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Has the ECB lost its mind?

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- This *Policy brief* analyses the recent expansionary decisions of the ECB in September 2019, which are now under scrutiny and have even been criticized.
- Recent facts confirm the need of an expansionary monetary policy, as inflation expectations are still decreasing and credit remains weak.
- We pay a special attention to the three types of risk evoked in the public debate.
- First, it has been argued that low interest rates could increase the households saving rate due to an income effect. We show that this does not materialize on recent data. We observe such a correlation only for Germany, and this already before 2008, casting some doubt on the direction of the causality.
- Second, it is argued that the banks' profits are at risk because of low interest rates. We show that banks' profits are steady and are recovering since 2012, and that the new measures are not expected to have a negative effect on bank's profits.
- Third, using a macro-finance assessment of financial imbalances, we do not observe the emerging of bubbles on housing and stock market.
- Although the downside should be carefully analysed, we conclude that the critics of the recent expansionary monetary policy does not rely on sound evidence.
- Finally, and in any case, a fiscal expansion would reduce the need for expansionary policies. A discussion of the euro area fiscal stance is needed.

Since 2009 the ECB has implemented a large set of measures—standard and non-standard—to fix the financial crises, deal with the economic slump and the weakness of inflation. At the end of 2017, discussions regarding the phasing out of unconventional measures had started and even if interest rates were expected to be maintained at low levels for a sustained period, net assets purchases have been ended in December 2018. However, the economic slowdown and especially the reduction of inflation and expected inflation have led the ECB to announce new measures on 12 September 2019. Mario Draghi pointed to "the need for a highly accommodative stance of monetary policy for a prolonged period of time" to motivate a list of 5 measures, which are very representative of the toolkit now at the disposal of central banks. It entails indeed standard measures, such as the reduction of the policy rate, as well as non-standard measures: assets purchase, forward guidance, conditional liquidity provision and the introduction of a tiering system for the—negative—remuneration of excess reserves.

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The announcements made in September have been under heavy criticisms and it seems that the measures were adopted at a very narrow majority. The German member of the Board, Sabine Lautenschläger, has resigned since 31 October 2019 and several other members of the Governing council have publicly dissented expressing concerns about the risks associated to the ultra-loose monetary policy. Criticisms have also come from six former European central bankers, including Jürgen Stark and Otmar Issing, who were both chief economists of the ECB.[1] According to John Plender in the Financial Times, "the ECB critics are right to worry about ultra-loose monetary policy (because) moral hazard neuters market discipline, (…) paving the way for hyperinflation (like) in the Weimar Republic, (…) in Zimbabwe (…) and in Venezuela (…)". Criticisms have not only arisen from central bankers and had also gained citizens and the banks lobby who expressed worries about the return on their saving and their profitability. While non-standard monetary policy, backed by a burgeoning literature, was seen as a major instrument at the hands of central banks to magnify the expansionary stance of monetary policy, doubts are now raised not only about the potential side-effect of those decisions but even on the effectiveness of further softening. In a recent theoretical paper, Brunnermeier and Koby (2018) suggest that below a given rate—called the "reversal rate"—monetary policy would become contractionary instead of expansionary.[2] Regarding those criticisms, we examine why Mario Draghi has taken such decisions and whether these measures will succeed in reaching the inflation target or if they would mainly increase risks in the euro area. This Policy Brief deals with those issues. It notably reminds the expected effects of monetary policy decisions and assess the relevance of the criticisms recently raised.

1. As Sabine Lautenschläger, Jürgen Stark had also resigned from the ECB Board in September 2011 to express his disagreement concerning the outright purchases of public securities.

2. Brunnermeier, M. K., & Koby, Y. (2018). "The reversal interest rate", *NBER Working Paper*, No. 25406.

The Governing Council policy decisions of 12 September 2019

The Governing Council of the ECB announced a series of expansionary decisions after its 12 September 2019 meeting. One particularity of this announcement is that it covers a wide range of conventional and non-standard policy tools. On the side of conventional measures, the ECB decided to reduce the deposit facility rate by 10bp, bringing it further into negative territory at -0.5%. It also signalled that this is not a lower bound as the policy statement mentions that interest rates will remain "at present levels, or lower".

Table 1. **The 12 September 2019 decisions**

Policy instruments	Implementation details
Policy rates	10bp deposit facility rate cut, from -0.40% to -0.50% Possibility for more cuts
Tiering system	Exemption of part of excess reserves Threshold at 6 times the required reserves
Forward guidance	Linked to core inflation
QE	New Asset Purchase Programme (APP) 20 €Bn per month No end date
TLTRO	3rd programme Maturities extended to 3 years Removal of the 10bp spread over the deposit facility rate

Source: https://www.ecb.europa.eu/press/pressconf/2019/html/ecb.is190912~658eb51d68.en.html.

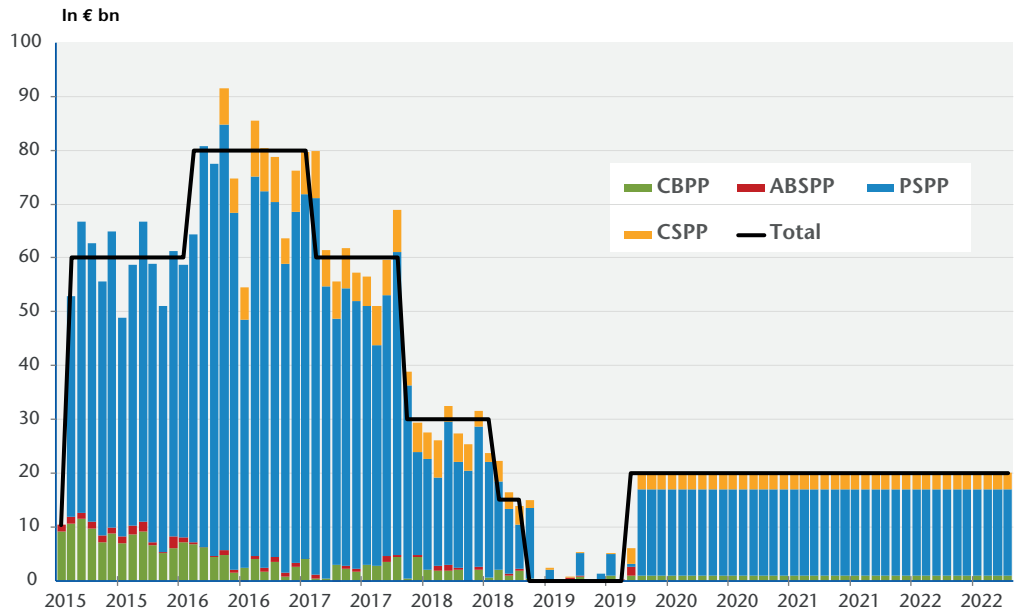
On the side of non-standard policy measures, the most notable one is the introduction of a two-tier system for reserve remuneration in which part of banks' holdings of excess liquidity will be exempted from the (negative) deposit facility rate. The two-tier system applies to excess reserves held in reserve accounts, but does not apply to excess liquidity held at the ECB's deposit facility. The excess reserve holdings beyond the minimum reserve requirements that is exempted from the deposit facility rate is determined as a multiple of a commercial bank's minimum reserve requirements. The multiplier will be the same for all commercial banks. The non-exempted excess reserves will continue to be remunerated at the deposit facility rate (or zero percent depending which is lower). The Governing Council has decided to set the initial multiplier at six, but this could vary over time.

Another clear innovation in the use of policy instruments relates to the use of the forward guidance policy. The commitment of the Governing Council to keep interest rates low for a long period is now explicitly linked to core inflation. The policy statement makes it now crystal clear that the future evolution of the policy rates will depend on whether "*we have seen the inflation outlook robustly converge to a level sufficiently close to, but below, 2% within our projection horizon, and such convergence has been consistently reflected in underlying inflation dynamics*". There are two information here: the forward guidance becomes state-contingent rather than time-contingent and the state-variable is not headline but core inflation. However, the ECB still defines price stability using headline inflation, measured by the year-on-year increase in the Harmonised Index of Consumer Prices (HICP), close but below 2%.

The Governing Council also decided to launch a new series of targeted longer-term refinancing operations (TLTRO III) with new modalities compared to the previous TLTRO II programme.[3] The maturities of the operation are extended from 2 to 3 years. In addition, the 10bp spread over the deposit facility rate for banks whose eligible net lending exceeds the benchmark is removed. For banks for which net lending is not large enough, so not eligible, the interest rate of operations is the one of main refinancing operations (so 0% currently).

3. TLTRO are refinancing operations proposed to credit institutions in the euro area conditional to the total amount of loans granted to the non-financial private sector, excluding loans to households for house purchase.

Figure 1. **QE monthly asset purchases**



Note: The date until which asset purchases will continue is so far unknown and 2022 is only indicative here.
Source: ECB.

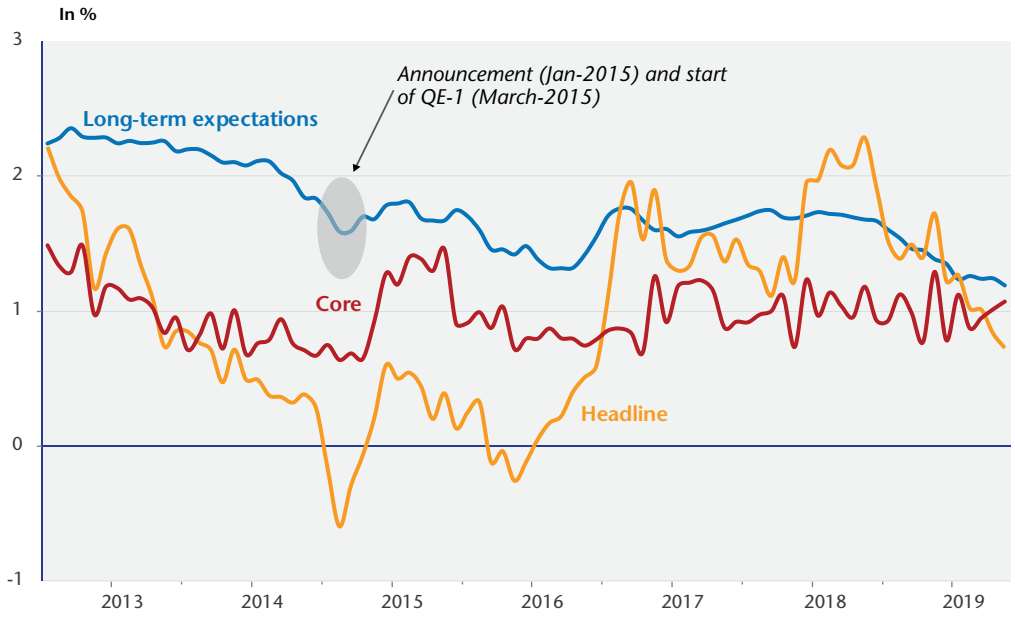
Finally, the Governing Council decided to reignite net purchases under the same conditions as the original asset purchase programme (APP) at a monthly pace of €20 billion (see Figure 1). One key element of this new QE program compared to the previous one is that it is now *open-ended*. Rather than announcing an overall amount for a given period, announcing a rhythm of monthly purchases without an end date might be a way to signal that the Governing council sees the transmission channel of QE through flows or purchases rather than the stock of bonds acquired. In the press conference following the policy statement, Mario Draghi clarified that the allocation of the purchases would be "by and large the same asset mix" than before, such that the public sector purchase programme (PSPP) would represent €16bn (80%), the corporate sector purchase programme (CSPP) €3bn (15%) and the covered bond purchase programme (CBPP3) and asset-backed securities purchase programme (ABSPP) €1bn (5%).

Why such an expansionary package?

As stressed in the press conference following these monetary decisions, the ECB has considered that further expansionary measures were needed to support inflation in a context of weakening growth. The primary objective of the ECB is indeed to maintain price stability. To that end, the ECB defines price stability as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area below but close to 2%.[4] More recently, Mario Draghi indicated that the ECB was concerned by excess inflation as much as by the lack of inflation suggesting that it would react symmetrically when inflation is below or above the target, strengthening the importance of this reference for the conduct of monetary policy. Beyond the objective of price stability, the ECB is expected to support the "general economic policies in the Union", and mainly employment and growth.

4. This quantification of the target was clarified in 2003. From 1999 to 2003, it was only mentioned that inflation should be below 2% target in the medium-term. The 2% level was consequently interpreted as an upper limit. Implicitly inflation between 0 and 2% would have been tolerated. By adding that inflation should be close to 2%, it makes this target a reference value.

Figure 2. **Headline and core inflation and long-term inflation expectations in the euro area**



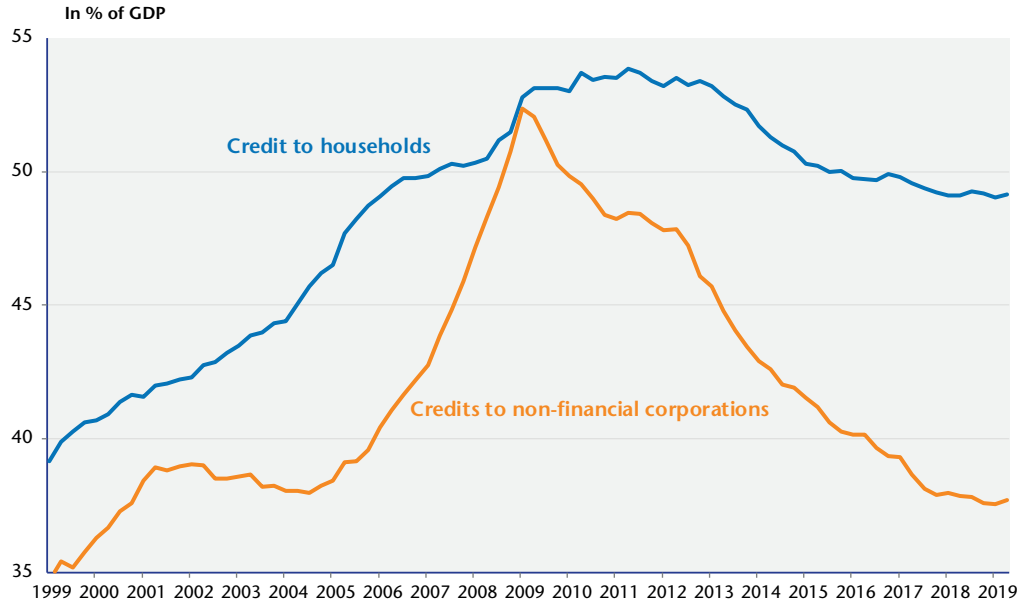
Note: Long-term inflation expectations are measured with 5-year / 5-year forward inflation swaps and are available only since 2012.
Sources: Eurostat and Datastream.

The recent inflation and GDP growth figures have shown some signs of slowdown. Since January 2014, the average inflation in the euro area stands at 0.9 % and it has recently decreased in line with the fall of energy prices (see Figure 2). Yet, even underlying (or core) inflation which does not account for volatile prices is well below 2 % and has fluctuated around 1 % for several months. While inflation has been in line with the target before the Global financial crisis (2,1% on average from 1999 to the end of 2007), it has been significantly below 2% in average from January 2008 to august 2019.

As the effect of monetary policy are transmitted with some lags, it is crucial for central banks not to focus excessively on current inflation but to adjust the stance of monetary policy regarding the expected inflation. According to the ECB staff projections released in September, inflation is expected to stand at 1 % in 2020, 0.4 point below the June's forecast.[5] Besides, long-term market expectations, measured by the five-year ahead inflation for 5 years, have continuously decreased since 2018 and stood close to 1.2 % since the start of 2019. Survey measures do not show more signs of acceleration. According to the recent "Survey of Professional Forecasters" for which long-term expectations are much stickier, expected inflation at a 5-year horizon amounts to 1.7 %, 0.2 point less than in 2018-Q4. Consequently, all forecasts suggest that inflation will remain below 2 % in the following quarters and that it could be anchored to a level significantly below the level targeted by the ECB. Given the mandate of the ECB, monetary policy is expected to remain expansionary. If the current stance of monetary policy does not provide enough stimulus to raise inflation in the medium-term, it is consistent with the mandate and the strategy elaborated by the ECB to take additional measures as those that were announced in September.

5. The OFCE October forecast for inflation in the euro area is 1.2 %.

Figure 3. **Credit in the euro area**



Source: ECB.

Finally, economic growth in the euro area has also been revised downward and is now expected to reach 1.2 % in 2020 according to the OFCE (*OFCE Policy brief, 60*) but also to the European Commission and the Eurosystem's staff. The unemployment rate would stabilize at 7.4 % in 2020-2021 close to the lowest value reached before the outbreak of the 2008-2009 recession. However, risks (trade war, Brexit) mainly point toward a slowdown of the economy. The deterioration of the growth perspectives and

rising uncertainty in the global economic and financial environment therefore provide incentives for the ECB to ease monetary policy.

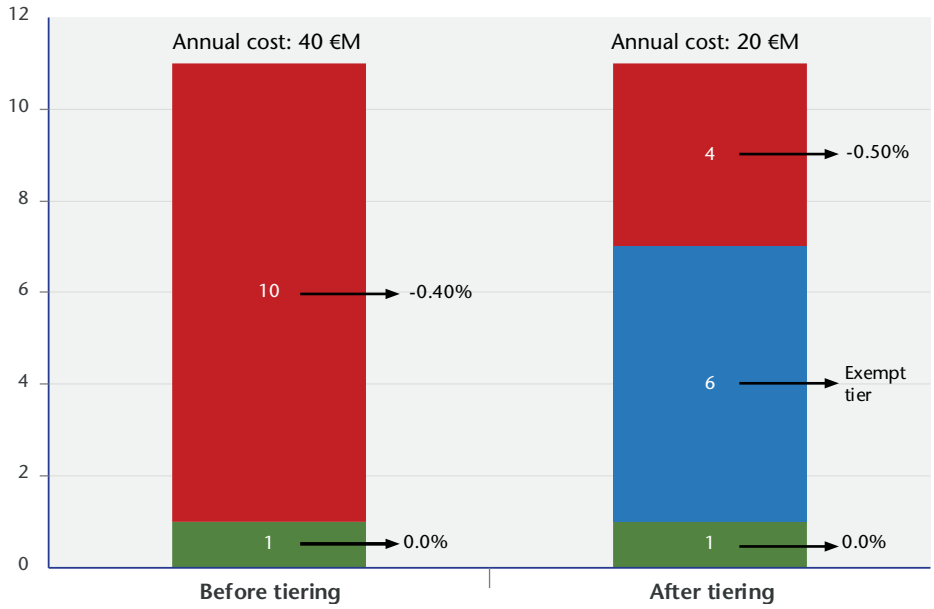
The measures announced by the ECB in September would support domestic demand and employment in the euro area. According to the Phillips curve, it would therefore help to raise inflation although it must be acknowledged that the Phillips curve has flattened. Yet, economists from the Banque de France have recently estimated that it would still be relevant in the euro area.[6] Besides, the ECB announced a TLTRO-III programme, motivated by subdued growth of credit to non-financial agents. The aim of TLTRO is indeed to enhance favourable financing conditions for banks and to give them incentives to stimulate bank lending to non-financial agents. The first programme was announced in June 2014 to deal with the weakness of credit in the euro area. A second series started in June 2016. Considering the role of bank lending in the financing of non-financial corporations and the continuing decrease in credit ratios to households and non-financial corporations, the ECB has considered that it was still needed to support bank lending. The ratio of credit-to-GDP for non-financial corporation has continuously declined since 2009 and has recorded its lowest level since September 2004 (see Figure 3). Consequently, the package of measures taken by the ECB in September 2019 would be motivated by inflation being below the target, the deterioration of growth perspectives in the euro area and by weak credit dynamics.

6. Rue de la Banque n° 56 : « La courbe de Phillips existe-t-elle encore ? », 12/02/2018.

What are the expected effects?

The reduction in the deposit facility rate is supposed to ease further credit conditions while the APP purchases aim to reinforce the accommodative impact of the deposit facility rate through a reduction of risk premia on both sovereign and corporate bonds, *via* the direct effect of purchases and the indirect effect of portfolio decisions. The purpose of the TLTRO programme is to provide favourable credit supply conditions, and to ensure a smooth transmission of the monetary policy stance to households and firms.

Figure 4. **Stylised example of the tiering system and the reduction in the deposit facility rate**



Note: y axis in €Bn. The exempt tier is defined by the ECB as a multiple of required reserves set at 6.
Sources: ECB announcement, authors calculations.

In addition, the rationale for a tiering system is to reduce the adverse effect of the negative deposit facility rate on banks' net interest income. Whereas the rationale of a negative deposit facility rate on excess reserves is to push interbank interest rates lower and to provide incentives to banks to rebalance their activities towards riskier and more remunerative bank lending, the tiering system aims to preserve commercial banks' profitability. Some other central banks, the Bank of Japan (BoJ), the Swiss National Bank (SNB), the Swedish National Bank (Riksbank) and the Denmark's Nationalbanken (DNB), imposing negative interest rates on reserves have introduced a tiering system. For instance, the SNB cut the rate on sight deposits to -75bps in January 2015 and put in place a two-tier system where deposits in excess of 20 times the minimum reserve requirement would be subject to the negative policy rate. The implementation of a tiering system should be viewed as a complementary way to revive the APP purchases. The ECB's balance sheet expanded massively with deposits at the ECB now near €1.9 trillion. With 93% of these deposits being subject to negative rates, introducing a tiering system would generate significant gains for commercial banks.

The Figure 4 shows a stylized example of the effect of introducing a tiering system – considering the exemption set by the ECB for the first maintenance period – for a bank with 11 €Bn of reserves with 1 €Bn of required reserves and 10 €Bn of excess reserves. The gain for such a stylized bank would be of 20 €M per year. At the opposite, for a bank for which the excess reserves after the implementation of the tiering system represent more than 80% of the excess reserves before the implementation (because they have only a marginal part of their reserved that are required reserves), then the decrease in the deposit rate dominates and the cost increases. Such a case would happen if a bank has less than 3.3% of its reserves that are required reserves. As a reference value, the overall average for this ratio for EA banks is 7.3%. It is nevertheless possible that some banks that sold very large quantities of securities to the ECB would be in that situation, but in that case, they would have most certainly earned very large capital gains from selling these securities.

However, the gain is not shared equally across the Eurozone. Excess reserves are concentrated in the core countries (see Table 2). German bank deposits amount to about €595bn, so 33% of the total deposit facility, while French banks amount to €237bn (28%). Altogether, Germany, France, Netherlands, Belgium, Austria, Finland and Luxembourg account for 88% of euro area excess reserves while Italy and Spain represent 8% of total excess reserves. Eventually, the gain from the tiering system is therefore concentrated in banks in the core countries (2.7 €Bn) whereas the gain for banks in the periphery is much smaller (0.9 €Bn). Interestingly, Spanish, Italian, Portuguese or Greek banks have some unused exemptions such that they could increase their excess reserves at no cost. This regional heterogeneity is also visible in the use of the TLTRO programmes. France and Germany have absorbed 29% of ECB's TLTROs, while Italy and Spain amount to almost the double. The two-tier balance will therefore rebalance the advantages of ECB non-standard measures in favor of core countries.

Overall, commercial banks with unused exempted reserves could borrow from the ECB (at -0.50%) to take advantage of the carry arbitrage opportunity (with reserves remunerated at 0%). A large utilisation of TLTRO-III could help ease tensions in interbank markets and create a favourable environment for bank lending.

Table 2. **Gain and loss for the banking system of the reduction in the deposit facility rate and the tiering system**

In €, Bn

	Before 12 September 2019			With tiering system and reduction in deposit facility rate					
	Required reserves	Excess reserves	Cost with -0.40%	Cost with -0.50%	Exemptions	Non-exempt excess reserves	Excess reserves gross cost	Tiering system gain	Overall gain
Germany	36	595	2,38	2,98	216	379	1,90	1,08	0,49
France	26	512	2,05	2,56	156	356	1,78	0,78	0,27
Netherlands	11	158	0,63	0,79	66	92	0,46	0,33	0,17
Belgium	6	61	0,24	0,31	36	25	0,13	0,18	0,12
Finland	2	91	0,36	0,46	12	79	0,40	0,06	-0,03
Austria	4	34	0,14	0,17	24	10	0,05	0,12	0,09
Luxembourg	4	121	0,48	0,61	24	97	0,49	0,12	0,00
Core countries	**89**	**1572**	**6,29**	**7,86**	**534**	**1038**	**5,19**	**2,67**	**1,10**
Spain	15	84	0,34	0,42	90	0	0	0,42	0,34
Italy	15	63	0,25	0,32	90	0	0	0,32	0,25
Portugal	2	10	0,04	0,05	12	0	0	0,05	0,04
Greece	2	0	0,00	0,00	12	0	0	0,00	0,00
Ireland	2	24	0,10	0,12	12	12	0,06	0,06	0,04
Cyprus	1	12	0,05	0,06	6	6	0,03	0,03	0,02
Malta	1	4	0,02	0,02	6	0	0	0,02	0,02
Periphery countries	**38**	**197**	**0,79**	**0,99**	**228**	**18**	**0,09**	**0,90**	**0,70**
Central eastern countries	5	19	0,08	0,10	30	0	0,00	0,10	0,08
Total	**132**	**1788**	**7,15**	**8,94**	**792**	**1056**	**5,28**	**3,66**	**1,87**

Source: Authors computations, ECB data. These computations rely on the assumption that banks within each country are homogenous in terms of the ratio of required and excess reserves. For instance, the true cost/gain would be different in the extreme case in which one bank would concentrate all required reserves and another bank all excess reserves.

What are the potential risks?

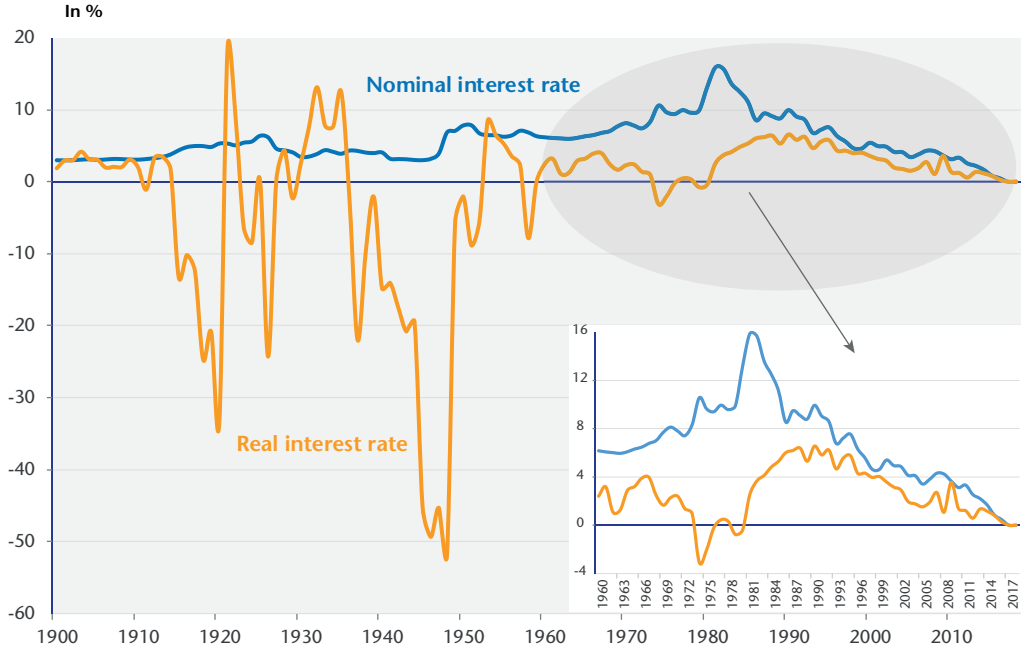
The negative interest rate policy has pushed down the overnight interest rate at historical low level. Long term sovereign yields have also declined not only because of the 12 September decisions and the implementation of assets purchases but also because demand for safe (sovereign) assets remains high. In October 2019, long-term interest rates—with a ten year maturity—were in negative territory for 9 out of 18 euro area countries.[7] The highest interest rate was recorded for Greece where it stood at 1.3 %. Actually, nominal short and long term rates have reached their lowest value since 1999. Considering historical data, it is also the case for nominal interest rates in France since 1870. However, looking at the real interest rate—defined as the difference between the nominal interest rate and the current inflation rate—leads to a more nuanced picture. Even after removing the exceptional episodes of World War I and II, real long-term interest rates have been negative in the 1920s, 1930s and 1970s (Figure 5). From 1974 to 1980, the average long-term real interest rate amounted to -0.8% with a lowest level at -3.1% in 1974. While the most recent period experiences the lowest nominal interest rates since more than a century, it does not correspond to uncharted territory and so is not as exceptional in terms of real interest rates.

7. As indicated by the ECB, there are no Estonian sovereign debt securities that comply with the definition of long-term interest rates as used for other euro area countries.

As mentioned above, the decrease of interest rates is expected to boost aggregate demand and notably investment and private consumption. Nevertheless, there may be adverse effects with low and even negative interest rates. First, the positive impact of lower interest rate on consumption is driven by a substitution effect. Households face a trade-off between present consumption and future consumption (saving) and lower

interest rates decrease the relative price of present consumption. Households have less incentives to save and more to borrow. The impact may yet be mitigated or reversed through a revenue effect according to which the reduction of interest rate leads households to increase saving as they seek to offset the loss of saving revenues stemming from the decrease of interest rate.

Figure 5. **Interest rates for France: a historical perspective**



Source: Macrohist database, see Jordà, Schularick and Taylor (2017).

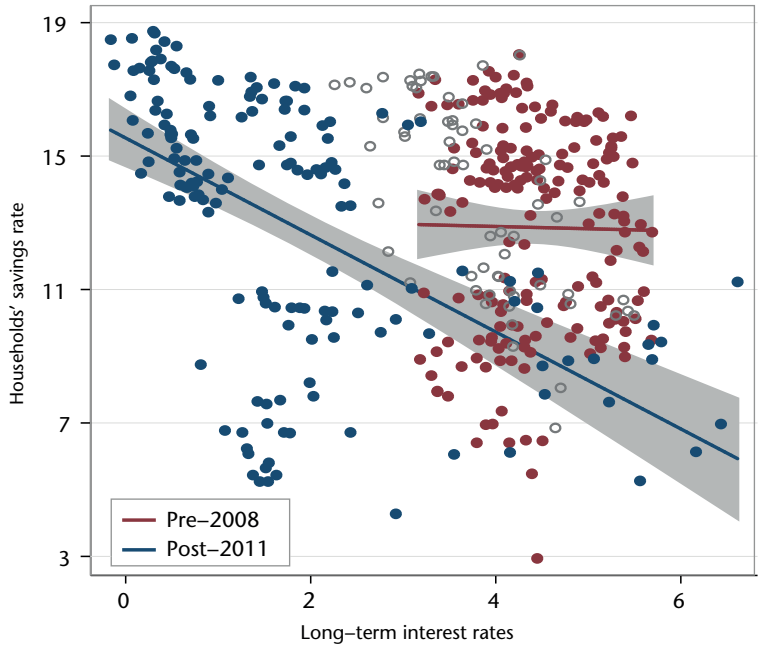
Jordà, Òscar, Moritz Schularick, and Alan M. Taylor (2017). "Macrofinancial History and the New Business Cycle Facts." in *NBER Macroeconomics Annual 2016*, volume 31, edited by Martin Eichenbaum and Jonathan A. Parker. Chicago: University of Chicago Press.

There has been yet a growing controversy in Germany on the side-effects of the low rate policy. The ECB monetary policy has been accused to cut down saving revenues of German's households, being responsible for high household savings and therefore low consumption and low growth. It is therefore considered in the public debate that the revenue effect is stronger than the substitution effect. The Figure 6 shows the correlation between households saving rates and interest rates for a panel of the 4 biggest countries of the euro area and suggests that this mechanism is indeed at work. The link between savings and interest rates was null before 2008, consistent with Aizenman *et al.* (2019) that have shown that, at the macroeconomic level, the effect of real interest rates on private saving is not significant, but is negative since 2011 when the ECB massively cut interest rates. If this result were a general one, it would imply that a reduction in the interest rate would increase savings. We now show that this result is not general and rely on a composition bias.

Aizenman, Joshua, Yin-Wong Cheung, and Hiro Ito (2019). "The interest rate effect on private saving: Alternative perspectives." *Journal of International Commerce, Economics and Policy*, 10(1).

Aizenman *et al.* (2019) have argued that the revenue effect—lower interest rate increases saving—would dominate for countries with a well-developed financial market and an ageing population. This may explain why the low interest rate policy has been a concern for the euro area where population is aging. However, this relationship may also be biased by the fact that households' saving rates depend on retirement national systems, unemployment benefit national systems, homeownership rates, and cultural or historical national specificities. In addition, it may also be the case that it is the low growth environment since 2011 that drives both the policy response of the ECB and the households' saving rate, i.e. a standard example of an omitted variable bias.

Figure 6. **Interest rates and saving rates in the 4 biggest EA countries**

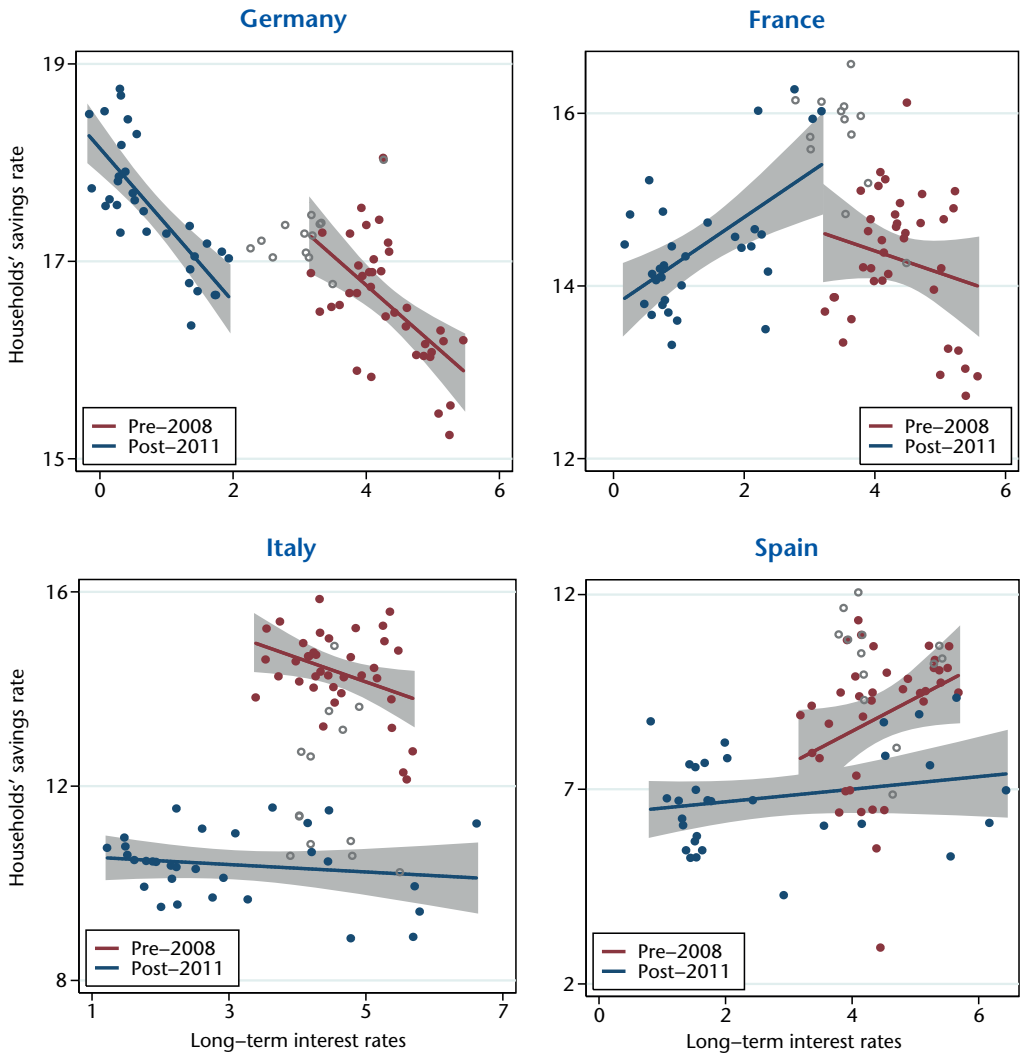


Note: Red circles are for the period before the crisis (2008Q2), the empty grey circles are for the period of the crisis (2008Q3 to 2011Q2) and the blue circles are for the period starting when Mario Draghi becomes President of the ECB (2011Q3).
Source: Eurostat.

The Figure 7 shows the correlation between households saving rates and interest rates for the same countries of the euro area but now country by country. While it is true that the saving ratio has recently increased in Germany together with interest rates declining, this was already the case before 2008 when the levels of interest rates were higher. The revenue effect seems to be always stronger in Germany whatever the level of the interest rate. However, the negative correlation between the saving rate and the long-term interest rates observed for Germany cannot be generalized to other euro area countries. In the recent period, the relationship is positive for all three other countries. This tends to support the idea that there is a German specificity at work here—possibly due to the very low homeownership rate in Germany, among other things—more than a general rule. Overall, the argument that the low ECB policy rates are responsible for the low euro area growth through their effects on savings seems especially weak.

Monetary policy has also been criticized by banks as it would reduce the profits from banking intermediation. Due to their deposit-taking and lending activities, the profitability of banks partially depends on the difference between the interest rate applied to loans—generally at long maturities—and the interest rate applied to deposits, which a short maturity. Assets purchase would contribute to flattening the yield curve with would reduce interest rate margins. The effect may be strengthened by the negative interest rate policy if the pass-through of interest rates cuts is stronger for interest rates applied to loans compared to interest rate on deposits. If the interests paid to household and business on their deposits cannot be negative by choice—the bank is reluctant to lose customers—or by legal constraints, commercial banks would see their margins reduce. The argument, however, needs to be nuanced since TLTRO programmes allow banks to finance themselves at negative rates from the central bank. Profitability may also increase since lower interest rates reduce the interest expense for

Figure 7. **Interest rates and saving rates at the national level**



Source: Eurostat. Note: Red circles are for the period before the crisis (2008Q2), the empty grey circles are for the period of the crisis (2008Q3 to 2011Q2) and the blue circles are for the period starting when Mario Draghi becomes President of the ECB (2011Q3).

firms and households and decrease the default rate on credits. The effect of interest rates on banks profitability is therefore an empirical issue. There is however no consensus. Dell'Ariccia *et al.* (2017) find a negative impact whereas Madaschi and Nuevo (2017) find a positive impact. The effect of the negative interest rate policy has been specifically analysed by Boungou (2019) from a sample of 2442 banks operating in the 28 countries of the European Union. He finds that negative interest rates have weigh down on banks' margins but not on profitability since banks have been able to raise non-interest income (commissions and fees). These conclusions are supported by the recent dynamics of profits and margins indicators in the euro area. There is indeed no evidence of declining profits and even no reduction in the net interest margins (NIM) since the introduction of negative interest rates in the euro area (Figure 8), nor in Germany (Figure 9) where criticisms against ECB policies are among the fiercest. The returns on assets and on equity were negative in 2011 and 2012 and have steadily increased since then.

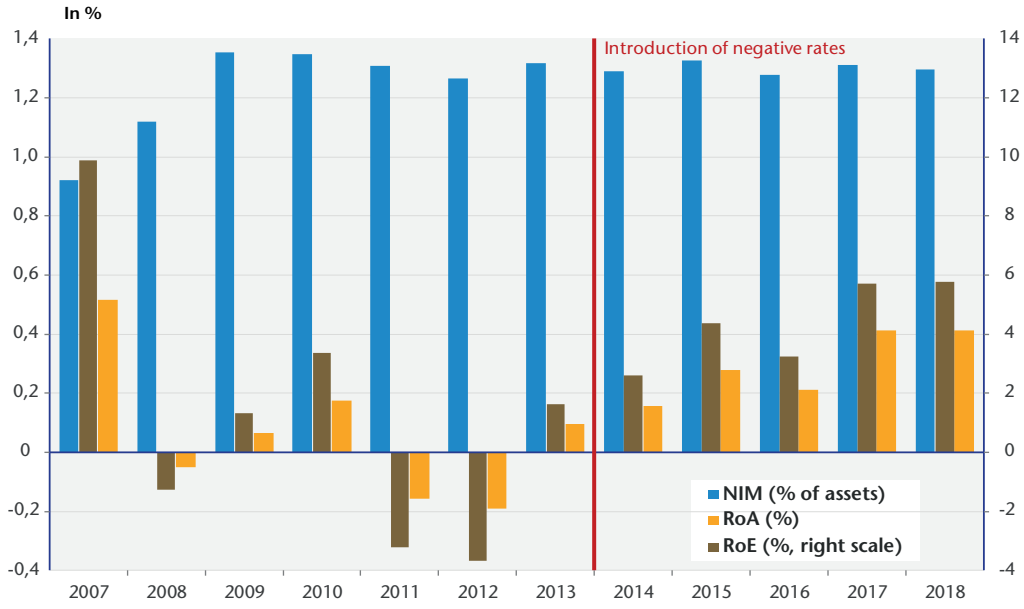
The same line of arguments has been used to state that the current environment of low interest rates poses strong challenges to insurance companies, that would see their

Dell'Ariccia G., Laeven L. and Suarez G., (2017). "Bank Leverage and Monetary Policy's Risk-taking Channel: Evidence from the United States." *Journal of Finance*, 72(2), 613–654.

Madaschi C. and Nuevo I., (2017). "The profitability of banks in a context of negative monetary policy rates: the cases of Sweden and Denmark." European Central Bank. *Occasional Paper Series*, No. 195.

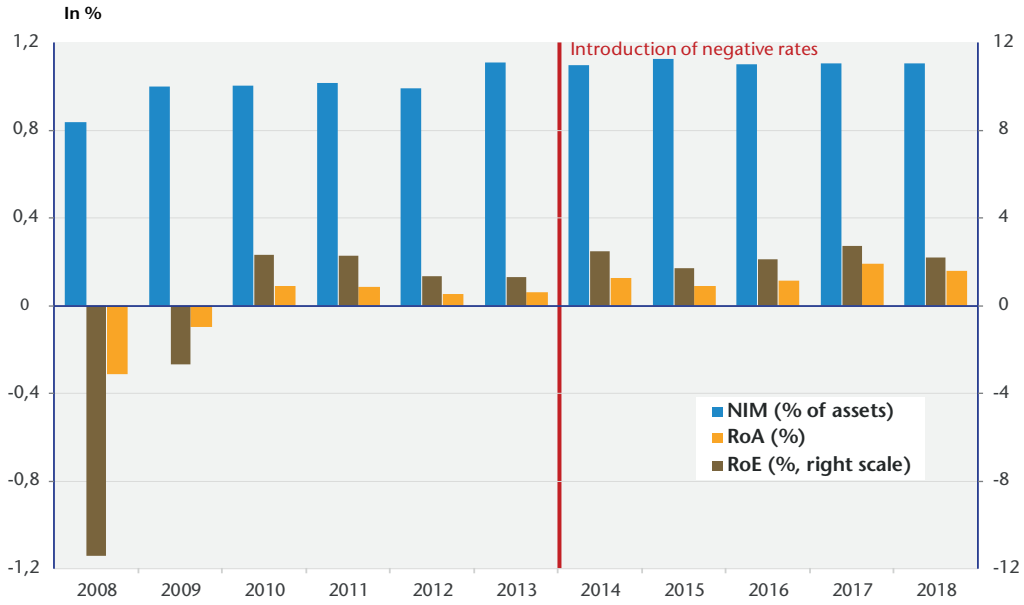
Boungou, W., (2019). "Negative Interest Rates, Bank Profitability and Risk-taking." *OFCE Working Paper*, n° 10.

Figure 8. **Euro area banks' profits**



Source: ECB.

Figure 9. **German banks' profits**

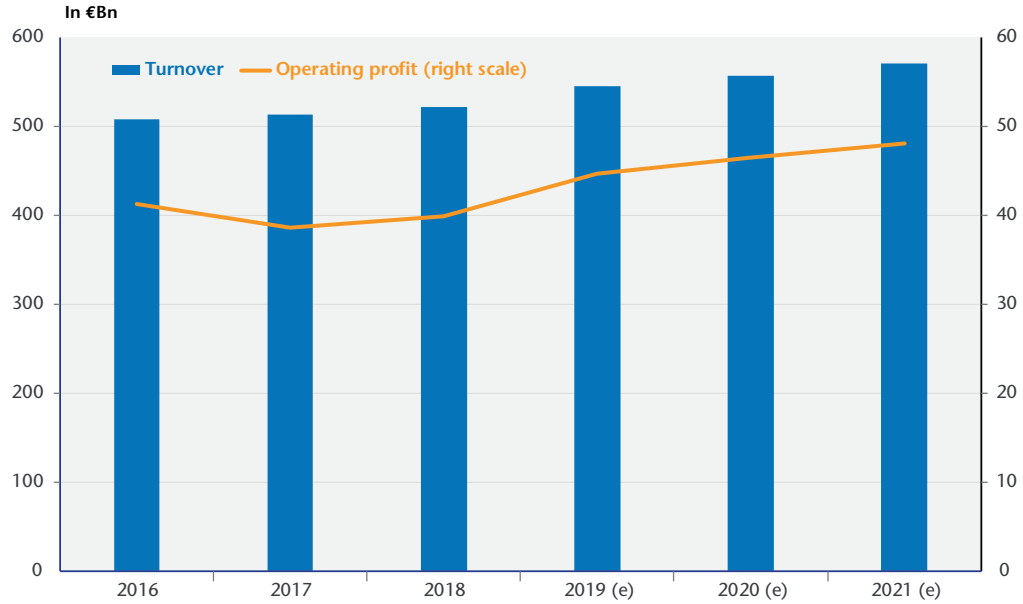


Source: ECB.

profitability and solvency negatively affected. This would mainly be due to the main characteristic of the insurance business model: these companies hold large amount of fixed-term investments in their balance sheet. In particular, the life-insurance business is often characterised by the presence of financial guarantees, granting a minimum rate of return to policyholders. These guarantees might represent a threat to life-insurance companies that sold a large share of these products in the past. However, entry and management fees represent a significant share of revenues for insurance companies (in parallel to non-interest income for banks) that enable them to buffer the decline in interest rates. The Figure 10 shows the turnover and profit of the 13 major euro area insurance companies—a very concentrated market where the biggest actor, Allianz,

has a turnover more than 10 times the turnover of the 13th actor, Ageas. Overall, the effect of low interest rates on insurance companies' profits does not seem that stark, at least on their future perspectives. As an example, the operating profit of one of the key actors of the sector, Axa, went from 4.7 €Bn in 2013, before the introduction of negative interest rates to 6.2 €Bn in 2018. The risks posed by low interest rates to insurance companies seem overstated and it appears categorical from this point of view to mention a rise in systemic risk to banks and insurance companies.

Figure 10. **Turnover and profits of major euro area insurance companies**



Note: Expectations for 2019, 2020 and 2021 are the average of market analysts' expectations. The sample comprises Axa, CNP Assurances, Scor, Allianz, Talanx, Hannover Ruckversicherung, Munchener Ruckversicherung, Unipolsai, Generali, Mapfre, Ageas, Aegon and NN Group.
Source: Zonebourse.com.

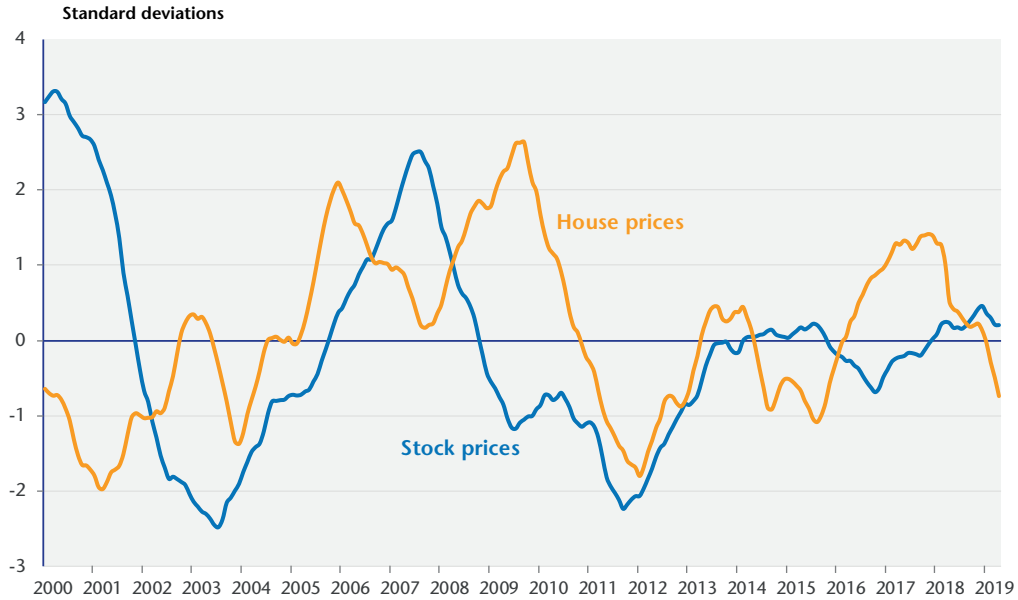
Critics of the current expansionary stance of monetary policy in the euro area also point out that it would increase the number of "zombie" firms. "Zombie" firms are insolvent and less productive firms which are kept alive because they benefit from low interest rates charged by banks. They would then contribute to reducing potential growth. The reference to "zombie" firms was notably documented for Japan during the 1990's. It would be the consequence of low interest rates and bad allocation of banks' lending. The resurgence of this debate in Europe echoes the observed decrease in productivity as highlighted by Andrews and Petroulakis (2019).

The package of measures implemented by the ECB aims to improve the financing conditions for non-financial agents and has triggered a reduction in market and retail-banking interest rates. Interests paid by firms have been reduced from 4.1% of the value added in 2014 to 2.8% in 2019Q2. However, low interest rate is not a sufficient condition for claiming that the proportion of "zombie" firms has increased. Hoshi (2006) classifies a firm as a "zombie" if it benefits from an implicit subsidy from banks, meaning that it has interest payments below a minimum required level. The story of "zombie" firms is intrinsically related to weak banks or "zombie" banks that should be restructured but are kept alive. The problem with "zombie" firms may not stem from monetary policy but could result from the persistence of bank troubles.

See Andrews, D., and F.Petroulakis (2019). "Breaking the shackles: Zombie firms, weak banks and depressed restructuring in Europe." *ECB Working Paper*, n° 2240.

Hoshi, T. (2006). "Economics of the living dead." *The Japanese Economic Review*, 57(1), 30–49.

Figure 11. **Euro area stock and house price imbalances**



Source: Authors computations, see Blot, Hubert and Labondance (2018).

Finally, the very expansionary stance of monetary policy may also threaten financial stability by feeding asset price bubbles. Borio and Zabai (2016) for example claim that the benefits of unconventional monetary policies would decline while the risks of financial instability would worsen, echoing the critics raised by Taylor (2009) concerning the low interest rate policy of the Federal Reserve between 2001 and 2004 that would have fuelled the boom in the housing market and triggered thereafter the subprime crisis. With negative policy rates and assets purchases, most of sovereign yields are negative in the euro area. Financial investors would search for higher yields and push up stock and house prices. However, stock and house prices are still well below the peak observed in 2007. Based on a method developed in Blot, Hubert and Labondance (2018), there is no sign of strong asset price imbalances in the euro area (Figure 11). There may be some local imbalances, housing market in Germany for instance, but then, it may not be the single responsibility of monetary policy if markets in other euro area countries do not show signs of overheating.

Borio, C., and Zabai, A., (2018). *Unconventional monetary policies: a re-appraisal*. In Research Handbook on Central Banking. Edward Elgar Publishing.

Taylor, J. (2009), "The financial crisis and the policy responses: An empirical analysis of what went wrong." *NBER Working Paper*, No. 14631.

Blot, C., Hubert P. and Labondance F., (2018), "Monetary Policy and Asset Price Bubbles." *OFCE Working Paper*, n° 37.

To conclude, if the ECB critics really wanted higher interest rates, they would support the ECB's call for fiscal stimulus to discharge monetary policy ■

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