharply in the period 2010-2013,

representing an increase of 3.7 percentage points of GDP, with 2.4 points borne by consumers and 1.3 by business. Over this period, fiscal austerity was relatively balanced between households and business, with the two experiencing a tax increase that was more or less proportional to their respective weights in the tax burden [3].

However, from 2014 a decoupling arose between the trends in the tax burdens for households and for business, which is continuing in 2015 and 2016. Indeed, in 2014, due to the impact of the CICE tax credit (6.4 billion euros, or 0.3 percent of GDP), the tax burden on business began to decline (by 0.2 GDP point), while the burden on households continued to rise (by 0.4 GDP point), mainly because of the hike in VAT (5.4 billion), the increase in environmental taxes (0.3 billion with the introduction of the carbon tax) and the increase in the contribution to the public electricity service (CSPE) (1.1 billion), together with the increase in social contributions for households (2.4 billion), mainly due to the rise in contribution rates to the general and complementary social security scheme and the gradual alignment of rates for civil servant with those for private-sector employees.

In 2015, the tax burden on business will fall by 9.7 billion euros (0.5 GDP point) with the implementation of the CICE tax credit (6 billion), the first Responsibility Pact measures (5.9 billion related to the first tranche of reductions in employer social security contributions, an allowance on the C3S tax base and a "*suramortissement*", an additional tax reduction, on investment), while other measures, such as those related to pension reform, are increasing corporate taxation (1.7 billion in total). Conversely, the tax burden on households should increase in 2015 by 4.5 billion (0.2 GDP point), despite the elimination of the lowest income tax bracket (-2.8 billion) and the reduction in self-employed contributions (-1 billion). The hike in the ecological tax (carbon tax and TICPE energy tax) and the CSPE together with

the non-renewal in 2015 of the exceptional income tax reductions of 2014 represent an increase in taxation on households of, respectively, 3.7 and 1.3 billion. Other measures, such as those affecting the rates of contributions to general, supplemental and civil servant pension schemes (1.2 billion), along with local taxation (1.2 billion), including the modification of the DMT0 tax ceiling and measures affecting tourist and parking taxes, are also raising taxes on households.

**Table. Measures affecting household and corporate tax burdens - 2015 and 2016**

In billion euros

	2015	2016
<b>HOUSEHOLDS</b>		
Income tax cut for low-income households	-2,8	-2,0
Ecology taxes + TICPE + CSPE	3,7	2,7
Change in VAT	0,5	-0,2
Local taxes	1,3	1,1
Elimination of PPE working tax credit		2,0
Old-age and CSA community autonomy tax	0,5	0,8
Other changes to social security contributions	0,8	0,1
Other measures	1,9	0,2
Reduction in self-employed contributions (Responsibility Pact)	-1,0	
Fight against tax fraud and avoidance	-0,4	-0,6
<b>Total of measures affecting household tax burden</b>	<b>4,5</b>	<b>4,1</b>
<b>Total excluding fight against tax fraud and avoidance</b>	<b>4,9</b>	<b>4,7</b>
<b>BUSINESS</b>		
CICE tax credit	-6,0	-0,3
C3S allowance (Responsibility Pact)	-1,0	-1,0
Elimination of exceptional IS corporate income tax (Responsibility Pact)		-2,3
Tax reduction on investments	-4,5	-3,5
Other measures affecting social security contributions	-0,4	-0,2
Other social contributions measures	1,1	1,0
Other measures	0,9	0,9
Fight against tax fraud and avoidance	0,2	-0,5
<b>Total of measures affecting corporate tax burden</b>	<b>-9,7</b>	<b>-5,9</b>
<b>Total excluding fight against tax fraud and avoidance</b>	<b>-9,9</b>	<b>-5,4</b>

Sources: PLF (Finance Act) 2016; OFCE calculations.

In 2016, the tax burden on business will fall by 5.9 billion (0.3 GDP point), mainly due to the second phase of the Responsibility Pact. Reductions in employer social security contributions on wages lying between 1.6 and 3.5 times the SMIC minimum wage (3.1 billion), the elimination of the corporate income tax (IS) surcharge (2.3 billion), the second

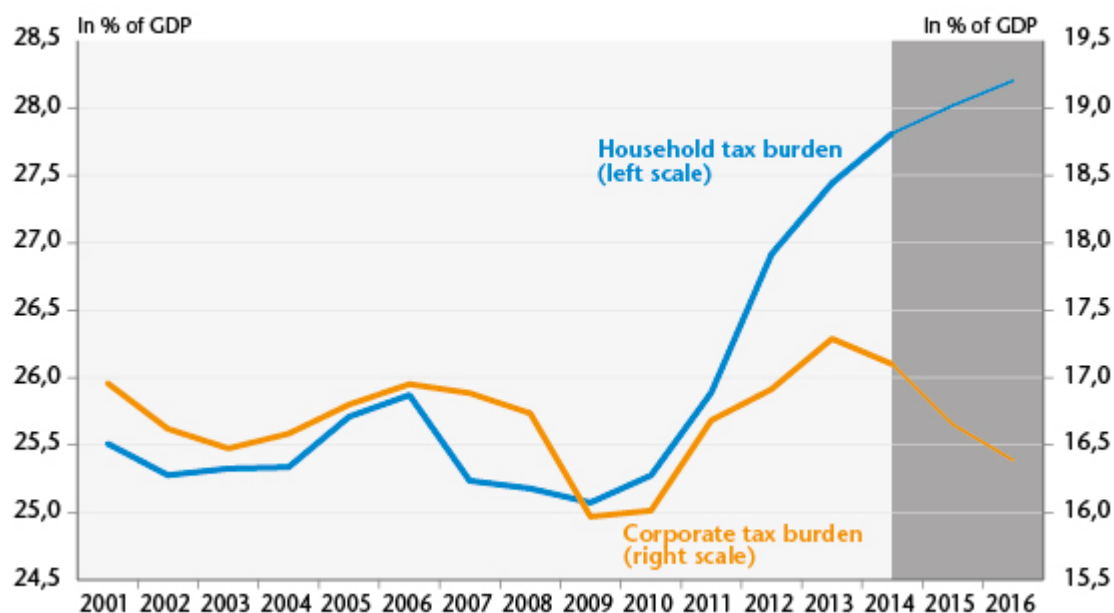
allowance on the C3S tax base (1 billion), the implementation of the CICE tax credit (0.3 billion) and the additional tax reduction on investment (0.2 billion) have been only partially offset by tax increases on business, mainly with the hike on pension contribution rates (0.6 billion). However, as in previous years, the tax burden on households will increase in 2016 by 4.1 billion (0.2 GDP point), despite a further reduction in income tax (2 billion). The main measures increasing household taxation are similar to those in 2015, including environmental taxation, with the hike in the carbon tax (1.7 billion) and the CSPE tax (1.1 billion), measures on financing pensions (0.8 billion), and the expected increase in local taxation (1.1 billion). Note that the elimination of the PPE working tax credit in 2016 will mechanically lead to an increase in the household tax burden of 2 billion<sup>[4]</sup>, but this will be offset by an equivalent amount for the new Prime d'activité working tax credit.

Ultimately, over the period 2010-2016, the household tax burden will increase by 66 billion euros (3.1 GDP points) and the burden on business by 8 billion (0.4 GDP point). The household tax burden will reach a historic high in 2016, at 28.2% of GDP. Conversely, the corporate tax burden in 2016 will amount to 16.4% of GDP, less than before the 2008 crisis. And in 2017, the last phase of the Responsibility Pact (with the complete elimination of the C3S tax and the reduction of IS corporate tax rates) and the expected CICE-related reimbursements should lead to cutting corporate taxation by about 10 billion euros, bringing the corporate tax burden down to the lowest point since the early 2000s.

The need to finance measures both to enhance corporate competitiveness and to reduce the structural deficit is placing the entire burden of the fiscal adjustment on households. Thus, the reduction in income tax in 2015 and 2016 will not offset the rise in other tax measures, most of which were approved in Finance Acts prior to 2015, and seems low in

relation to the tax shock that has hit households since 2010. However, how these recent tax changes affect growth and the consequent impact on inequality will depend on the way business makes use of the new resources generated by the massive decline in its tax burden since 2014. These funds could lead to a rise in wages, employment, investment or lower prices or to higher dividends and a reduction in debt. Depending on the way business allocates these, the impact to be expected on the standard of living in France and on inequality will not of course be the same. An evaluation of the impact of these changes on the tax burden will surely lead to future studies and debate.

**Figure: Changes in the tax burden on households and business**



Sources : Insee, PLF (Finance Act) 2016; OFCE calculations.

[1] The tax burden on households includes direct taxes (CSG, CRDS, IRPP, housing tax, etc.), indirect taxes (VAT, TICPE, CSPE, excise taxes, etc.), tax on capital (ISF, DMTG, property tax, DMT0, etc.), and salaried and self-employed social security contributions. The corporate tax burden includes the various taxes on production (value-added tax and corporate

property tax (ex-TP), property tax, C3S tax, etc.), taxes on wages and labour, corporate income tax and employer social security contributions.

[2] For example, employer social contributions for pensions are analyzed here as a tax burden on business and not as deferred wages for households or a transfer of income from assets to retirees.

[3] In 2013, 61% of the tax burden was on households and 39% on business. However, over the 2010-2013 period, tax increases were borne 64% by households and 36% by business, which was more or less their respective weights in taxation.

[4] The PPE credit will be replaced by the Prime d'activité working tax credit, in an equivalent amount, which also encompasses the RSA activité tax credit; for accounting purposes the PPE is considered as a public expenditure. However, this new measure should not change household income macroeconomically, but only the nature of the transfer. Thus, excluding the elimination of the PPE, the tax burden on households would increase by 2.1 billion in 2016.

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## 2015-2017 forecasts for the French economy

By [Mathieu Plane](#), [Bruno Ducoudré](#), [Pierre Madec](#), Hervé Péléraux and Raul Sampognaro

This text summarizes the [OFCE's economic forecast for the French economy for 2015-2017](#)

After a hesitant upturn in the first half of 2015 (with growth rates of 0.7% and 0% respectively in the first and second quarter), the French economy grew slowly in the second half year, with GDP rising by an average of 1.1% for the year as a whole. With a GDP growth rate of 0.3% in the third quarter of 2015 and 0.4% in the fourth quarter, which was equal to the pace of potential growth, the unemployment rate stabilized at 10% at year end. Household consumption (+1.7% in 2015) was boosted by the recovery in purchasing power due in particular to lower oil prices, which will prop up growth in 2015, but the situation of investment by households (-3.6%) and the public administration (-2.6%) will continue to hold back activity. In a context of sluggish growth and moderate fiscal consolidation, the government deficit will continue to fall slowly, to 3.7% of GDP in 2015.

With GDP growth in 2016 of 1.8%, the year will be marked by a recovery, in particular by rising corporate investment rates. Indeed, all the factors for a renewal of investment are coming together: first, a spectacular turnaround in margin rates since mid-2014 due to a fall in the cost of energy supplies and the impact of the CICE tax credit and France's Responsibility Pact; next, the historically low cost of capital, which has been helped by the ECB's unconventional monetary policy; and finally, an improvement in the economic outlook. These factors will lead to an acceleration of business investment in 2016, which will increase by 4% on average over the year. Household consumption should remain strong in 2016 (+1.6%), driven by job creation in the market sector and by a slight fall in the savings rate. Fuelled by the rise in housing starts and building permits, housing investment will pick up (+3%), after shrinking for four years in a row. Foreign trade will be boosted by the impact of the euro's depreciation and the government's competitiveness policies, and will make a positive contribution to growth (+0.2 GDP point in 2016, the same as in 2015). Once the impact of the downturn in oil prices has fed through, inflation

should be positive in 2016, but still low (1% on an annual average, after two years of virtual stagnation), a rate that is close to underlying inflation. The pace of quarterly GDP growth in 2016 will be between 0.5% and 0.6%: this will trigger a gradual closing of the output gap and a slow fall in the unemployment rate, which will end the year at 9.8%. The public deficit will be cut by 0.5 GDP point, due to savings in public spending, notably through the contraction of public investment (-2.6%), low growth in government spending (+0.9%), and the impact of the rise in tax revenues as the economy recovers.

Assuming that the macroeconomic environment remains favourable, the output gap is expected to continue to close in 2017. With GDP growth of 2%, the government deficit will fall further to 2.7% of GDP, passing below the 3% bar for the first time in 10 years. Under the impact of the government's employment policies and the absorption of the overstaffing by companies, the unemployment rate will continue to fall, to 9.4% of the active population by the end of 2017.

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## **The COP 21 conference: the necessity of compromise**

By [Aurélien Saussay](#)

On Tuesday, 6 October 2015, the United Nations Framework Convention on Climate Change (UNFCCC) released a preliminary version of the draft agreement that will form the basis for negotiations at the Paris Conference in December. Six years after the Copenhagen agreement, widely described as a failure,



the French Secretariat is making every effort to ensure the success of COP 21 – at the cost of a certain number of compromises. Although the text's ambitiousness has been cut down, the strategy of taking "small steps" is what can make an agreement possible.

The project has renounced a binding approach, where each country's contributions were negotiated simultaneously, and replaced that with a call for voluntary contributions, where each country makes its commitments separately. This step was essential: the Kyoto Protocol, though ambitious, was never ratified by the United States, the world's principal emitter of carbon at the time – and it was the attempt to build a successor on that same model which resulted in the lack of agreement at Copenhagen.

The countries' commitments, called Intended Nationally Determined Contributions (INDC), fall into three broad categories: a reduction in emissions from the level of a given base year – generally used by the developed countries; a reduction in the intensity of emissions relative to GDP (the amount of GHGs emitted per unit of GDP produced); and finally, the relative reduction in emissions compared to a baseline scenario, called "business-as-usual", which represents the projected trajectory of emissions in the absence of specific measures.

Most emerging countries have chosen to express their targets in terms of intensity (China and India in particular) or relative to a baseline trajectory (Brazil, Mexico and Indonesia). This type of definition has the advantage of not penalizing their economic development – at the price, of course, of uncertainty about the level of the target: if economic growth exceeds the projections used, the target could be met even while the reduction in emissions achieved would be lower than expected. Moreover, part of the target is often indexed on the availability of financing and of technology transfers from developed countries – once again, a perfectly

legitimate condition. Due to the contribution that having a plurality of targets makes to a fair distribution of efforts between developed, long-standing emitters and countries that have been developing recently, this represents an essential source of compromise.

With regards to the level of emissions targets set for 2030, while some are trivial – note the case of Australia, which is proposing *to increase* its emissions over 1990 levels – many involve accelerating existing efforts. To meet its commitments, Europe must reduce its emissions twice as rapidly from 2020 to 2030 as it does in the previous decade, and the United States one-and-a-half times; China will need to reduce its carbon intensity three times faster than it has in the last five years, and India two-and-a-half times faster.

As a guide, if the INDCs made public to date were fully realized, then according to the research consortium Climate Action Tracker [\[1\]](#), global temperatures would rise 2.7 °C above pre-industrial levels by the end of the century. This simple calculation must, however, be qualified, since the plan is for commitments to be revised every five years, and they can only be tightened. This system of iterative negotiations should make it possible to move steadily closer to the goal of 2°C that is still being upheld officially.

To be effective, it is necessary to check on whether these commitments are actually met, which requires independent monitoring. In this respect, while guidelines have been highlighted in the current version of the draft agreement, the final negotiations will need to clarify the mechanisms actually used. In the absence of an effective verification procedure, successive revaluations of commitments could turn into a global game of liar's poker, and ultimately undermine the fight against climate change.

Moreover, the existence of relatively ambitious commitments should certainly not delay the implementation of the necessary

adaptation measures, which are at present the subject of a single article in the provisional draft, with no reference to the funding that will be devoted to this. This is one of the project's main weaknesses, as the question of funding is barely mentioned – the Green Climate Fund, which was to be endowed with 100 billion dollars by 2010, has received only 10.2 billion to date.

In turning the page on Copenhagen, the draft agreement for Paris could constitute a real step forward for climate protection. It is the result of a change in method and a series of compromises which, though scaling down ambitions, are absolutely necessary to the very existence of an agreement. Demanding greater requirements for the proposal's targets could lead to the failure of the negotiations, which would be far more damaging. In its current version, the draft agreement provides a robust foundation for the future coordination of efforts against climate change.

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[\[1\]](#) The Consortium of the following research organizations: Climate Analytics, Ecofys, NewClimate Institute, and Potsdam Institute for Climate Impact Research.

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## **Slowing growth: due to the supply side?**

By [Jérôme Creel](#) and [Xavier Ragot](#)

The weakness of the recovery in 2014 and 2015 raises the need

for a structural re-examination of the state of France's productive fabric. Indeed, an analysis of investment dynamics, the trade balance, productivity gains and business margins, and to a lesser extent companies' access to credit, indicates the existence of some disturbing trends since the early noughties. In addition, the persistence of the crisis inevitably poses the question of the unravelling of France's productive fabric since 2007 due to a combination of low growth, weak investment and numerous bankruptcies.

The contributions gathered in [Revue de l'OFCE no.142](#) have a double ambition: first, to put France's businesses and economic sectors at the heart of reflection about the ins and outs of the current slowdown in growth, and second, to question the basis for theoretical analyses of future growth in light of the situation of France and Europe. Based on the various contributions, nine conclusions emerge:

1) Growth potential, a concept that aims to measure an economy's medium-term productive capacity, has fallen in France since the crisis. While the level of potential growth is high over the long term, on the order of 1.8%, it has fallen since the crisis by about 0.4 point, according to the new measurement provided by Eric Heyer and Xavier Timbeau.

2) The main point is to figure out whether this slowdown is temporary or permanent. This is important for growth forecasts but also with respect to France's European commitments, which depend on its growth potential. One important conclusion is that a very large portion of the current slowdown is transitory and linked to France's economic policy. As Bruno Ducoudré and Mathieu Plane demonstrate, the low level of investment and employment can be explained by the macroeconomic environment and in particular by the current sluggish economy. Business behaviour does not seem to have changed during the crisis. The analysis by Ducoudré and Plane also shows that the determinants of investment differ in the short term and the long term. A 1% increase in economic

activity increases investment by 1.4% after one quarter, whereas a 1% increase in the margin rate has very little impact in that same period. However, over the long term (10 years), a 1% increase in activity boosts investment by about 1%, while a 1% increase in the margin rate boosts investment by 2%. So promoting investment means supporting economic activity in the short term, while boosting margins will have an impact over the longer term.

3) France's productive fabric will take time to recover from the effects of the crisis because of three major obstacles: the weakness of investment, of course, but also the decline in the quality of investment and finally the disruption of production following on from the poor allocation of capital during the crisis, including its territorial dimension. Sarah Guillou and Lionel Nesta show that the low level of investment makes it impossible to go upmarket, which has meant less technical progress since the crisis. Jean-Luc Gaffard and Lionel Nesta then show that regional convergence has slowed since the crisis, and that economic activity has tended to decline in the most productive areas.

4) The concept of growth potential as a tool for macroeconomic management has emerged from the crisis in a profoundly weakened state. Whatever the methods used, ongoing revisions of growth potential make the idea of a system of rules-based European guidance dangerous, according to Henri Sterdyniak. There is a need to rediscover European economic policy that is discretionary in character. In addition, fiscal policy that is more contingent on macroeconomic and financial conditions needs to be better coordinated with the climate issue, as Jérôme Creel and Eloi Laurent argue.

5) The notion of secular stagnation, that is to say, a lasting weakening of growth, has led to intense debate. Two visions of secular stagnation are discussed. The first vision, associated with Robert Gordon, insists that technological progress has been exhausted. The second flows from the analysis of Larry

Summers and stresses the possibility of a permanent demand deficit. Jérôme Creel and Eloi Laurent show the limitations of the analysis of Robert Gordon for France; in particular, French demographics are more an advantage for French growth than a hindrance. Gilles Le Garrec and Vincent Touzé show the possibility of a long-term demand deficit that would hinder capital accumulation, due to the central bank's inability to make further interest rate reductions. In this kind of environment, support for demand is necessary to get out of an unfavourable equilibrium between low inflation and high unemployment, which leads to a negative perception of growth potential. Changing expectations may require large-scale policies to stimulate economic activity, along with an acceptance of high inflation over the long term.

6) The analyses presented here therefore recognize the profound difficulties with France's productive fabric and recommend better coordination of public policy. Support for demand is needed rapidly in order to restore investment, followed by an ongoing progressive policy to boost the margins of companies exposed to international competition – so, according to Jean-Luc Gaffard and Francesco Saraceno, not a competitive shock, but rather support for business that takes into account the time profile of productive investment.

7) In the longer term, part of what can be characterized as the French supply-side problem is the result of poor European adjustments, including the discrepancy in wages between Europe's major economies. The divergence between France and Germany since the mid-1990s has been impressive. Mathilde Le Moigne and Xavier Ragot show that German wage restraint is a singularity among European countries. They offer a quantification of the impact of this wage moderation on France's foreign trade and economic activity, and conclude that German wage restraint has contributed to an increase of more than 2 points in France's unemployment rate. A supply policy could also go by the name of a policy for European re-

convergence.

8) The deep-going modernization of the productive fabric will depend on spaces for cooperation, collective learning and collaboration so as to nourish the creativity made possible by new technologies. These spaces need to recognize the importance of difficult-to-value intangible assets. In economies with an ageing workforce, advances in robotics and artificial intelligence should lead to enhancing potential productivity, according to Sandrine Levasseur. Cooperation also needs to be strengthened in two areas: the company and the territory. Within companies, partnership governance should help limit short-termist financial tendencies. With respect to territory, the definition of regional innovation systems should be the focus of a modern industrial policy, according to Michel Aglietta and Xavier Ragot.

9) Guillaume Allègre concludes that it is not so much the level of production that is disturbing as the inequitable distribution of the fruits of growth, however small these may be. The emerging consensus on the negative impact of inequality on economic growth should not obscure the real debate, which does not concern just the income gap, but also what that income makes it possible to consume, i.e. equal access to goods and services of equal quality. The key question is thus the content of production, more than simply growth.