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

Number of oil rigs in action
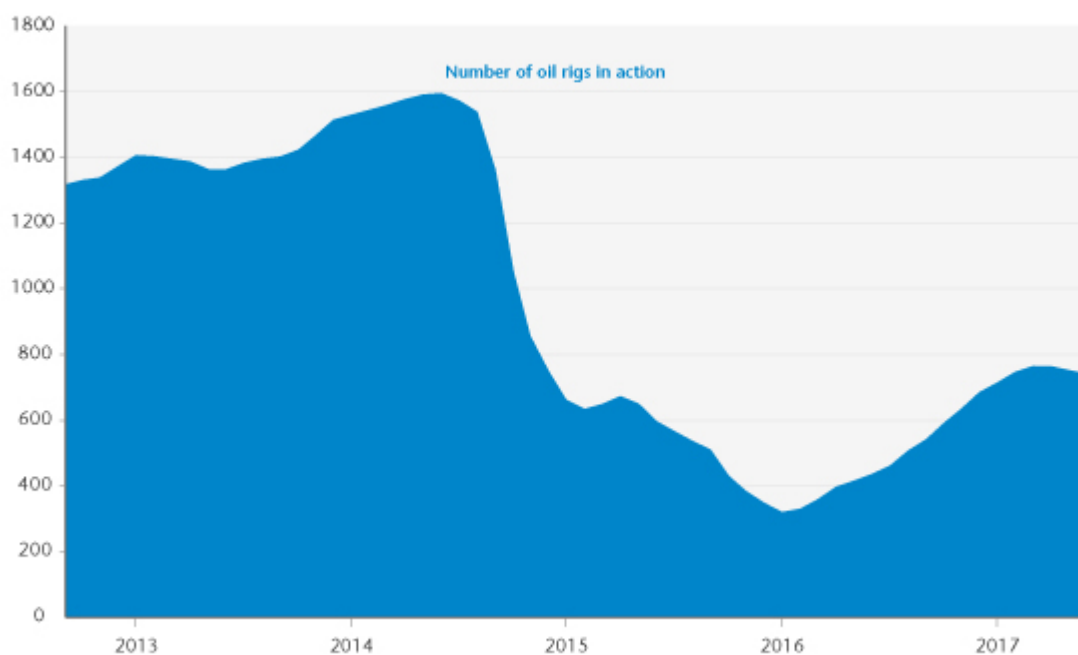
Source: EIA.

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
Growth rate[1]													1.6	1.5	1.1	1.4
Global GDP[1]													3.0	3.3	3.4	3.3
Oil intensity[1]													-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
OPEC share[1]	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
Non-OPEC share	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
OPEC share[1]	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….

- Observed in Q2 2017
- … if participation rate stayed at its 2007 level
- … if working time stayed at its 2007 level
- … if working time and participation rate stayed at their 2007 levels
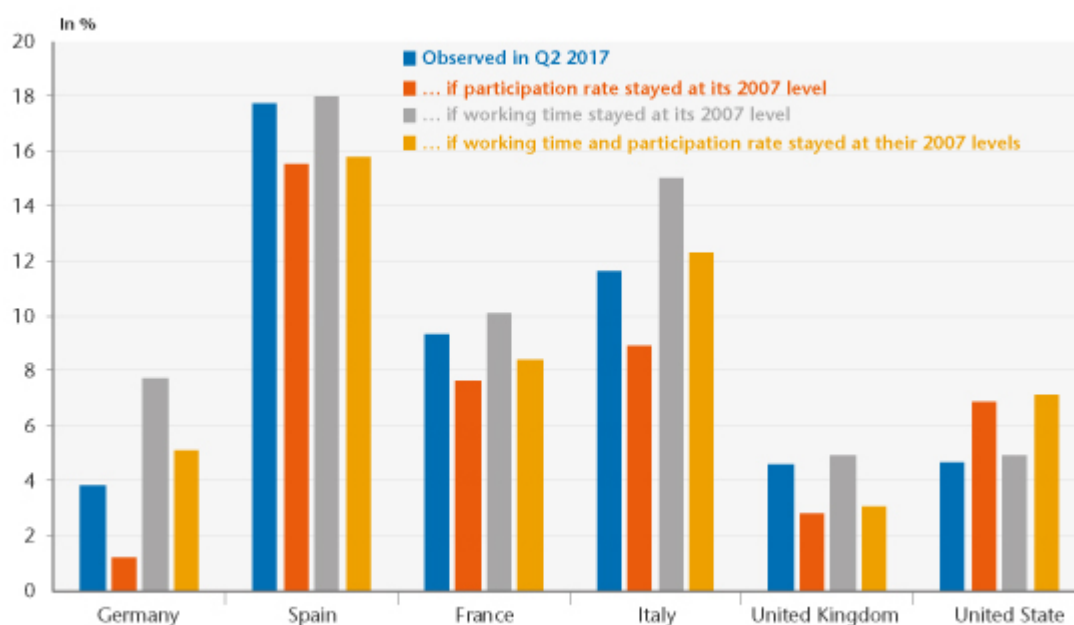
Sources: National accounts, OFCE calculations.

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.

European unemployment insurance

By Léo Aparisi de Lannoy and [Xavier Ragot](#)

The return of growth cannot eradicate the memory of how the crisis was mismanaged at the European level economically, but also socially and politically. The divergences between euro area countries in unemployment rates, current account balances and public debts are at levels unprecedented for decades. New steps in European governance must aim for greater economic efficiency in reducing unemployment and inequalities while explaining and justifying the financial and political

importance of these measures in order to render them compatible with national policy choices. The establishment of a European unemployment insurance meets these criteria.

The idea of a European mechanism for unemployment compensation is an old idea dating back to at least 1975. The idea is now being extensively debated in Europe, with proposals from Italian and French economists and policymakers and studies conducted by German institutes, with the latest [OFCE Policy Brief](#) offering a summary. The possibility is even being mentioned in communications from the European Commission. The Policy Brief describes the European debates, as well as the system in place in the United States.

The European unemployment insurance mechanism presented in this note aims to finance the unemployment benefits of countries experiencing a severe recession and draws on the US experience to do this. A programme like this would constitute a second European level, supplementing the different national levels of unemployment insurance. It would help provide the unemployed support in countries hit by a deep recession, which would also contribute to sustaining aggregate demand and activity while reducing inequality in the recipient countries. It is also consistent with a reduction in the public debt. This mechanism would not lead to permanent transfers to countries that are not carrying out reform, nor to unfair competition or the transfer of political powers that are now covered by subsidiarity. As in the case of the United States, it is consistent with the heterogeneous character of national systems.

To give an order of magnitude, an insurance system that is balanced over the European economic cycle and involves no permanent transfers between countries would have boosted growth in Spain by 1.6% of GDP at the peak of the crisis, while Germany would have received European aid from 1996 to 1998 and from 2003 to 2005. France would have experienced a GDP increase of 0.8% in 2013 thanks to such a system, as shown

by the simulations conducted by the European teams.

For the complete study, see: *[Policy Brief de l'OFCE, no. 28, 30 November 2017.](#)*

A new Great Moderation?

by Analysis and Forecasting Department

This text summarizes the OFCE's 2017-2019 forecast for the global economy and the euro zone; the full version can be found [here](#).

Ten years after the financial crisis broke out in the summer of 2007, the world economy finally seems to be embarking on a trajectory of more solid growth in both the industrialized and most of the emerging countries. The figures for the first half of 2017 indicate that global growth is accelerating, which should result in GDP growth of 3.3% over the year as a whole, up 0.3 percentage point over the previous year. Some uncertainty remains, of course, in particular concerning the outcome of Brexit and the ability of the Chinese authorities to control their economic slowdown, but these are the types of irreducible uncertainties characteristic of an economic system that is subject to political, technological, economic and financial shocks[1]. Beyond these risks, which should not be underestimated, lies the question of the ability of the world's economies to reduce the imbalances inherited from the crisis. While current growth is sufficient to bring down the unemployment rate and improve the employment rate, it needs to be long-lasting enough to get back to full employment, reduce inequalities, and promote debt reduction.

In this respect, not all the doubts have been lifted by the current upturn in the world's economic situation. First, growth has remained moderate in light of the past recession and previous episodes of recovery. Since 2012, the global economy has grown at an average rate of 3.2%, which is lower than in the 2000s (graphic). The growth trajectory seems to be closer to what was observed in the 1980s and 1990s. This period, the so-called Great Moderation, was characterized by lower macroeconomic volatility and a disinflationary trend, first in the advanced countries, then in the emerging countries. This second element is also an important point in the global economic situation today. Indeed, the pick-up in growth is not translating into renewed inflation. The low rate of inflation reflects the persistence of underemployment in the labor market, which is holding back wage growth. It also illustrates the difficulties the central banks are having in (re)-anchoring inflation expectations on their target.

Finally, there is the matter of the growth potential. Despite numerous uncertainties about measuring growth potential, many estimates are converging on a projection of weaker long-term growth, due mainly to a slowdown in trend productivity. It should be noted, however, that the methods used to determine this growth trajectory sometimes lead to prolonging recent trends, and can therefore become self-fulfilling if they lead private and public agents to reduce their spending in anticipation of a slowdown in growth. Conversely, boosting future growth requires private and public investment. Economic policies must therefore continue to play a leading role in supporting the recovery and creating the conditions for future growth.

Figure. The recovery of the global economy

Sources: National accounts, OFCE calculations, October 2017.

[1] See OFCE (2017): La routine de l'incertitude [in French].

France: growth as inheritance

by OFCE Department of Analysis and Forecasting (France team)

This text summarizes the OFCE's 2017-2019 forecast for the French economy; the full version can be found here.

After five years of sluggish growth (0.8% on average over the period 2012-16), a recovery is finally taking shape in France, with GDP expected to rise by 1.8% in 2017, 1.7% in 2018 and 1.9% in 2019. Some negative factors that affected 2016 (a fall in agricultural production, impact of terrorist attacks on tourism, etc.) were no longer at work in 2017, and the economy should now feel the full benefit of the supply-side policies implemented during the Hollande presidency. Added to this is

the ripple effect from stronger growth in the European economies. Fiscal consolidation should be at a lower level in the coming two years[1] (0.3 GDP point over 2018-2019), and should not jeopardize the ongoing recovery or the fall in unemployment that started in 2015. In total, by incorporating the delayed impact of past supply-side policies, fiscal policy will have a neutral impact on GDP growth in 2018 and a slightly positive one in 2019 (+0.2 GDP point). The reduction of the public deficit will be slow (2.9% of GDP in 2017, 2.6% in 2018 and 2.9% in 2019), but this masks a sharp improvement in the public balance in 2019, excluding the one-off impact from the conversion of the CICE tax credit. The reduction should be sufficient to stay below the 3% mark and ensure the exit from the corrective arm of the Stability Pact.

The brighter financial prospects for French business and the pick-up in productive investment since 2015 should boost export market shares. Given the more buoyant economic environment in the euro zone, foreign trade should no longer be a drag on France's growth. Ultimately, economic growth will be relatively robust, creating jobs in the commercial sector (247,000 in 2017, 161,000 in 2018 and 223,000 in 2019) and bringing down the unemployment rate in metropolitan France to 9.2% by the end of the second quarter 2017, to 8.9% by the end of 2018 and to 8.5% by the end of 2019. But the sharp decline in new subsidized contracts in the second half of 2017, which will continue in 2018 (falling from 320,000 in 2017 to 200,000 in 2018) and the completion of the implementation of tax plans to enrich job growth (the CICE, Liability pact), and sometimes their elimination (hiring bonus), will be a significant drag on efforts to cut unemployment in 2018.

[1] This forecast does not take into account measures included in the 2018 supplemental Budget Bill (PLFR).

The ECB on neutral ground?

By [Christophe Blot](#) and [Jérôme Creel](#)

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

In a [recent paper](#) prepared as part of the European Parliament's Monetary Dialogue with the ECB, we show that these concerns are unfounded for the simple good reason that,

on average, since the beginning of the implementation of this policy, the theoretical distribution key has been respected (graphic). This distribution key stipulates that purchases of bonds by the Eurosystem are to be made pro rata to a state's participation in the ECB's capital. Remember that part of the purchases — 10 of the 60 billion in monthly purchases made under the programme — are made directly by the ECB[2]. The other purchases are made directly by the NCBs. As each central bank buys securities issued by its own government, the NCBs' purchases of public bonds do not entail risk-sharing between member states. Any profits or losses are kept on the NCBs' balance sheets or transferred to the national governments in accordance with the agreements in force in each country.

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

This orientation could also constrain the ECB's decision about continuing quantitative easing beyond December 2017. Let's agree that the ECB's best policy would be to continue the current policy beyond December 2017, but to stop it once and

for all in July 2018. Given the current distribution rules, this policy would be subject to all countries having exchangeable government bonds until July 2018, including those who issue public debt only rarely because they have low financing needs. It could be that it is impossible to continue this policy under the rules currently adopted by the ECB, because some countries do not have sufficient debt available. It would then be necessary to implement a different policy by drastically reducing the monthly purchases of short-term securities (say in January 2018), while possibly pursuing this policy for a longer time period (beyond the first half of 2018). The decision not to use risk-sharing in the management of European monetary policy is therefore far from being neutral in the way this policy is actually implemented.

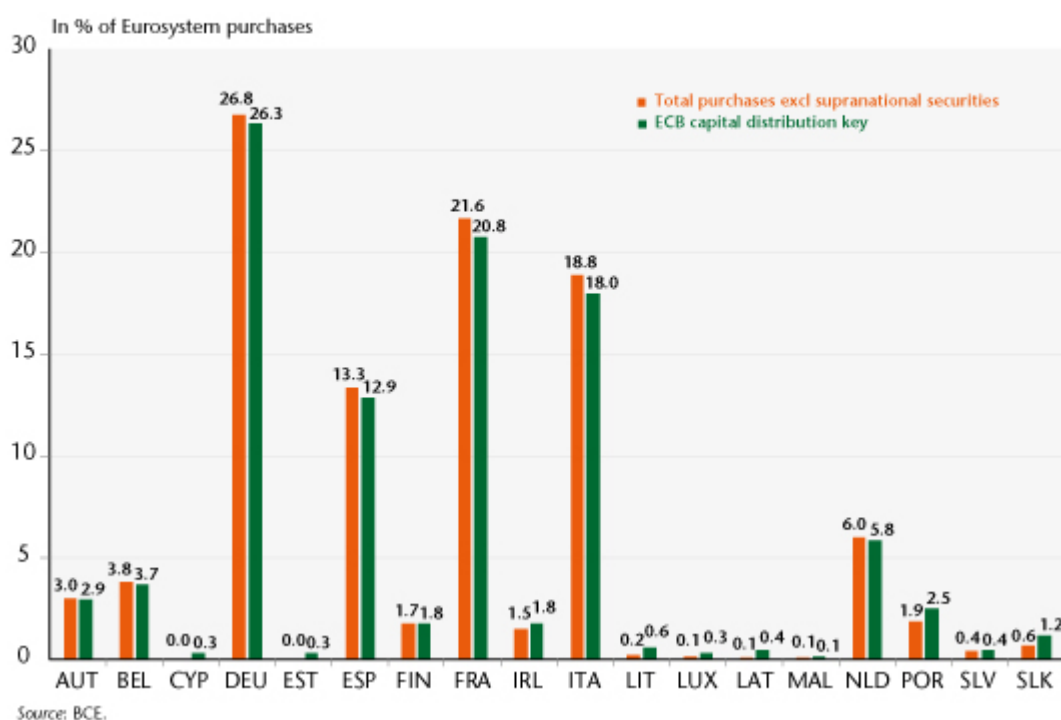**Figure. Distribution by the cumulative securities purchases by the national central banks**

In % of Eurosystem purchases

Legend:
- Total purchases excl supranational securities
- ECB capital distribution key

Country	Total purchases excl supranational securities	ECB capital distribution key
AUT	3.0	2.9
BEL	3.8	3.7
CYP	0.0	0.3
DEU	26.8	26.3
EST	0.0	0.3
ESP	13.3	12.9
FIN	1.7	1.8
FRA	21.6	20.8
IRL	1.5	1.8
ITA	18.8	18.0
LIT	0.2	0.6
LUX	0.1	0.3
LAT	0.1	0.4
MAL	0.1	0.1
NLD	6.0	5.8
POR	1.9	2.5
SLV	0.4	0.4
SLK	0.6	1.2

Source: BCE.

Table. Weighting by country using different measures

In %

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

Sources: ECB and Eurostat.

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

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

The new labour inequalities. Why jobs are polarizing

By Gregory Verdugo

What is job polarization?

Over the past three decades, work has taken a new turn. While the post-World War II period saw a decline in wage inequalities, since the 1980s the gaps have been getting steadily wider. Differentials are increasing throughout the wage distribution, both between low and medium wages and between medium and high wages. In countries like France where wage inequalities have remained stable, the less skilled have been hit increasingly by the risk of unemployment and precarious jobs. In addition to increasing inequality, the composition of jobs has also undergone great change. To study trends in job quality, the economists Alan Manning of the London School of Economics and Maarten Goos and Anna Salomons of the University of Utrecht explored the rich data from the European Labour Force Survey for 16 European countries over the period 1993 to 2010 [1]. Based on the average wage observed in employment at the beginning of this period, they distinguish three main categories of jobs: low-skilled, medium-skilled and highly-skilled.

Alan Manning and his co-authors calculated how the share of these three groups in total employment is changing. Their results, presented in Figure 1, show that in most countries employment is polarizing, i.e. the share of intermediate jobs is declining sharply in favor of an increase in either low-skilled or high-skilled work. The number of medium-skilled jobs has fallen substantially: in France, these jobs decreased by 8 points between 1993 and 2010, from 47% to 39%. This compares to 12 points in Spain, 11 points in the United Kingdom, 10 points in Sweden and Denmark, 6 points in Germany

and 5 points in Portugal.

While the share of intermediate occupations is shrinking, the shares of low-skilled and highly-skilled jobs are expanding. In France, these two groups have increased in a perfectly symmetrical way, by about 4% each. Thus, for every two medium-skilled jobs that disappear, one additional highly-skilled job and one unskilled job are created. Note that, compared with Belgium (+ 9%), Denmark (+ 8%) and Finland (+12%), the growth in skilled jobs has been more moderate in France, and is closer to that of Germany, Austria and Norway.

Changes in the shares of low-skilled, medium-skilled and highly-skilled jobs, 1993 and 2010
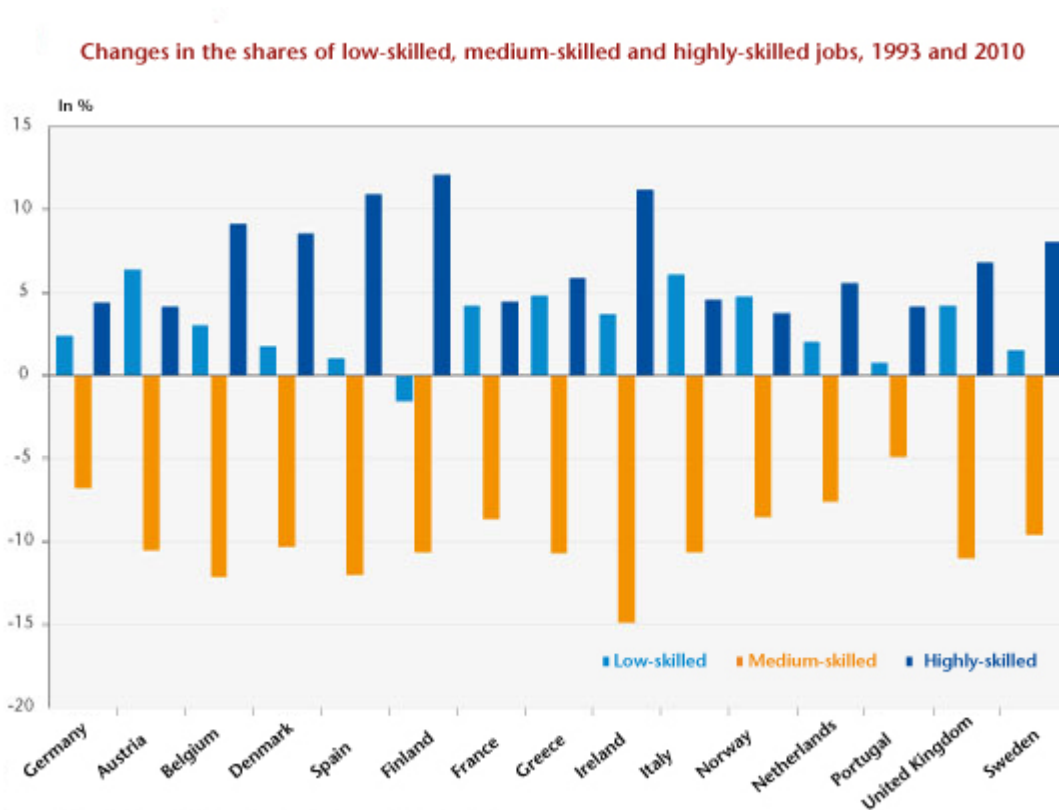
Source: Maarten Goos, Alan Manning, Anna Salomons (2014), op.cit.

Winners and losers in the information revolution

The major upheaval going on in the labour market is due first to the nature of recent technological change, which has revolutionized the organization of businesses. Because computers operate in accordance with explicit, pre-programmed procedures and rules, they have proven very adept at performing the so-called routine tasks that characterize human labour in intermediate jobs. A computer can command an

industrial robot, draw up pay slips, or distribute money. Because of their efficiency and low cost, computers have replaced the elementary and repetitive human labour that made up many intermediate jobs. The jobs most destroyed by computerization were thus those held by workers on production lines that became automated as well as those of office clerks and secretaries.

Highly-skilled workers have on the other hand been the winners from technological progress. Not only are computers unable to replace their jobs, but they also make these workers more productive. By expanding the amount of information available and facilitating its search, the Internet promotes the specialization of knowledge and makes it possible to concentrate on analytical tasks. Thanks to advances in information technology, companies are increasingly demanding more highly-skilled labour, which has made it possible to absorb the arrival of large cohorts of higher education graduates without lowering their wages.

Has international trade polarized employment?

International trade benefits the consumer by multiplying their choices and moderating prices. Indirectly, by freeing up income, it also stimulates demand and employment in the services sector. But behind the consumer is also a worker, sometimes with opposing interests. While international trade favours the former, its effect on the latter is more ambiguous.

It is now clear that medium-skilled jobs have fallen victim to the growth in trade with the developing countries. The quickening pace of trade with emerging economies with low labour costs has led companies in the developed countries to specialize in the most sophisticated design tasks that draw on information analysis and creativity. In contrast, basic production tasks have been increasingly outsourced, which has led to the destruction of a large portion of intermediate

industrial jobs in the developed countries.

Recent studies on the United States [2] and France [3] have shown that, as a result of the import boom that followed after China joined the World Trade Organization in the 2000s, the labour market worsened seriously in the areas facing greatest competition from China. For France, the destruction of industrial jobs linked to Chinese competition has been quantified at 100,000 jobs from 2001 to 2007, or 20% of the 500,000 jobs lost in this sector.

How can this market be tamed?

Of course one should not forget that the labour market is a market where supply and demand is constrained by a set of norms and rules that are crucial in terms of inequality. Despite the important role of technology and trade, labour market institutions play a key role and have shaped each country's response to computerization and the expansion of international trade and, depending on the case, have slowed or accelerated job polarization.

Many studies have noted that a minimum wage and collective wage bargaining have influenced the way inequality and employment are impacted by technological advances and globalization. These institutions have most of all had an impact on the wages of the least skilled, those they are designed to protect. For low wage earners in France, the minimum wage has dramatically closed the wage gap [4]. The centralization of wage negotiations at the branch level has also contributed to limiting wage inequalities by levelling wages between firms within a sector. Where such institutions have remained strong, they have kept low wages up and moderated wage differentials.

But if these institutions are too restrictive, they have also been suspected of undermining job creation and pushing up unemployment among low-skilled workers. They have in

particular not been able to curb the destruction of jobs, and excessive protection is suspected of having discouraged job creation. In the late 1990s, Thomas Piketty of the Paris School of Economics noted that the growth of service jobs had declined in France compared to the United States following increases in France's minimum wage In the 1980s[5]. More recently, the researchers Julien Albertini of Humboldt University, Jean Olivier Hairault of Paris 1 University, François Langot of the University of Maine and Thepthida Sopraseuth of the University of Cergy Pontoise showed that the minimum wage has limited the growth of the non-routine manual services sector in France [6] and thus diminished the opportunities for people whose jobs were destroyed by international trade or technology. This employment deficit was particularly pronounced in activities that were intensive in low-skilled labour, such as hotels and restaurants and the retail trade[7]. A key issue facing employment policy in the years to come is how to adapt regulations to the new situation of the labour market.

The jobs of the future

Technological progress has not eliminated work. But the next wave of high-performance machines could, this time, be really different. Up to now, machines were not good at performing abstract and non-routine manual tasks, but advances in robotics and computer science could quickly change this situation. Every year has seen exponential progress in the technical possibilities for computers and robots to simulate human reasoning and intelligence: the increase in computing capabilities is making it possible to analyse and respond more skilfully to external stimuli; communication with the environment is becoming more and more sophisticated thanks to batteries of powerful sensors, aided by software that is capable, in particular, of understanding the most subtle nuances of human language and of recognizing faces and objects; data storage capabilities have been multiplying with

the development of "cloud robotics", where each robot in the network accumulates and shares experience and information with its fellow robots[8].

Some researchers believe that developments in intelligent machines and robotics are likely to replace work in a large number of jobs in the years to come. In 2015, Carl Benedikt Frey and Michael Osborne, researchers at Oxford University, predicted that 47% of employees in the US hold jobs that are likely to be automated in the future[9]. They foresee a particularly heavy impact in transport and logistics, where the progress of intelligent sensors will make driverless vehicles safe and profitable.

But the jobs of the less skilled are not the only ones under threat. The growing analytical capabilities of computers now enable them to assist in decision-making in complex tasks, especially in the medical and legal fields, where they are replacing skilled labour. At the Memorial Sloan-Kettering Cancer Center in New York, USA, a computer programme helps oncologists determine the most appropriate treatment for patients. The programme draws on 600,000 medical reports, 1.5 million patient records and clinical trials, and 2 million pages published in medical journals[10]. It is continuously learning and improving. In the field of law, the Clearwell System uses automatic language analysis techniques to classify the masses of documents transmitted to the parties before trial, which could amount to several thousand pages. In two days, a computer is able to make a reliable analysis of 570,000 documents. The work it saves is equal to that of dozens of lawyers, saving precious time in trial preparation[11].

Should we fear these changes? There is no fundamental economic law that guarantees that everyone will be able to find a well-paid job in the future. The less attractive work caused by polarization is a reminder that progress does not always improve job quality. But will it offer at least some jobs?

For more information: in June 2017, Gregory Verdugo published "Les nouvelles inégalités du travail: pourquoi l'emploi se polarise" [The New Labour Inequalities: Why Employment is Polarizing] at the Presses de Sciences Po, in the Collection Sécuriser l'emploi.

Link to books from Presses de Sciences Po: http://www.pressesdesciencespo.fr/fr/livre/?GCOI=27246100938740&fa=author&person_id=1987

Link to books from Cairn: https://www.cairn.info/les-nouvelles-inegalites-du-travail—9782724620900.htm

[1] Maarten Goos, Alan Manning and Anna Salomons, "Explaining Job Polarization: Routine-biased Technological Change and Offshoring", *American Economic Review*, 104 (8), 2014, pp. 2509-2526.

[2] David Autor, David Dorn and Gordon Hanson, "The China Syndrome: Local Labor Market Effects of Import Competition in the United States", *American Economic Review*, 103 (6), 2013, pp. 2121-2168.

[3] Clément Malgouyres, "The Impact of Chinese Imports Competition on Employment and the Wage Distribution: Evidence from French Local Labor Markets", *EUI ECO Working Paper*, 2014.

[4] Gregory Verdugo, "The Great Compression of the French Wage Structure, 1969–2008", *Labour Economics*, 28, 2014, pp. 131-144.

[5] Thomas Piketty, "L'emploi dans les services en France et aux États-Unis: une analyse structurelle sur longue période", *Économie et Statistique*, 318, 1998, pp. 73-99.

[6] Julien Albertini, Jean-Olivier Hairault, François Langot and Thepthida Sopraseuth, "A Tale of Two Countries: A Story of the French and US Polarization", *IZA Discussion Papers*, no. 11013, June 2017.

[7] Ève Caroli and Jérôme Gautié, *Bas salaires et qualité de l'emploi: l'exception française?,* Paris, Editions Rue d'Ulm, 2009, p. 49

[8] Gill Pratt, "Is a Cambrian explosion coming for robotics?", *The Journal of Economic Perspectives*, 29 (3), 2015, pp. 51-60.

[9] Carl Benedikt Frey and Michael Osborne, "Technology at Work: The Future of Innovation and Employment", Oxford Martin School, 2015. Retrieved from http://www.oxfordmartin.ox.ac.uk/publications/view/1883.

[10] Jonathan Cohn, "The robot will see you now", *The Atlantic*, 20 February 2013.

[11] John Markoff, "Armies of expensive lawyers replaced by cheaper software", *The New York Times*, 4 March 2011.

Does the impact of economic policy depend on what we know?

By Paul Hubert and Giovanni Ricco

Do the effects of monetary policy depend on the information

available to consumers and business? In this note we analyze how the way in which the central bank surprises economic actors affects the impact of its policy and the extent to which the central bank's publication of its private information modifies the effects of its policy.

In an economy that had perfect information and where the expectations of private agents were rational, monetary policy announcements would have no real effect (on activity) unless they constitute "surprises", that is, unanticipated decisions. To the extent that private agents know the economic reasons behind monetary policy decisions, a surprise in monetary policy thus corresponds to a temporary change in the preferences of the central bankers.

However, in the presence of informational friction, and especially when the information sets of the central bank and of private agents differ, the private agents do not know the central bank's information and therefore do not know what the central bankers are responding to. When agents are surprised by a monetary policy decision, they cannot determine whether this surprise comes from a re-evaluation of the central bank's macroeconomic information or from a change in the central bankers' preferences. So for private agents, a monetary policy decision can reflect either their response to a preference shock or their response to macroeconomic information that has just been revealed to them. For example, an increase in the central bank's key rate may signal to private agents that an inflationary shock will affect the economy in the future, pushing up private expectations of inflation. However, the same increase in the central bank's key rate could be interpreted as a preference shock indicating that the central bankers want to tighten up, which would reduce private expectations of inflation. More generally, whenever the central bank and private agents have different sets of information, a monetary policy decision could convey information from the central bank about future macroeconomic

developments.[1]

The way private agents interpret monetary policy surprises is therefore crucial in determining the sign and the magnitude of the impact of monetary policy. Based on this intuition, a [recent work](#) by G. Ricco and S. Miranda-Agrippino proposes a new approach to studying the effects of monetary policy shocks that takes into account the problem that agents face in understanding central bank decisions. Despite years of research, there is still considerable uncertainty about the effects of monetary policy decisions. In particular, several works have shown that, counterintuitively, an increase in output or prices follows monetary tightening —a phenomenon that is also called the price puzzle.

In this work the authors show that to a large extent the results in the existing literature lack robustness due to the implicit assumption that the central bank or private agents have perfect information about the state of the economy. It turns out that it is the central bank's transmission of information about economic conditions to private agents that could be generating the price puzzle highlighted in the literature.

In the United States, it is five years afterwards that the central bank discloses the forecasts by its economists (the Greenbook forecasts) which have been used to inform its monetary policy decisions. This allows us to separate ex post the reactions of the financial markets to the new information on the state of the economy transmitted by the action of the central bank from reactions to monetary policy shocks. We use these responses to study the effects of monetary policy on the US economy in an econometric model that is flexible and robust to poor specifications.

In Figure 1, we compare our approach with methods that do not take into account the transmission of information between the central bank and private agents. While these methods generate

the price puzzle, with our approach we find that a monetary tightening reduces both prices and output.

Figure 1. Responses of different macroeconomic variables to a restrictive monetary shock

On the basis of these results, and in order to study whether private agents' interpretation of monetary policy surprises depends on the information available to them, another recent working paper assesses whether the publication by the central bank of its macroeconomic forecasts could affect the way that private agents understand monetary policy surprises and thus ultimately influence the impact of the monetary policy decision.

More specifically, this paper assesses whether and how the interest rate term structure of inflation expectations responds differently to Bank of England (BoE) decisions when they are accompanied or not by the publication of the BoE's macroeconomic forecasts (of inflation and growth) and when

these are corroborated or contradicted by its forecasts.[2]

Figure 2. Responses of inflation expectations at 1 and 2 years to a restrictive monetary shock
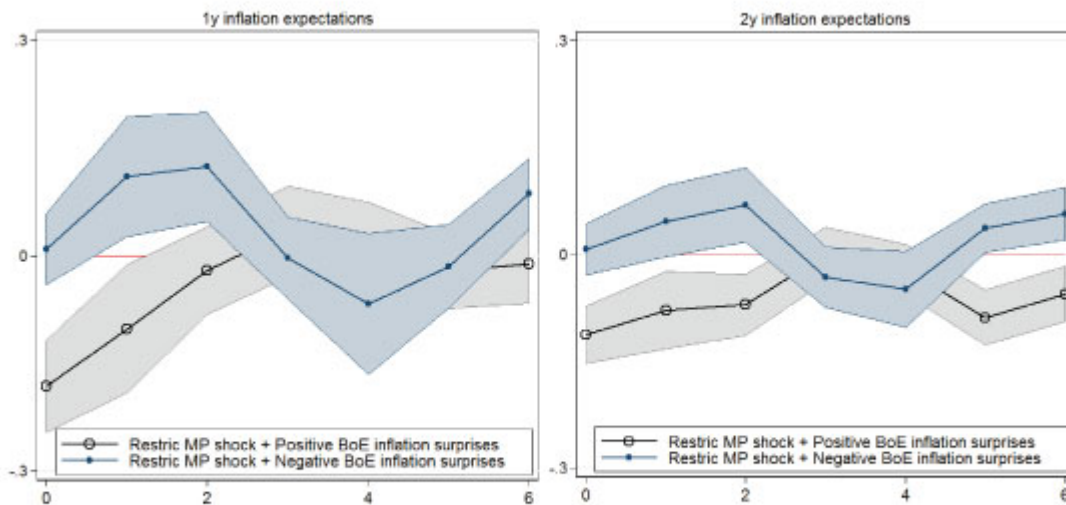
Note: The graphic shows the change over 6 months of inflation expectations at 1 and 2 years following a restrictive monetary shock (a) when this is corroborated by a positive surprise on the central bank's inflation forecasts (blue line), (b) when this is contradicted by a negative surprise on inflation forecasts (black line).
Source: Authors' calculations.

It can be seen that, on average, private inflation expectations respond negatively to restrictive monetary shocks, as expected given the mechanisms for transmitting monetary policy. The main result of Figure 2, however, is that the central bank's inflation forecasts change the impact of monetary shocks. Monetary shocks (in the example here, restrictive) have a greater negative impact when they interact with a positive surprise on the central bank's inflation forecasts. On the other hand, a restrictive monetary shock that interacts with a negative surprise on inflation projections has no effect on private inflation expectations.

This observation suggests that, when monetary shocks and forecast surprises corroborate one another, monetary shocks have a greater impact on private inflation expectations, possibly because private agents can deduce the preference shock of the central bankers and respond more strongly. On the other hand, when monetary shocks and forecast surprises contradict each other, monetary shocks have no (or less) impact, possibly because private agents receive opposing signals and are unable to determine the direction of monetary

policy. They are thus also responding to the macroeconomic information disclosed.

These results show that the publication by central banks of their macroeconomic information helps private agents to process the signals that they receive and thus modifies their response to monetary policy decisions. This study thus suggests that providing guidance on future changes in inflation rather than on future interest rate developments (Forward Guidance policy) can make monetary policy more effective by enabling private agents to better distinguish the central bank's macroeconomic information from its preferences.

Notes

[1] See Baeriswyl, Romain and Camille Cornand (2010), "The signalling role of policy actions", *Journal of Monetary Economics*, 57(6), 682-695; Tang, Jenny (2015), "Uncertainty and the signalling channel of monetary policy", *FRB Boston Working Paper*, no. 15-8; and Melosi, Leonardo (2017), "Signalling effects of monetary policy", *Review of Economic Studies*, 84(2), 853-884.

[2] This study focuses on the United Kingdom because the BoE's forecasts have a specific characteristic that makes it possible to econometrically identify their own effects. Indeed, the question asked demands that the central bank's forecasts do not depend on the current policy decision, so that monetary surprises and forecast surprises can be identified separately. The BoE's projections are conditional on market interest rates and not on the key rate, meaning that the BoE's forecasts are independent of monetary policy decisions.

Distributive justice, social norms and the diversity of demands for redistribution

By Gilles Le Garrec

When considering the preference for redistribution at the individual level, the first thing we notice is that people with lower incomes are the ones who say they would like a greater redistribution of income. But the way people look at income in general also plays a crucial role. Indeed, if someone thinks that income reflects more luck than effort, then they will tend to support a higher redistribution. What empirical studies tell us is that demands for redistribution reflect both individuals' self-interest as well as their concern for distributive justice. It should nevertheless be pointed out that the intensity of this concern may vary greatly from one country to another. More precisely, the study by Corneo (2001) showed that people from countries with high income redistribution, such as former West Germany, are characterized by a greater concern for distributive justice than people in low redistribution countries such as the United States. Given this, understanding the role of the cultural environment in the development of individual preferences is crucial to an understanding of demands for redistribution and, by extension, the diversity of redistributive policies in democracies, as illustrated in the table below. In this regard, the conclusion by Luttmer and Signal (2011) that immigrants from countries with a strong preference for redistribution continue to support a higher redistribution in their host country than do natives is decisive. It thus seems not only that the intensity of a person's concern for

distributive justice depends on the environment in which they are raised, but also that this no longer varies after reaching adulthood[1].

In the light of these empirical results, I have proposed in a [working paper](#) a mechanism for the cultural transmission of this moral norm, i.e. the intensity of the concern for distributive justice. The paper argues that preferences are a characteristic of an oblique socialization process [2] and are structured in part by the observation, imitation [3] and internalization of cultural practices. More specifically, my mechanism stipulates that the observation during childhood of excessively unfair redistributive policies will result in a weakened concern for distributive justice. The moral cost of not supporting a fair distribution of income once a person reaches adulthood is lessened by the observation of the collective failure of the previous generation to have established institutions promoting distributive justice. In other words, the mechanism that I am proposing reflects the fact that having been exposed to too much injustice reduces a person's capacity to feel concerned about injustice.[4]

As a consequence of the intergenerational cultural transmission mechanism proposed, my model allows us to satisfactorily account for the fact that redistribution is greater in Europe than in the United States, even though income inequalities before taxes and transfers are lower (cf. Table 1). In doing this, I improve on the prediction of the canonical model of Meltzer and Richard (1981), who argue instead that greater income inequality should result in greater redistribution. Moreover, these differences about redistribution persist over time because they become part of an individual's preferences via the intergenerational transmission of the intensity of concern for distributive justice. It is through this same mechanism of the intergenerational transmission of values that we can finally explain why immigrants from countries with strong

redistribution continue to support a higher level of redistribution in their host country.

Table 1. Redistribution and income inequality in 2013

	Income inequality (before tax and transfers, Gini index)	Public social spending (% GDP)	Reduction made to income inequality (%))
Sweden	0,363	17,8	27,5
France	0,445	18,9	33,9
Germany	0,419	16,5	28,6
United States	0,478	12,5	18,0

Source: OECD (2017) and author's calculations.

References

Boyd, R. and P.J. Richerson (1985), *Culture and the evolutionary process*, London, University of Chicago Press.

Corneo G. (2001), "Inequality and the State: Comparing US and German preferences", *Annals of Economics and Statistics*, 63/64, pp. 283-296.

Le Garrec, Gilles (2017), "Fairness, social norms and the cultural demand for redistribution", *Document de travail OFCE no 2017-20*, forthcoming in *Social Choice and Welfare*, DOI 10.1007/s00355-017-1080-6.

Luttmer, E. and M. Signal (2011), "Culture, context, and the taste for redistribution", *American Economic Journal: Economic Policy*, 3(1), pp. 157-179.

McCrae, R. and P. Costa (1994), "The stability of personality: observation and evaluations", *Current Directions in Psychological Science*, 3(6), pp. 173-175.

Meltzer, A. and S. Richard (1981), "A rational theory of the size of government", *Journal of Political Economy*, 89(5), pp 914-927.

Twenge J., R. Baumeister, N. DeWall, N. Ciarocco and M.

Bartels (2007), "Social exclusion decreases prosocial behavior", *Journal of Personality and Social Psychology*, 92(1), pp. 56-66.

[1] In support of this interpretation, the psychologists McCrae and Costa (1994) showed that personality traits were frozen after the age of 30.

[2] We speak of oblique socialization or transmission when an individual learns from contact with people from the generation of his parents or from institutions. Transmission is called vertical when it occurs between parents and their children. It is called horizontal when an individual learns from their peers.

[3] In the evolutionary literature, learning from others by imitating them is an economical and efficient way of acquiring information that is locally relevant to adaptation. In this perspective, the propensities to learn and to imitate are components of a psychology that has evolved through natural selection (Boyd and Richerson, 1985).

[4] Twenge *et al.* (2007) explained that social exclusion causes strong negative feelings that undermine for an empathetic understanding of others and, consequently, diminishes pro-social behavior.

Growth and inequality in the European Union

By [Catherine Mathieu](#) and [Henri Sterdyniak](#)

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

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

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

Income inequality: the facts. Mark Dabrowski (CASE, Warsaw) — "Is there a trade-off between global and national inequality?" — stresses that the growth of inequalities within each country (especially in the United States and China) goes hand in hand with the reduction of inequalities between countries, as both are fuelled by commercial and financial globalization. However, some advanced countries have succeeded in halting the growth in internal inequalities, which shows the continuing importance of national policy.

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

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

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

Modelling the growth / inequality relationship. Alberto Cardiac (University of Cattolica del Sacro Cuore, Milan) and Francesco Saraceno (OFCE, Paris) – "Inequality and Imbalances: An open-economy agent-based model" – present a two-country

model. In one, the search for external surpluses leads to pressure on wages and a depression of domestic demand, which is offset by export earnings. In the other, the growth of inequality leads to a downward trend in consumption, which is offset by the expansion of credit. The result is an endogenous debt crisis when the household debt of the second country reaches a limit value.

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

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

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

be applied only once private debt has been reduced.

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

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

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

Inequality, poverty and mobility. Katharina Weddige-Haaf (Utrecht University) and Clemens Kool (CPB and Utrecht University) – "The impact of fiscal policy and internal migration on regional growth and convergence in Germany" – analyse the factors for convergence of per capita income between the old and new German Länder. Convergence has been driven by internal migration, investment subsidies and structural funds, but fiscal transfers in general have had no effect. The 2008 crisis favoured convergence by hitting the richest regions in particular.

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

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

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

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

inequalities, and it reduces employment. Wage inequalities have a negative impact on employment and overall productivity.

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

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

Hassan Molana (University of Dundee), Catia Montagna (University of Aberdeen) and George E. Onwordi (University of Aberdeen) — "Reforming the Liberal Welfare State: International Shocks, unemployment and household income shares" — construct a model to show that a free market country, such as the United Kingdom, could improve the functioning of its labour market by reducing flexibility to move towards a flexi-security model: higher unemployment benefits, restrictions on redundancies, greater spending on training, and support for hiring. By boosting labour productivity, this strategy would reduce the structural unemployment rate and increase the share of profits.

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

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

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

Sarah Godar (Berlin School of Economics and Law) and Achim Truger (IMK and Berlin School of Economics and Law) — "Shifting priorities in EU tax policies: A stock-taking exercise over three decades" — analyse the evolution of taxation in the EU states: from 1980 to 2007, taxation became less progressive with lower marginal rates of income tax and corporation tax, and preferred treatment of capital income.

The crisis of 2008 and the difficulties with the public finances temporarily slowed this trend; an increase in revenues was, however, often sought by raising VAT.

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

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

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