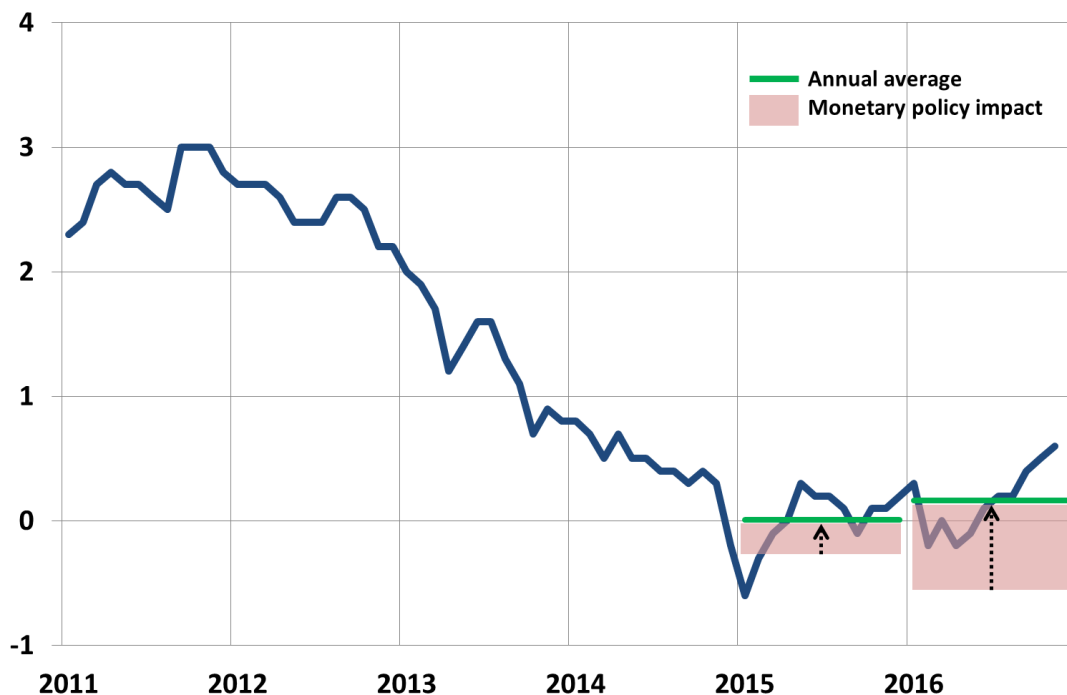


# The ECB monetary policy since 2014 and its positive impact on inflation

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*Euro area inflation would have been negative in 2015 and 2016 absent the ECB action since 2014. The impact of this action on inflation, measured by the HICP (Harmonized Index of Consumer Prices), is around +0.3 percentage point (pp) as early as 2015 and +0.8 pp in 2016 according to staff's estimates of the Eurosystem (the ECB and the 19 national central banks). The cumulated effect on 2015-18 of measures taken in 2014-16 reaches almost +1.6 pp.*

**Figure 1. Euro area inflation and the estimated effect of monetary policy**



*Note: Inflation is year-on-year percentage change in HICP. The green line represents the realized annual average of inflation. The pink area represents the inflation gain brought by monetary policy.*

Euro Area (EA) inflation has remained below 1% (half the target) since 2014 (Figure 1), with an average rate at 0.20%, despite a very accommodative monetary policy. A major contributor has been the lagged effect of the drop in energy prices between mid-2014 and mid-2015, something on which central banks have no grip. A blunt view may conclude that monetary policy has been

inefficient, but that would ignore that inflation would have been even lower in their absence (*see [Bulletin de la Banque de France, May 2016](#)* ). The risk of a deflationary spiral would have been exacerbated.

## The Eurosystem action and its transmission channels through the economy

Since mid-2014, the Eurosystem has implemented three kinds of measures to provide more accommodation and foster the transmission of monetary policy to the real economy: (1) negative policy rates and forward guidance, (2) refinancing and support for lending, especially for firms, and (3) an asset purchase program (APP, public and private, see box).

Transmission of monetary policy is expected to go via at least three channels: signalling of the commitment to keep interest rates at low levels for a prolonged period of time, further easing in credit conditions, and portfolio rebalancing that revalues asset prices.

### The Eurosystem threefold response from mid-2014 to mid-2016

(1) Policy rates were lowered: the main refinancing operations rate (MRO) in three steps, in June 2014, September 2014 and again in March 2016, to 0%; at the same time, the deposit facility rate – which is the floor of the Eurosystem corridor - was lowered to -0.40%. Rate cuts complemented the forward guidance introduced in July 2013. The latter corresponds to a commitment on the future path of interest rates, so as to influence not only the short-term rates, but also longer-term rates which are largely determined by expectations of future short-term rates.

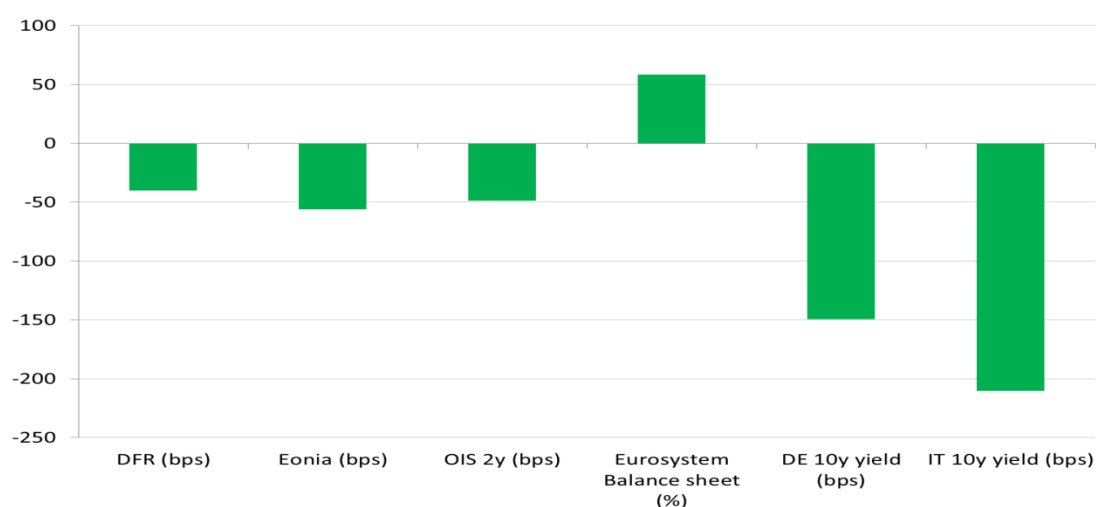
(2) Targeted longer-term refinancing operations programme (TLTRO) were announced in June 2014 and implemented as of September. They are operations that provide financing to credit institutions for periods of up to four years. They offer long-term funding at attractive conditions to banks in order to further ease private sector credit conditions and stimulate bank lending to the real economy. These measures reinforce the ECB's current accommodative monetary policy stance and strengthen the transmission of monetary policy by further incentivising bank lending to the real economy.

(3) Last and foremost, a first package of quantitative easing focusing on private sector assets linked to loans to the economy, asset backed securities and covered bonds was launched in October 2014. In January 2015, it was extended to Euro area government bonds (PSPP), intended to bring back the ECB balance sheet size toward 3 trillion Eur. It has also been extended in duration (extended in December 2015 from September 2016 to at least March 2017) and in volume (total monthly purchases from 60 bn/month to 80 bn/month in March 2016).

## A significant impact of monetary measures on market indicators since 2014

The programmes launched in 2014 and 2015 have led to a significant improvement in financial conditions in the EA. In particular, there was a noted decline in expected future short-term interest rates, an even stronger decrease in the yields on sovereign bonds issued by EA members (Figure 2). These were also passed on to bank rates (e.g. with a drop of 1.1 pp on the rate of credit to non- financial corporations since January 2014), an increase in loans (the total outstanding amounts increased by 3% on the same period), and a depreciation of the euro (the euro effective exchange rate against 38 currencies decreased by 5% over the same period).

*Figure 2. Monetary policy and market indicators since January 2014*

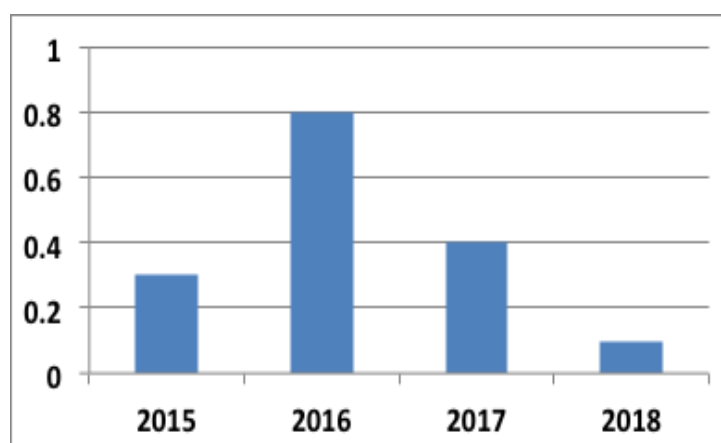


*Note: DFR: deposit facility rate – OIS 2y is a traded contract on expected Eonia (euro overnight index average) in the next 2 years, IT: Italy, DE: Germany.*

### Cumulated effects of APP on inflation up to 1.6 pp in 2015-18

Given that economic activity depends on a number of factors, assessing the macroeconomic impact of these measures can be based on simulation exercises through different types of macroeconomic models: statistical time series models, traditional macroeconomic forecasting, dynamic stochastic general equilibrium, etc. Moreover, the results depend on modelling assumptions, which are themselves surrounded by high uncertainty, given the novelty of the measures.

The ECB has coordinated a Eurosystem assessment of the effects of the APP on inflation, which is based on a combination of several structural and statistical models. The result is summarised in Figure 3 and shows that the cumulated effect of the measures taken in 2014-16 is almost 1.6 pp on inflation over 2015-2018. This result does not take account of the APP extension decided in December 2016 and to be implemented from April to December 2017 (with a volume of 60 bn/month).

*Figure 3. Effects of APP on inflation (in percentage points)*

Other assessments of the effects of the programme by Eurosystem staff's publications are broadly consistent with above estimates and find that the peak of the effect on annual inflation ranges from +0.4 pp to +0.8 pp (Table 1).

*Table 1. Available evaluations of the impact of APP measures on inflation (in percentage points)*

Works/Approach used	Maximum impact on annual inflation
<a href="#">Cova, Pagano, and Pisani (2015)</a> Structural model, explicit breakdown of several euro area economies.	≈+0.8
<a href="#">Sahuc (2016)</a> Structural model with financial frictions	≈+0.8
<a href="#">Andrade, Breckenfelder, De Fiore, Karadi and Tristani (2016)</a> Structural model	≈+0.35
<a href="#">Blot, Creel, Hubert and Labondance (2015)</a> Statistical model	≈+0.8

These effects are obviously heterogeneous across countries, according to different improvements in financing conditions, unequal spare capacity to increase production, or diverse expositions to international competition. Peripheral countries have probably benefited more than core countries. For example, [Cova and Ferrero \(2015\)](#) estimate the effect of the APP on inflation in Italy: for 2015 and 2016 only, the amount already at 0.5 pp and 0.7 pp.

Due to the multitude of tools implemented by the Eurosystem and the uncertainty surrounding the transmission channels of monetary policy, positive effects can be overlooked (e.g. those related to communication through forward guidance). Current research at the Banque de France tries to quantify the macroeconomic effects of *all* monetary measures implemented by the Eurosystem (e.g. [Mouabbi and Sahuc, 2016](#)).