

# LOW INTEREST RATES NOT APPROPRIATE FOR EITHER EURO AREA OR GERMANY

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This is a translated version of the original German-language chapter "Niedrigzinsen weder für den Euro-Raum noch für Deutschland angemessen", which is the sole authoritative text. Please cite the original German-language chapter if any reference is made to this text.

## SUMMARY

The proportion of government bonds offering negative yields in the medium to long term has increased significantly. This is due, first and foremost, to the **extremely expansionary monetary policy**, in particular the massive expansion of the purchase programmes for government bonds and other securities since the beginning of 2015. The easing of monetary policy led to depreciation of the euro and pushed the prices of stocks, real estate and other assets up considerably. In this way monetary policy contributed to the economic recovery in the euro area. The remaining capacity underutilization in the euro area and subdued inflation momentum, however, do not justify the scale of the current easing measures.

The development in the prices of goods and services produced in the euro area measured using the GDP deflator has been showing stable inflation rates of over 1 % for some time now. This means that the **European Central Bank (ECB)** could take a **more relaxed look** at the Harmonised Index of Consumer Prices (HICP), which is the focal point of the strategy it has opted to follow. After all, this index is still showing rates of change close to the 0 % mark, mainly due to repeated declines in the oil price. Interest rate reaction functions suggest that monetary policy should be tightened in order to reflect macroeconomic developments. This applies even if, like the ECB, one assumes that the long-term equilibrium interest rate has fallen considerably. There is, however, no reliable empirical evidence for such a decline.

As a result, the German Council of Economic Experts reaffirms its assessment that it would be better to slow down the bond purchases and bring them to an end. This would help to reduce the **risks posed by the low interest rates** to financial stability and to the continuation of the consolidation and reform policy in the member states. The mounting interest rate risk in the banking system and the insufficient level of consolidation within the euro area could harbour the risk of the central bank delaying the exit from this monetary policy out of consideration for banks and governments. This would, however, run the risk of creating more significant disruptions down the line.

In addition, the low long-term interest rates are not in any way consistent with the overall economic situation in Germany, which is characterised by a light overutilisation of capacity. Consumer prices (excluding energy) are increasing at the long-term average rate and the GDP deflator actually shows an above-average rise in prices. However, the ECB has to look at the euro area as a whole. Consequently, the Federal Government should use the **options available** to it to compensate for the lack of a monetary policy tailored to suit Germany's macroeconomic development. Higher tax revenues due to stronger growth should be used to reduce government debt.

**Structural reforms** to boost potential growth would also help to prevent over-heating in the future. For example, a tax reform aimed at making the tax system more efficient would be a helpful move. By contrast, calls to up fiscal spending in order to generate positive spillover effects for the other member states are headed in the wrong direction.

## I. NEGATIVE INTEREST RATES AND MONETARY POLICY

373. Yields on high quality (Bonität) government bonds with multi-year maturities in the euro area have been negative since the start of 2015. The proportion of **government bonds offering negative yields** has actually **increased significantly** since then. For the founding states of the European Monetary Union as a whole (excluding Luxembourg), the proportion of one to two-year bonds falling into this category had risen from 10 % at the end of 2014 to 80 % by the middle of 2016. For ten-year bonds, the percentage was 20 %. This development can be **traced back** primarily to the **extremely expansionary monetary policy**. The most important factor is not the zero key policy rate or the negative interest rate on short-term bank deposits with the European Central Bank (ECB); rather, the main drivers are the ECB's bond purchase programmes and long-term refinancing operations. The ECB stepped up these measures considerably over the course of 2016.

ECB President Draghi claims that it is ultimately not monetary policy, but rather the **global excess of desired saving** over planned investment that is responsible for the low interest rate environment. He suggests that demographic change has fuelled the propensity to save, particularly in China and Germany, while more sluggish productivity growth is resulting in weaker investment demand. He argues that the savings glut results in a **lower equilibrium interest rate**, hence requiring that monetary policy has to be eased further (Draghi, 2016a, 2016b).

374. By contrast, the German Council of Economic Experts concludes, as it had done in its Annual Report 2015/16, that it would be appropriate, in light of the macro-economic developments, to **scale back the government bond purchases and bring them to an end earlier**. This recommendation takes into account recent estimates of equilibrium interest rates, as well as risks concerning the economic recovery, price developments, financial stability and the consolidation and reform efforts being made by the euro area crisis countries. In particular, the **estimates of the medium-term equilibrium interest rates**, which have declined and are often referred to in support of policy easing, are **subject to extreme uncertainty** and react very sensitively to changes in the technical assumptions used in the estimation methodology. By contrast, estimates of the long-term equilibrium interest rates have shown only a relatively small decline. [↪ ITEM 415](#)

Moreover, several indicators currently suggest that the **ECB's policy is too accommodative** in relation to growth and inflation developments in the euro area, even allowing for a certain decline in the equilibrium interest rate. While the ECB focuses primarily on the Harmonised Index of Consumer Prices (HICP), which depends very much on oil prices, the GDP deflator, which reflects the prices of all goods produced in the euro area, has been increasing at a much faster rate.

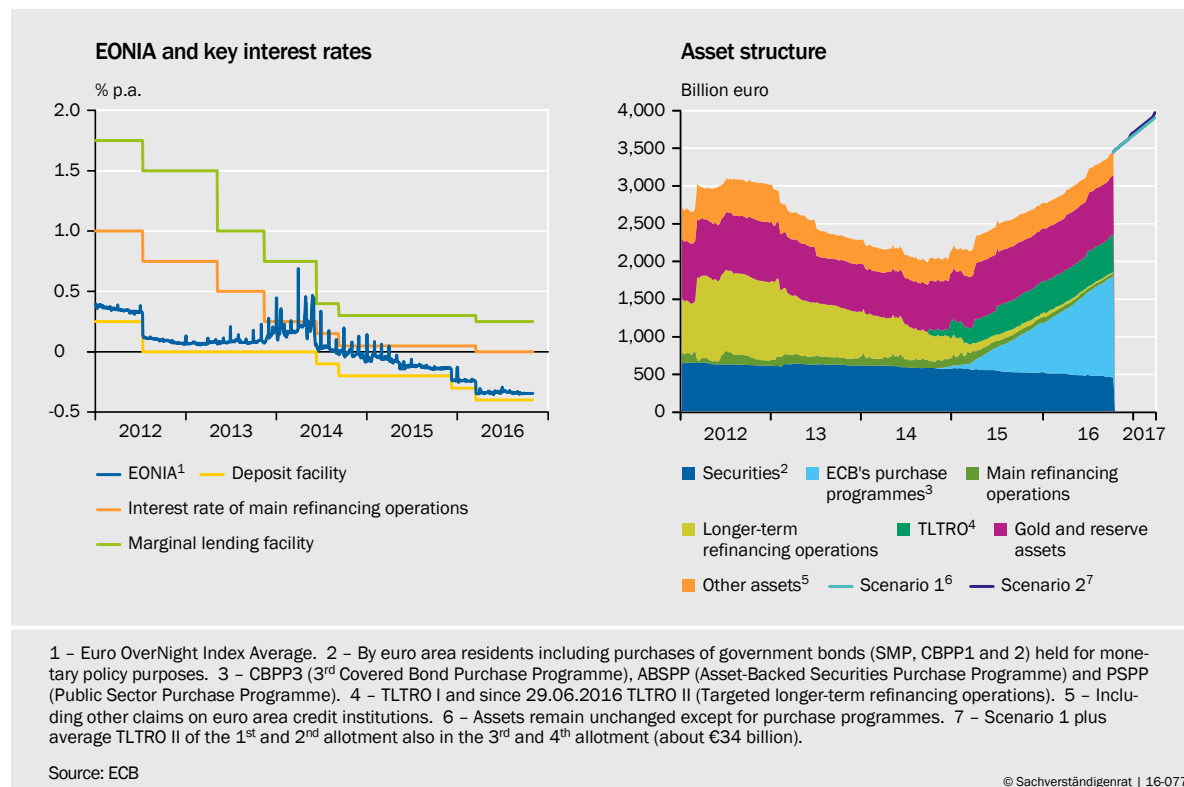
375. There is currently intensive debate underway as to whether the **quantitative interpretation of the price stability mandate** by the ECB should be changed. Some voices are calling for an increase in the target of below, but close to, 2 % inflation measured with the HICP in order to give monetary policy more leeway for future rate cuts. One argument against this is that such a change would cause lasting harm to the central bank's credibility. Even low positive inflation rates result in significant distortions in employment and production decisions due to nominal wage and price rigidities and progressive tax rates. Thus,, the ECB should **not make any changes to its operational definition of price stability**. Yet, the fact that its strategy is meant to focus **on the medium term**, gives it scope to pay more attention to other price measures that are less influenced by oil prices.
376. The accommodative policy pursued by the ECB is having a significant impact on the euro area and the German economy. With nearly full capacity utilisation, growth in excess of the potential growth rate and inflation rates between 1 % and 2 % measured by the core HICP (excluding energy and food prices) and the GDP deflator, Germany should be witnessing money market rates in the region of 3 % to 4 %. This means that the current **negative** short, medium and long-term **interest rates are in no way consistent with the economic situation in Germany**. These negative rates are contributing to various exceptional, and in some cases dangerous developments, including the rapid rise in asset prices, increasing interest rate risk, endangered business models of banks and insurance companies, the weak currency and the high current account surplus. However, within the Monetary Union monetary policy is no longer available to conduct stabilisation policy for the German economy. Hence, other policies have to be considered. **Options are available** in the areas of fiscal, structural and macro-prudential policy.

## II. MASSIVE POLICY EASING STEPPED UP YET AGAIN

377. Back in September 2014, ECB President Draghi announced that the ECB would be taking extensive measures to bolster bank lending and raise the **Eurosystem balance sheet back to the level seen in 2012**. The initial steps involved a negative deposit rate, new purchase programmes for covered bonds and new four-year refinancing operations at a fixed rate. On 22 January 2015, the ECB **expanded the planned purchases of securities to include government bonds and accelerated its purchases considerably**. Under the Expanded Asset Purchase Programme (EAPP), bonds worth €60 billion were to be purchased monthly until September 2016 – equating to a total value of €1,140 billion or 11 % of the euro area's GDP in 2015. The EAPP includes the third Covered Bond Purchase Programme (CBPP3) for covered bonds, the Asset-Backed Securities Purchase Programme (ABSPP) for securitised loans and the Public Sector

↪ CHART 44

**EONIA and ECB's key interest rates as well as the asset structure of the ECB**



Purchase Programme (PSPP) for public-sector bonds (GCEE Annual Report 2015 items 279 ff.).

378. **Since the end of 2015**, the Governing Council of the ECB has **further stepped up its monetary policy easing measures**. ↪ CHART 44 A detailed chronology is provided in ↪ TABLE 22, APPENDIX. In December 2015, it made the decision to extend the EAPP until March 2017, i.e. to increase it by a further €360 billion, and to reinvest principal payments on the securities held. The deposit rate was initially reduced by ten basis points to  $-0.3\%$ , before being cut to  $-0.4\%$  in March 2016. At that time the ECB reduced the main refinancing rate from five basis points to  $0\%$ . The EAPP bond purchases were increased from €60 billion to €80 billion as of April 2016, i.e. by a total of €240 billion in the period leading up to March 2017. The bond purchases have also included corporate bonds since June 2016.

According to current plans **bonds worth €1,740 billion or 16.6 % of the GDP** of the euro area will have been purchased by the time the EAPP comes to an end. Starting in June 2016, **additional targeted longer-term refinancing operations** followed (TLTRO II). This programme allows banks to refinance themselves for up to four years at a negative fixed rate of up to  $-0.4\%$ , even if they only slightly increase their lending.

379. These measures have allowed the ECB to **enforce negative money market rates** ↪ CHART 44 LEFT and push the Eurosystem balance sheet up to €3,450 billion, which is already well ahead of the previous high of €3,102 billion seen in July 2012. ↪ CHART 44 RIGHT Since touching on a low of €1,990 billion in September 2014, the balance sheet has increased by 74 % (14 % of GDP). By March 2017,

the **balance sheet will come to around €4,000 billion**, meaning that it will have doubled.

While the current increase is the result of expansionary measures, the previous decline of around 11 % of GDP between the summer of 2012 and the winter of 2014 was not the result of restrictive measures. Rather, numerous commercial banks opted for early repayment of the three-year refinancing operations of December 2011 and March 2012. Due to tensions in the financial markets, these operations had originally met with such considerable demand that the ECB's balance sheet swelled by around €1,000 billion between mid-2011 and mid-2012. Thus, the reduction in these precautionary liquidity holdings was a sign that the situation on the financial markets was starting to settle, providing banks with better market access.

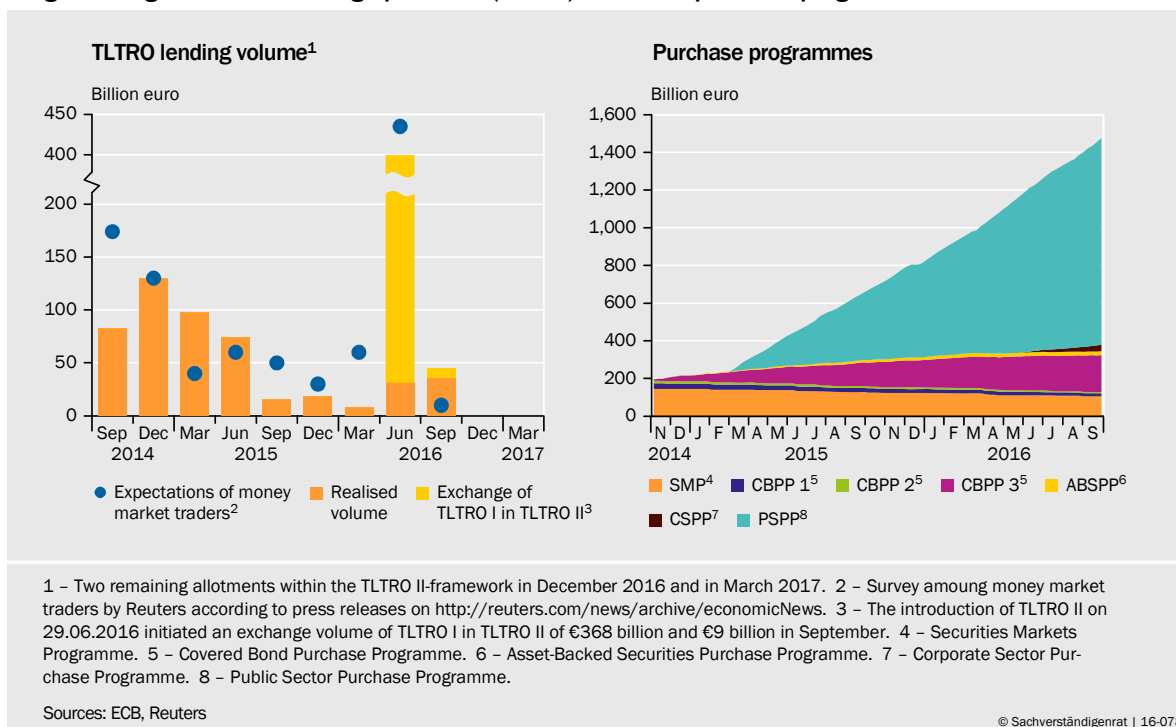
380. The first series of **TLTRO has already contributed substantially to the expansion of the balance sheet** by replacing the longer-term refinancing operations (LTRO) that had been paid back earlier. [↘ CHART 44 RIGHT](#) The first nine operations (TLTRO I and II) amounted to a total of €492 billion. [↘ CHART 45 LEFT](#) The increase in excess liquidity and more favourable financial conditions are likely to have put a damper on demand in September and December 2015. In March 2016, banks opted to hold out for the new **four-year TLTRO II, which would offer more attractive conditions**. Instead of the previous 7 %, they can now take out up to 30 % of their outstanding lending volume. In theory, the scope for refinancing comes to around €1,500 billion (de Groen et al., 2016).

If a bank's net lending exceeds an individual benchmark between 1 February 2016 and 31 January 2018, the TLTRO II rate will be reduced to below the MRO (main refinancing operations) rate. Banks can secure the most favourable financing at a deposit rate of -0.4 % if they exceed the benchmark by 2.5 %. If the benchmark is exceeded by between 0 % and 2.5 %, the interest rate is reduced on a linear scale. The benchmark has been selected in such a way as to keep the hurdle low. If net lending in the period from 1 February 2015 to 31 January 2016 is zero or in positive territory, then the benchmark is zero. It is reduced accordingly in cases where net lending is negative. The first TLTRO II operation in June 2016 amounted to €399 billion, around 8 % less than expected. €368 billion was exchanged from the TLTRO I, meaning that the net demand came to €31 billion.

381. By far the **biggest driver of the balance sheet expansion** is the purchase of **government bonds (PSPP)**. [↘ CHART 45 LEFT](#) Public-sector bonds worth €1,100 billion have been acquired since the programme was launched, meaning that the PSPP accounts for almost 32 % of total assets. This programme comprises the purchase of bonds issued by euro-area central governments, agency issuers and European institutions (GCEE Annual Report 2015 item 282). The country allocation is calculated on the basis of the ECB's capital key, with the largest share of 26.6 % attributable to Germany. In June, the ECB (2016a) also announced that it was looking into including Greek government bonds in the PSPP. If this goes ahead, the yields on Greek government bonds are likely to drop considerably. Given the slow progress made by Greece's consolidation and reform process, the

↘ CHART 45

Targeted longer-term refinancing operations (TLTRO) and ECB's purchase programmes



German Council of Economic Experts believes that this move would be premature.

382. The Eurosystem now holds a significant share of the bonds that can be purchased based on the current PSPP criteria. Only a little over 50 % are still eligible for purchase in the PSPP for the founding states (excluding Luxembourg). LBBW (2016a) expects that the German bonds available for the ECB to buy may run out in February next year. One key reason is the deposit rate floor for bond yields; for Germany, more than 55 % of the bonds are below the  $-0.4\%$  deposit rate (Bindseil, 2016). **Quite likely, the ECB will ease the PSPP criteria.** For example, it could increase the 33 % limit on ECB holdings of an individual government bond issue, buy bonds at yields that are below the deposit rate or even purchase more bonds from highly indebted countries like Italy.
383. In addition to the bond purchases for monetary policy purposes, **national central banks can buy government bonds and securities on their own account** as part of ANFA (Agreement on Net Financial Assets). ↘ BOX 12 ANFA purchases were the subject of a wider discussion at the beginning of this year due to the marked increase in the ANFA holdings between 2007 and 2011. After 2011 the volume returned again to the 2007 level. Although the past increase in ANFA does not appear to have been illegal government financing, the lack of public information on the composition of the ANFA holdings means that the matter cannot be definitively clarified. There is a pressing need for more transparency.

↳ BOX 12

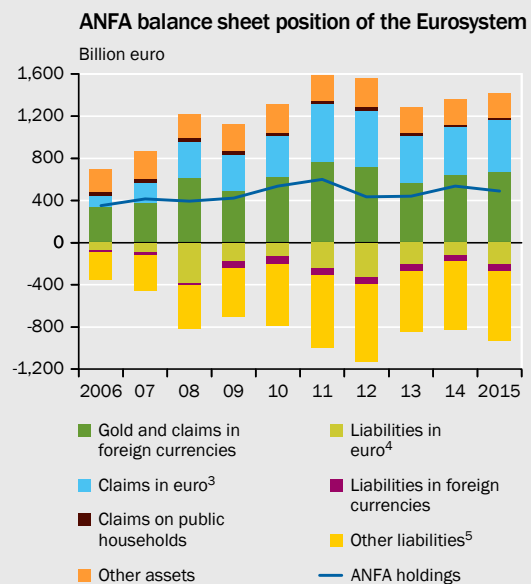
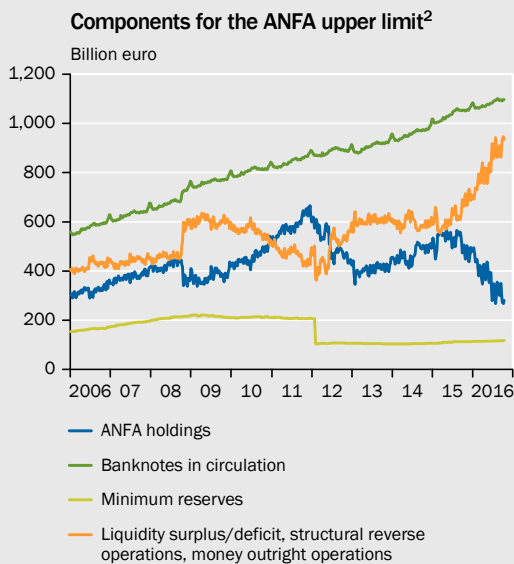
**Government bond purchases under ANFA (Agreement on Net Financial Assets)**

Within the Eurosystem, national central banks can purchase securities on their own account as long as these purchases do not stand in conflict with the ECB’s monetary policy. Any gains or losses in connection with these purchases remain with the national central banks. Unlike with transactions that serve to fulfil the monetary policy duties of the Eurosystem (Articles 32 and 33 of the Statute of the ESCB (European System of Central Banks)), these gains and losses are not redistributed within the Eurosystem. Details on the purchases have been confidential to date. Hoffmann (2015) calculated a marked increase in the ANFA holdings based on information on individual (non-monetary policy) securities purchases on national central bank balance sheets. Allegations arose that individual central banks had bought up a substantial volume of bonds issued by their own country during the crisis as a means of government financing (FAZ, 2015a; Die Welt, 2015; Süddeutsche Zeitung, 2015). The ECB, however, denies allegations of covert government financing (ECB, 2016b).

Finally, on 5 February 2016, the ECB published the ANFA-Agreement (ECB, 2016b), revealing an annual upper limit. However, the public does not have access to any information on the amount or composition of the holdings. Details on the marked increase at the Banque de France and Banca d’Italia in the period between 2007 and 2011 would be particularly interesting. The upper limit for ANFA purchases in the Eurosystem as a whole is calculated as a residual from the liquidity deficit or surplus, the scope of monetary policy operations, minimum reserves and the volume of banknotes in circulation. ↳ CHART 46 LEFT The ANFA holdings increased significantly between the end of 2009 and the end of 2011 before falling again and coming in at €490 billion at the end of 2015 (ECB, 2016b). The holdings are currently estimated to amount to just about €300 billion. ↳ CHART 46 LEFT The holdings can be broken down into individual balance sheet items. The following items are responsible for the increase from 2007 to 2011: on the assets side “Gold and claims in foreign currencies” (around €425 billion) and “Claims in euro” (around €445 billion); on the liabilities side, “Other liabilities” (around €425 billion) and “Liabilities in euro” (around €170 billion). ↳ CHART 46 RIGHT

↳ CHART 46

**Development of ANFA holdings<sup>1</sup>**



1 – Agreement of net financial assets. 2 – Upper limit is calculated by adding banknotes in circulation and minimum reserves less the sum of liquidity surplus/deficit, structural reverse operations and monetary outright operations. 3 – Claims on non-euro area residents denominated in euro, credits related to margin calls, other claims on euro area credit institutions denominated in euro and other securities. 4 – Liabilities related to margin calls, other liabilities to euro area credit institutions denominated in euro and liabilities denominated in euro to euro area residents and to non-euro area residents. 5 – Including revaluation accounts as well as capital and reserves.

Source: ECB

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Public-sector bonds are likely to be found under “Other securities” that are reported under “Claims in euro” and “Other assets”. “Claims in euro” showed a particular increase between the beginning of 2007 and the end of 2011. [↘ CHART 46 RIGHT](#) At the end of 2015, the holdings came to €490 billion, almost €390 billion higher than the value seen at the beginning of 2007. Italy and France, in particular, stepped up their investment considerably between 2007 and 2011. In connection with “Other securities”, provisions, reserves (including pension reserves) or other liabilities may have increased on the liabilities side. The national central banks only rarely provide precise information on how the “Other securities” are matched on the liabilities side. This makes exact allocation difficult.

While illegal government financing is unlikely to be the reason behind the ANFA purchases, precise information on their composition would be required before any definitive statement could be made. The ECB monitors the central bank purchases and states that there have been no unjustified deviations (ECB, 2016b). One exception arose during the bank resolution process in Ireland. The resolution of the Irish Bank Resolution Corporation (IBRC) ultimately involved long-term government bonds being used to compensate for emergency aid on the balance sheet of the Irish central bank (GCEE Annual Report 2013 Box 9; ECB, 2014, 2015a, 2016c). More transparency regarding the composition of the ANFA purchases would be important and could prevent unjustified speculation. Since the ANFA purchases fall within the realm of the independent duties of the national central banks, it is up to them to decide how much detail they want to provide on the holdings and the share of government bonds that the ANFA purchases account for. The publication of the share of public-sector bonds and other securities would, however, boost confidence in the central banks without them having to release confidential information on their future investment policy.

- 384.** As part of the CSPP (Corporate Sector Purchase Programme), the Eurosystem has been purchasing **corporate bonds** since June 2016, i.e. investment grade bonds denominated in euro issued by companies domiciled in the euro area, excluding banks. [↘ TABLE 22, APPENDIX](#) The bonds have to meet the requirements of the collateral framework for monetary policy refinancing operations and must have a residual maturity of between six months and 30 years. Unlike for bonds issued by public-sector companies, a higher issue share limit applies, of 70 %, as opposed to 50 %. Moreover, they are not only purchased on the secondary market, but also on the primary market and even as part of private placements without any public auction (ECB, 2016d). The Banco de España, for example, purchased bonds issued by the Spanish oil company Repsol SA and the energy provider Iberdrola SA worth a total of €700 million via private placements (The Wall Street Journal, 2016).

By the middle of October, the ECB had purchased corporate bonds worth €34 billion. The total eligible volume is said to be between €460 billion and €520 billion (LBBW, 2016b; UBS, 2016). To date, the residual maturity has usually been between three and fourteen years.

- 385.** The CSPP is not designed solely to increase the pool of bonds for the balance sheet expansion. It creates **additional opportunities to push risk premiums down**, because only an investment grade rating (higher than BBB-) is required. It is actually sufficient for only the best of the available ratings to meet this criterion. For instance, purchases included bonds issued by Telecom Italia, EDP and Cellnex (ECB, 2016e), all of which were only still granted an investment grade rating by the ratings agency Fitch. Furthermore, the bonds do not have to be sold if they lose their last investment grade rating.

In this respect, the CSPP is an **unconventional quantitative measure** that is associated with particular problems. The US Federal Reserve, for example, did not launch any corporate bond purchase programme, allowing it to steer clear of any potential accusations that it was giving preferential treatment to selected companies and sectors. The CSPP benefits large companies in particular. Their securities issues showed a disproportionate increase in the period between March and May of this year. But major corporations have already access to good financing conditions.

386. Recently, there has been more and more debate about the option of “**helicopter drops of money**”. ↘ [BOX 13](#) This involves the central bank using money creation to transfer funds to private households across the board. The proponents of “**helicopter money**” believe it to be an effective way of stimulating aggregate demand and pushing up the inflation rate (Buiter, 2014; Galí, 2014). They are also calling for a permanent expansion of the central bank balance sheet. ECB President Draghi has said that the ECB does not have any plans along these lines and has not discussed the option in the Governing Council of the ECB. He considered it an interesting concept, but one that is mired in operational, legal and institutional difficulties (Draghi, 2016c).
387. Direct transfer payments usually fall within the remit of governments. The German Council of Economic Experts takes the view that direct payments made by the central bank to households would amount to a **quasi-fiscal, and not a monetary policy measure**. The legal framework for the European Monetary Union gives the member states responsibility for economic policy. In order to be used helicopter money would have to be given the green light in a legal assessment regarding the separation of monetary and economic policy, as well as the prohibition of monetary financing. Deutsche Bundesbank and the German Federal Government would then have to implement corresponding decisions made by the Federal Constitutional Court of Germany.

There is no need for helicopter money. After all, the current purchases of government bonds could already have a similar effect indirectly; they improve the financial conditions for governments. If a government uses this leeway to make additional transfer payments, then it creates a fiscal stimulus in tandem with the central bank balance sheet expansion.

#### ↘ BOX 13

##### Helicopter money

“Helicopter drops of money” in the form of transfer payments made by the central bank to all private households were initially discussed as a thought experiment by Friedman (1969). More recently, Bernanke (2002, 2003) mentioned them as a possible means of combating dangerous deflation. Some commentators compare the impact of helicopter money with the tax rebates used by US Presidents Bush and Obama to stimulate the economy in 2008 and 2009 respectively (Muellbauer, 2014). Their impact on demand is controversial and decreases in line with the number of credit-constrained households (Taylor, 2009; Shapiro and Slemrod, 2009; Sahm et al., 2012; Parker et al., 2013; GCEE Annual Report 2013 item 218).

The impact of helicopter money on inflation depends on the development of the central bank money supply. In a simple New-Keynesian model without credit-constrained households, for example, the central bank balance sheet has to be permanently increased in order to achieve a long-term increase in price levels (Buiter and Panigirtzoglou, 2003). In addition, central bank transfer payments financed by monetary expansion result in the redistribution to private households of the seigniorage gains to which the government is entitled. The redistribution is similar to that resulting from a debt-financed increase in state transfer spending, which ultimately has to be covered by future tax revenue. The central bank, however, would undermine the responsibility of democratically legitimised parliaments for the budget.

These examples show that direct transfer payments made by the central bank constitute quasi-fiscal measures. They belong to the sphere of economic policy for which the governments of the member states, not the ECB, are responsible within the euro area. A scenario in which the central bank instrumentalises the banking system instead would be unlikely to change this. The proposal put forward by Loneragan (2016), for example, for banks to have to make perpetual zero-coupon loans available to all households free of charge, would be equivalent to a direct transfer payment. A number of authors see the monetisation of government debt and, as a result, the direct monetary financing of government spending as a form of helicopter money (Turner, 2015; Cecchetti and Schoenholtz, 2016). This would be prohibited by the primary law of European Monetary Union (Article 123 of the Treaty on the Functioning of the European Union (TFEU)).

Finally, the ECB's price stability target does not imply any pressing need for direct transfer payments to private households financed using monetary means. The central bank already has sufficient quantitative tools available to prevent a "liquidity trap" and dangerous deflationary spirals (GCEE Annual Report 2014 box 13). In addition, the ECB's current purchases of government bonds may develop a similar indirect effect. They reduce the financing costs for governments, which use the resulting leeway partly to spend more on transfer payments.

### III. STRONG IMPACT OF MONETARY POLICY

388. The strategy of rate cuts and balance sheet expansion pursued by the ECB since the autumn of 2014 is having an impact on overall economic development via various different **transmission channels**. The main factors at play here include portfolio rebalancing, the expectations of market participants and the banking sector (GCEE Annual Report 2015 items 284 ff.). Lower long-term interest rates, currency depreciation, more relaxed lending conditions and higher asset prices provide stimulus to aggregate demand. Further on down the line, nominal wages and prices then start to rise as well (GCEE Annual Report 2015 item 289). [↪ ITEMS 401 FF.](#)

#### 1. Yield curve, exchange rates and asset prices

389. The EAPP, especially, is likely to have pushed up the prices of government bonds and forced returns into negative territory across the yield curve. There is also a knock-on effect on the prices of other bonds, assets, property and exchange rates via the **portfolio rebalancing channel**. This channel is based on the fact that assets can only be substituted to a certain extent: sellers of bonds who do not

consider the received central bank money to be a perfect substitute opt to rebalance their portfolios and put their money into other investments at home and abroad. This rebalancing pushes asset prices up and risk premiums down. This results in price changes not only in the securities classes being purchased; a broad-based reaction is triggered across many classes.

The announcement of easing measures also has an impact on the expectations of market participants. The ECB is signalling that monetary policy will remain accommodative and interest rates low for some time to come. Thus, the bond purchases and the four-year fixed-rate TLTRO are likely to have reduced longer-term bond yields and lending rates via this **signalling channel**. Finally, the measures leave their mark via the **banking channel**. The TLTRO I and II, in particular, give banks long-term access to liquidity at extremely favourable fixed rates, prompting them to ramp up their lending activity and enabling them to take more risks. Bond purchases also have an impact on lending. Higher prices increase the value of bank assets. This provides banks with better access to funds, allowing them to increase their lending.

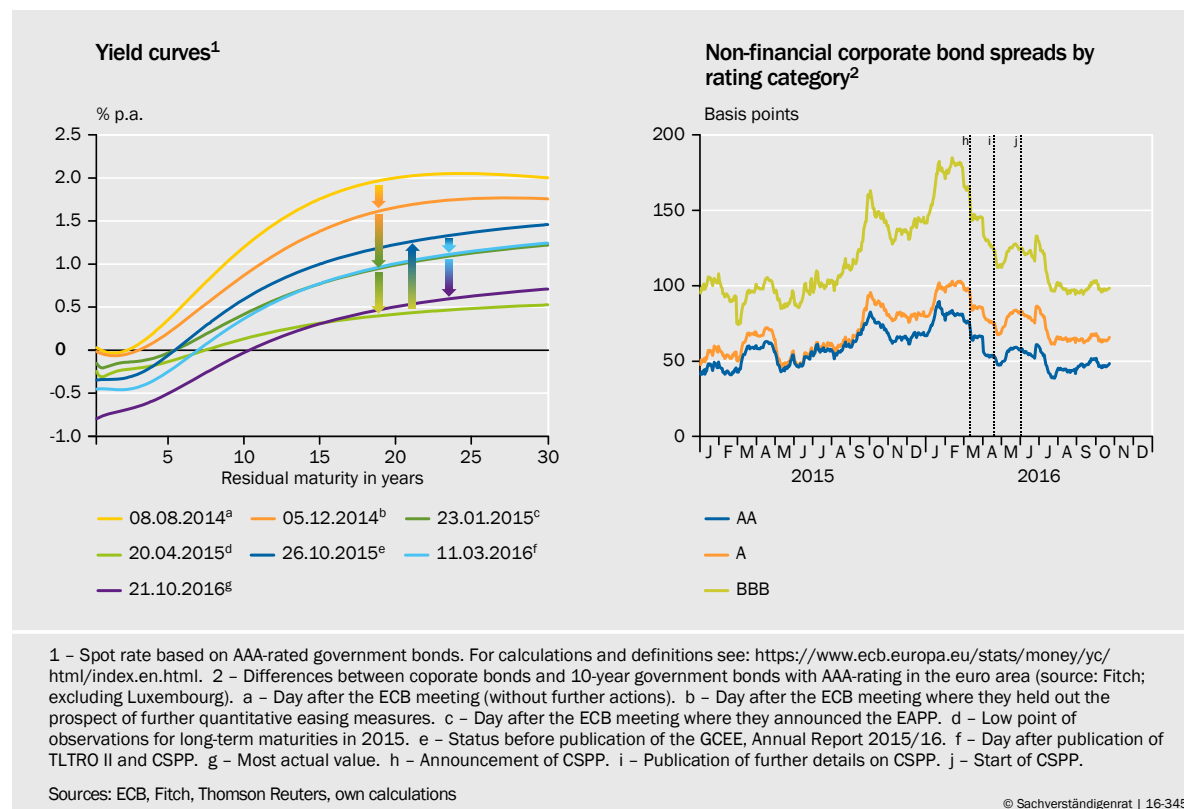
390. The **empirical literature** suggests that the announcement of government bond purchases caused the yield curve to fall and flatten. Estimates by Altavilla et al. (2015) and Andrade et al. (2016) suggest that the announcement of the EAPP alone was enough to shave 30 to 50 basis points off the yields on ten-year government bonds in the euro area. Middeldorp (2015), Middeldorp and Wood (2016) and de Santis (2016) arrive at slightly higher estimates. Andrade et al. (2016) also show an increase in the share prices of those banks with more substantial government bond holdings. The fact that the ECB is increasingly buying longer-term government bonds on a large scale means that the **long-term rate** is starting to become a **control variable for monetary policy**. Since February 2016, for example, the average maturity of the bonds held by the ECB has risen from 7.0 years to 7.9 years in September for Germany and from 8.0 to 8.4 years for all of the EMU countries as a whole.

This means that the ECB has contributed to the repeated downward shifts in, and also the flattening out of, the yield curve. At the moment, bonds issued by member states with the highest credit standing (AAA) with maturities of as much as ten years are in negative terrain. [↘ CHART 47 LEFT](#) There is no doubt that other factors are at play here, too. The Brexit vote and the potential repercussions on growth, inflation and monetary policy are likely to have contributed to the drop at the end of June. However, ECB estimates of real growth in the region of 2 % in the medium to longer term and inflation close to 2 %, are unlikely to be consistent with longer-term (risk-free) interest rates of between 0 and 50 basis points for maturities of between ten and 30 years.

391. The impact of quantitative easing on the yield curve can also be estimated using a **shadow interest rate**. [↘ ITEM 416](#) The shadow interest rate can be positive or negative. It **translates the impact of quantitative monetary policy on long-term rates** into a hypothetical short-term rate. Current estimates in the euro area come to between –7 % and –1.7 % (Kortela, 2016; Krippner, 2016). The shadow interest rate provides a way to assess the monetary policy stance

↘ CHART 47

## Euro area yield curves and corporate bond spreads

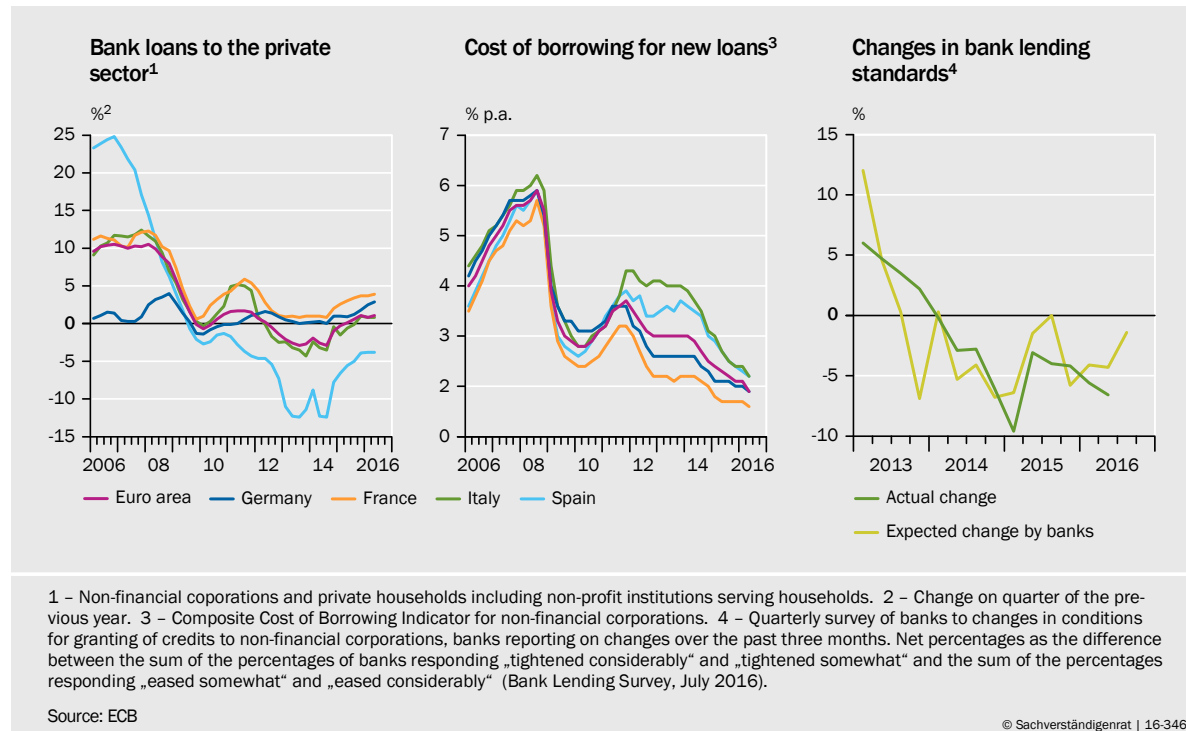


when the key policy rate is close to zero. The estimates, however, vary considerably depending on the model specification.

392. After the ECB announced that it would be buying **bonds issued by non-financial corporations**, the latter's security issues started to increase. Moreover, the corporate bond spreads narrowed after the programme was announced in March, after the details unveiled in April and the launch in June. ↘ CHART 47 RIGHT According to an event study by the ECB (2016f), the spreads of investment-grade corporate bonds declined by around eleven basis points in the two weeks after the announcement. Premia for high-yield bonds that do not meet the CSPP requirements actually fell by 25 basis points, which can likely be traced back to the portfolio rebalancing channel.
393. The ECB measures had an impact on the credit markets via the banking and signalling channels. The **costs of new loans** have been on a continuous downward slide since mid-2014. ↘ CHART 48 CENTRE This decline has been more pronounced in the southern European member states than in France or Germany. Draghi (2016d) emphasises that the unconventional measures implemented to date have been highly effective and have largely resolved the fragmentation of lending rates within the euro area. The rate of growth in **bank loans granted to non-financial corporations and private households** in the euro area also started to rise steadily in 2014 and has been rising further again since 2015. ↘ CHART 48 LEFT Lending standards have also been slightly loosened. ↘ CHART 48 RIGHT In light of the marked decrease in borrowing costs, however, the growth rates of bank loans are relatively subdued.

↘ CHART 48

Bank loans, cost of borrowing and bank lending standards in the euro area



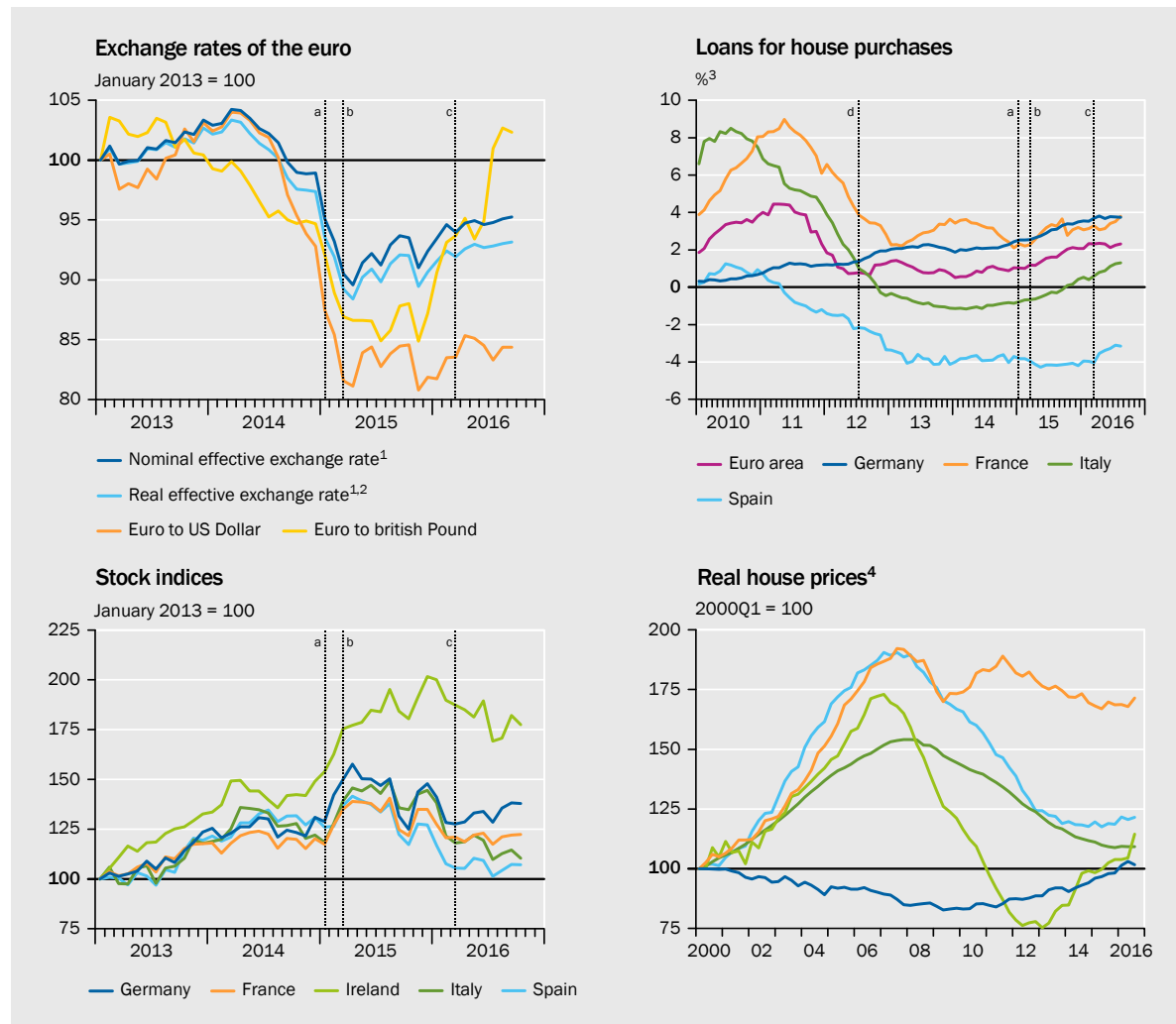
394. It remains to be seen to what extent the new **TLTRO II** will provide further stimulus to bank lending. A survey conducted within the framework of the Bank Lending Survey (BLS) suggests that banks want to use the new TLTRO for both additional lending and refinancing purposes – i.e. to replace other sources of funding (ECB, 2016g). De Groen et al. (2016), on the other hand, forecast that this subsidy will have little impact on credit growth, stating that banks with negative net lending will, in the majority of cases, see their credit growth rise over the next few years anyway. In addition, increasing regulation, high levels of non-performing loans (NPLs), low profitability and risks associated with future interest rate changes are likely to limit the expansion of the credit portfolio.
395. Quantitative monetary policy can have a considerable **impact on the exchange rate** (Coenen and Wieland, 2003, 2004). Portfolio rebalancing and falling long-term rates have a knock-on effect on the currency markets (GCEE Annual Report 2015 items 292 ff.). Foreign bonds with the same credit rating, for example, become more attractive, prompting investors to sell bonds in euro in order to purchase bonds from countries outside of the euro area. This is likely to have been one of the reasons why the euro depreciated in particular between mid-2014 and early 2015, and why the subsequent counter-movement was only able to compensate in part for the decline. ↘ CHART 49 UPPER LEFT The event study conducted by Georgiadis and Gräßl (2015) shows that the euro lost value as a result of the EAPP announcement in January 2015. Since April 2016, the euro once again lost ground against the US dollar. Despite its appreciation against the British pound in the aftermath of the Brexit vote, the trade-weighted euro is still down, in terms of real purchasing power, by more than 10 % on the last high of spring 2014.

396. **Euro area equity indices** made substantial gains between mid-2014 and mid-2015 ↘ CHART 49 LOWER LEFT, which was likely driven to a significant degree by monetary policy. An empirical study conducted by Haitsma et al. (2016) shows that the easing measures implemented in early 2015 fuelled an upward trend on the Euro Stoxx 50. By contrast, the measures taken in March 2016 only triggered a slight increase in the index. Share prices, however, are influenced by manifold factors. The uncertainty on the global markets surrounding growth prospects in China and the implications of the Brexit vote are likely to have had a negative impact.

397. Since the announcement and implementation of the PSPP, growth in **housing loans** in the euro area has bounced back. ↘ CHART 49 UPPER RIGHT The banks surveyed as part of the BLS are also reporting sustained demand for housing loans in the second quarter of 2016. They believe that this is primarily attributable to the low general level of interest rates, rising consumer confidence and favoura-

↘ CHART 49

Exchange rates, loans for house purchases, stock indices and house prices



1 - On the basis of the weighted averages of the relative changes in the bilateral euro exchange rates against the currencies of 19 trading partners of the euro area. 2 - Deflated with the consumer price index. 3 - Change on previous year; because of a larger securitisation in loans for house purchases in May 2014, the values for France and the euro area are adjusted for this effect from May 2014 until April 2015. 4 - Deflated with the domestic consumer price index. a - Announcement of PSPP. b - Start of PSPP. c - CSPP and extension of PSPP. d - Draghi's speech: "Whatever it takes".

Sources: ECB, national stock exchanges, OECD, Oxford Economics

ble housing market prospects (ECB, 2016g).

398. The decline in **real estate prices** that followed the major exaggerations before the financial crisis has come to an end. [↪ CHART 49 LOWER RIGHT](#) Italy has been experiencing stagnating prices since 2015, while prices in Spain have been back on the rise since the same year. In Ireland, a clear recovery had already emerged as far back as 2012. In France, where the rise in prices was just as large as in Spain, there has only been a slight decline in prices. Real estate prices in Germany, which had not experienced a boom prior to the crisis, have been on a steady upward trajectory since 2010. Monetary policy easing has resulted in extremely low interest rates on housing loans. The favourable conditions mean that buyers of property can finance higher amounts. Since the demand is meeting with temporarily fixed supply, it is having a direct impact on prices.
399. **In Germany**, prices across all property segments rose by 3.7 % in 2015, continuing the positive growth trend for the eleventh year running (Bulwiengesa, 2016). The **price increase accelerated** for residential properties as a whole. The increase was 6 % in 2015, exceeding the average annual growth rate of 4.5 % since 2011 (Deutsche Bundesbank, 2016a), with particularly marked price increases in the country's towns and cities. In 2015 (and on average since 2011), property prices in these locations rose by 6 % (and by 6.3 % respectively) – with an increase of as much as 7 % (and close to 8 % respectively) in the seven major German cities. If we look not only at real estate, but also at shares in small and medium-sized family businesses and financial assets, then **asset prices in Germany** climbed by 6.6 % in 2015 (FVS Research Institute, 2016a). This asset price index reflects the changes in prices of assets held by German households that are selected and weighted as in the study “private households and its finances” (PHF) by the Deutsche Bundesbank (2016b). The weighting of the time series is based on the PHF 2014 survey results and corresponds to the capital goods share on the gross value (FVS Research Institute, 2016b).

## 2. Aggregate demand and inflation

400. Short, medium and longer-term **real interest rates** play a key role in the **transmission of monetary policy**. When making their interest rate policy decisions, central banks generally assume that rate cuts stimulate demand while rate hikes curb it, and that rising demand translates into higher inflation, while less demand pushes inflation rates down. The negative cause-and-effect relationship between interest rates and demand means that a monetary policy aimed at stabilisation tends to react to an increase in GDP by lifting rates, and to a decrease in GDP by cutting rates. The same applies to the rate of inflation. Empirical reaction functions actually provide significant evidence for this pattern of behaviour by central banks (GCEE Annual Report 2013 items 177 ff.). [↪ ITEMS 417, 441](#)

Empirically estimated macroeconomic models in turn provide supportive evidence for the **negative cause-and-effect relationship between interest rates and aggregate demand**. This applies to the Keynesian models that the



central banks have been using since the 1960s, as well as to the New-Keynesian models that have already been in use since the early 1990s. Accordingly, the euro area models used by the ECB (Fagan et al., 2005; Christoffel et al., 2008) and the model used by the Fed (Brayton et al., 1997; Brayton et al., 2014) provide **empirical evidence** showing that rate cuts stimulate consumer and investment demand, as well as net exports.

Estimates based on eight publicly available models developed in part by the ECB and the European Commission provide the following **benchmark**: an unexpected rate cut by one percentage point that is returned to a quarter of this value within the space of a year increases real GDP in the euro area by an average of 0.5 % over a period of four quarters (www.macromodelbase.com; Wieland et al., 2016).

401. The **causal links between real interest rates** and the **components of aggregate demand** are complex. The direct partial interest rate effects on consumption, investment and net exports, for example, are offset by the indirect effects via income expectations, assets, exchange rates and disposable income. This is why economy-wide models are needed to capture the monetary transmission mechanism. For example, the mere observation that the development in the savings ratio in Germany shows virtually no correlation with the development in real total returns on the financial assets of private households (Deutsche Bundesbank, 2015) does not imply that the mechanism by which monetary policy influences private **consumption** is no longer working.

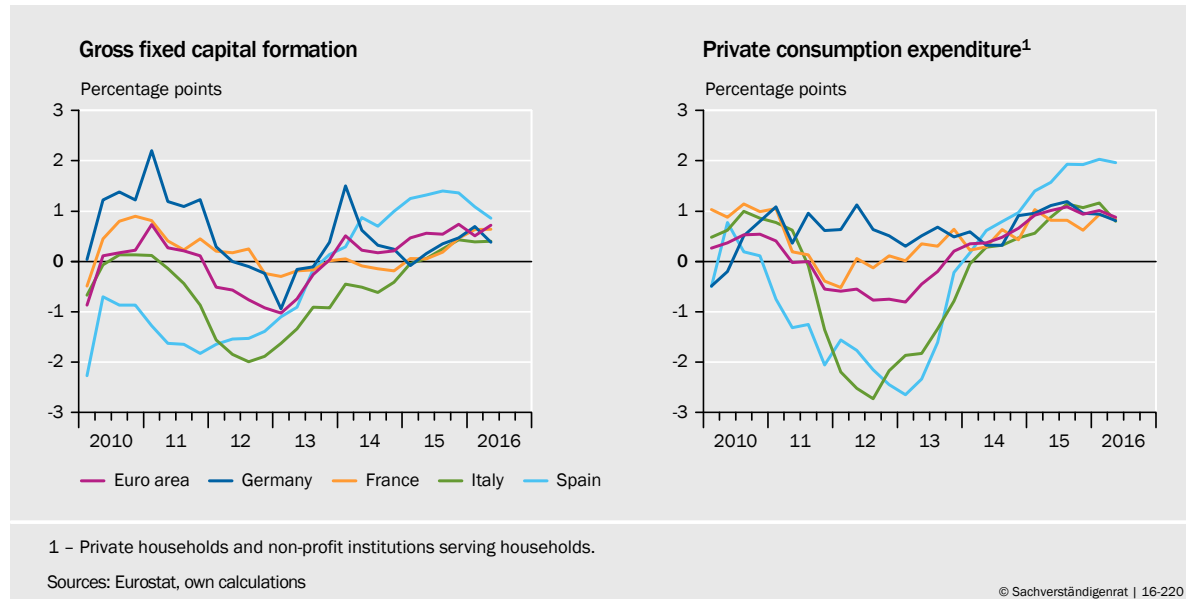
Households try to smooth their consumption, meaning that the development in expected lifetime income is ultimately decisive (Friedman, 1957; Ando and Modigliani, 1963; GCEE Annual Report 2013 items 219 ff.). It has long been known that the very reason why the partial interest rate effect on consumption is difficult to identify empirically is that saving households are subject to offsetting effects (Campbell and Mankiw, 1989). On the one hand, **interest rate cuts** create an incentive to save less and consume more (substitution effect). At the same time a dampening effect emerges for households that are savers, because the disposable income from interest income falls (offsetting income effect).

At present, however, monetary policy easing is also having a positive impact on private consumption via improved **income expectations** and the increase in **asset prices**. Estimates of wealth elasticities in the empirical literature lie between one-third and one-tenth of estimated income elasticities depending on whether real estate prices, equity prices or other wealth components are taken into account (Bandholz et al. 2006; Nastansky, 2007; ECB, 2009; Paiella, 2009). While the effects in Germany are not as pronounced as in the United States, they are still significant (Hamburg et al., 2008).

402. Dwindling borrowing costs revive **private investment activity**, because they make more investment projects profitable (GCEE Annual Report 2015 items 284 ff.). The sustained weakness in the real trade-weighted exchange rate also stimulates demand for euro area goods and makes the export industry more competitive, at least temporarily. Insofar as additional domestic and **foreign demand** result in higher production and income levels, additional investments are likely

▸ CHART 50

Contributions to the annual GDP growth rate



to be made. In the euro area, the contribution made by consumer and investment demand to GDP growth has been increasing continuously since 2014.

▸ CHART 50

403. Many empirical studies suggest that not just policy rate cuts, but also **expansionary quantitative measures** have a positive impact on aggregate demand (e.g. Kapetanios et al., 2012; Baumeister and Benati, 2013; GCEE Annual Report 2015 items 284ff.; Deutsche Bundesbank 2016a; Weale and Wieladek, 2016). To the extent that the subsequent development in medium and longer-term real interest rates, exchange rates and asset prices can be attributed to the quantitative measures, the effects on demand are likely to be significant. By contrast, some studies conclude that the quantitative measures have little impact beyond the effect on key policy rate expectations (Eggertsson and Woodford, 2003; Stroebel and Taylor, 2012; Bluwsten and Canova, 2016).

**Eurosystem staff macroeconomic projections** suggest that monetary policy easing has already made a significant contribution to bolstering GDP and inflation in the euro area even without the additional measures taken in March 2016 (ECB, 2016c; Praet, 2016). According to these projections, the monetary policy easing measures will increase euro area GDP by around 1.5 % between 2015 and 2018 and by between 0.7 % and 0.3 % annually. This means that, without the easing measures, inflation would have been negative in 2015 and the forecasts for 2016 and 2017 would be half a percentage point lower. **Deutsche Bundesbank** estimates that the expansion of the EAPP in December 2015 will nudge up inflation by between around 0.1 and 1 percentage point a year from 2016 to 2018. It considers the impact of the measures decided in March 2016 to be slightly less pronounced (Deutsche Bundesbank, 2016d). The values vary according to the modelling approach used and are also associated with a considerable degree of predictive uncertainty.

On the whole, however, the model estimates suggest that **the quantitative measures are having a significant impact** on aggregate demand. By way of comparison, one could ask how much the key policy rate would have had to be loosened in normal circumstances, i.e. with positive money market rates, in order to achieve a similar effect. In line with the benchmark [↘ ITEM 400](#) based on publicly available macroeconomic models for the euro area, the impact of the unconventional measures estimated by the ECB would roughly correspond to an unexpected policy rate cut of between 1.5 and 2 percentage points in an environment of positive interest rates.

404. We can look at the development in GDP and its components from another angle by comparing the **recovery** in the euro area and Germany **after the cyclical low** of 2009 with the recoveries that followed earlier recessions. [↘ CHART 51](#) The low point of a recession is determined for the euro area by the CEPR Business Cycle Dating Committee using the methodology developed by the NBER Business Cycle Dating Committee. The German Council of Economic Experts has used the same methodology for Germany.

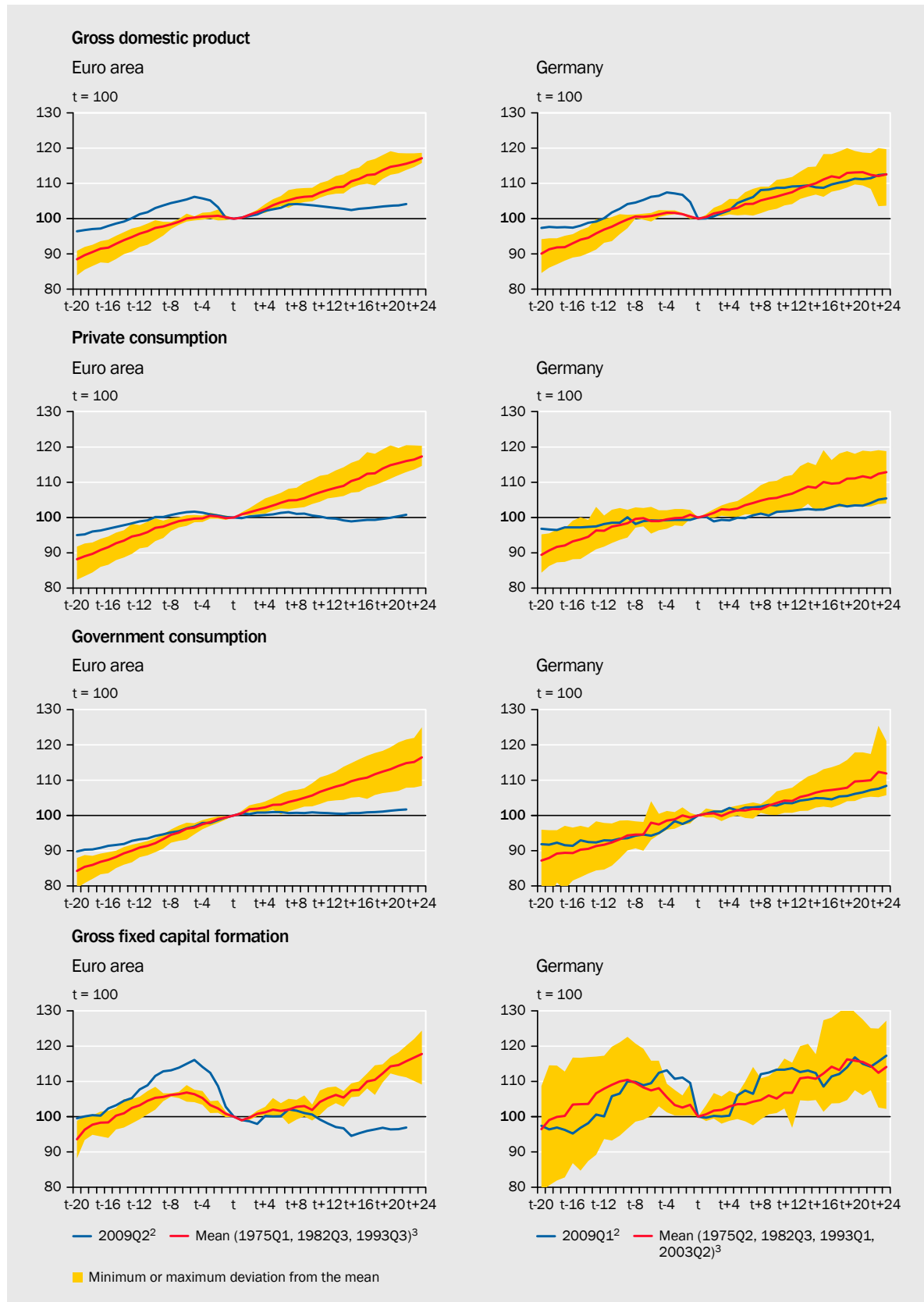
Compared with earlier periods of recession, the economic slump triggered by the financial crisis was **particularly pronounced**. If we look at the recovery phase after the low point, we can see that, in the first eight quarters after bottoming out, GDP growth in the euro area initially showed a rebound of a similar speed as in previous recovery phases. The slightly weaker development in household and government consumption and investment demand was compensated by net exports. A **second recession** followed due to the excessive debt levels and crisis of confidence in several member states. This recession resulted, in particular, in a downturn in household consumption and private sector investment.

[↘ CHART 51 LEFT](#)

The **recovery in Germany**, on the other hand, continued after a pause. Over a period of six years, GDP followed a path similar to the average seen in previous recovery phases. The same applies to private sector investment. While net exports increased at a faster rate, **household consumption took much longer to recover** than on average in previous recovery phases. The reason may be that some households fear that their lifetime income will be lower as a result of long-term interest rates staying low for a long time. [↘ CHART 51 RIGHT](#)

CHART 51

Comparison of the recovery after the financial crisis in 2009 with previous recovery periods<sup>1</sup>



1 - t on the time axis denotes the cyclical low of each recession period. 2 - 2009Q2 or 2009Q1 is the respective cyclical low of the recession in the wake of the financial crisis in the euro area or Germany. Cyclical lows in the euro area are based on CEPR Dating. 3 - Mean of the respective cyclical lows of the previous recessions.

Sources: Deutsche Bundesbank, EABCN, own calculations

## IV. MONETARY POLICY NOT APPROPRIATE FOR EURO AREA

### 1. Monetary policy and inflation

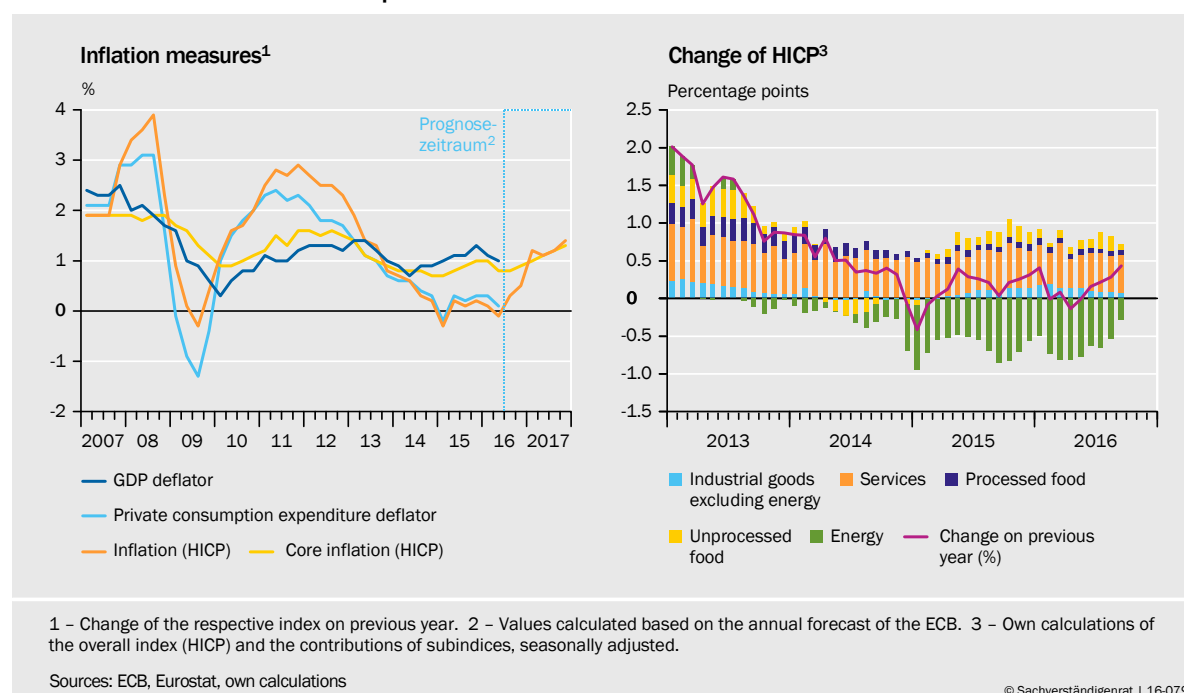
405. In order to assess monetary policy, it is helpful to first of all look at the development of inflation, which is central to the ECB's mandate. The annual growth rate in the **HICP in the euro area** reached its last temporary high of just under 3 % at the end of 2011. It then continuously declined to just under 0 % at the start of 2015, and lingered at just above the 0 % mark until the first quarter of 2016. In the second quarter, it slipped slightly back into the red. [↪ CHART 52 LEFT](#) The HICP only meets the ECB's numerical objective of below, but close to, 2 % in the medium to longer-term projection.

During this period, however, just as in the preceding ten years, the HICP was largely driven by what were mainly unexpected changes in energy prices. Energy prices dropped particularly sharply in mid-2015 and early 2016 due to a rapid decline in oil prices. [↪ CHART 52 RIGHT](#) The **core inflation rate**, on the other hand, excludes energy and food, which are prone to volatile price movements. It has remained very stable over the past ten years, only fluctuating in a range between highs of around 2 % (in 2007) and lows of around 0.7 % (end of 2014). Since the end of 2015, it has been slightly higher again, at around 1 %. The ECB forecasts a slow increase towards 2 %.

406. The **GDP deflator** has also shown a fairly stable development over the last ten years, fluctuating between a maximum of 2.5 % in 2007 and a minimum of 0.3 % in early 2010. Unlike the HICP, the GDP deflator is a metric covering prices of

[↪ CHART 52](#)

Inflation measures and consumer price index in the euro area

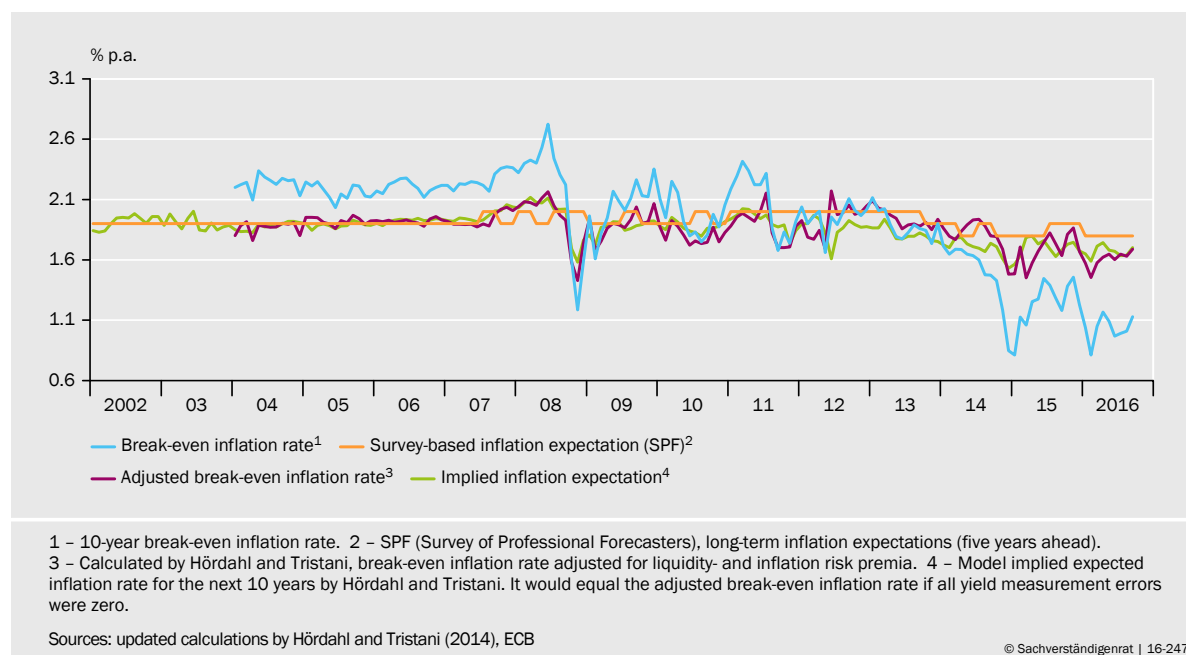


all goods and services produced in the euro area. The prices of imported goods such as crude oil therefore do not have any direct impact on the GDP deflator, but continue to be manifest in the consumption deflator. The GDP deflator also includes prices outside of the consumer goods sector, so it serves as a useful indicator for central bank policy. It rose by around 1.3 % in 2015.

407. The **stable development of core inflation and the GDP deflator** over the last ten years suggests that there is no need for monetary policy to deviate from its systematic and predictable reaction to the inflation rate and be more accommodative. ECB representatives, however, point to the risk of more pronounced second-round effects of the oil price slump and the risk of a de-anchoring of market-based inflation expectations (Constâncio, 2015; Draghi, 2015).
408. **Indirect oil price effects** on the HICP via goods whose production is heavily reliant on oil, such as transport services, tend to be only temporary, just like the direct effects. Furthermore, there is the possibility that **second-round effects** will translate the drop in energy prices into a lower inflation rate in the longer term. The decrease in energy costs could, for example, allow for lower wage settlements because it increases employees' disposable income. However, if the economic situation is good, as it is in Germany, employers are more likely to pass a portion of their cost savings on to their employees. It is difficult to arrive at a precise estimate of second-round effects. No signs of major effects have been identified to date (Deutsche Bundesbank, 2016e; ECB, 2016h).
409. So far, the concern that the unusually low zero growth rate of the headline index could have resulted in the **de-anchoring of longer-term inflation expectations is not supported by the evidence**. The survey-based inflation expectations reported in the Survey of Professional Forecasters (SPF) for inflation five years ahead have remained between 1.8 % and 1.9 % for a long time. [↪ CHART 53](#)

↪ CHART 53

Market-based and survey-based long-term inflation expectations



This exactly matches the ECB's medium-term objective of below, but close to, 2 %.

Market-based expectations, on the other hand, appear to have declined sharply. This can be seen from the marked decline in the course of 2014 in the long-term break-even inflation rates, which are calculated based on inflation-indexed government bonds or inflation swaps. This reduction occurred virtually in tandem with the drop in oil prices, which should only have a short-term impact on inflation expectations (GCEE Annual Report 2015 item 274). In fact, break-even inflation rates based on financial instruments can fluctuate considerably. They do not mirror the inflation expectations of market participants one for one, because they contain premiums for inflation and liquidity risks (Deutsche Bundesbank, 2016f; Draghi, 2016e).

Hördahl and Tristani (2014) estimate these risk premiums, which can be used to arrive at implied long-term inflation expectations. The adjusted inflation expectations indicate a level that will remain largely stable. [↘ CHART 53](#) Adjusted inflation expectations dipped slightly in 2014 and 2015, although the dip was not as pronounced as the drop in unadjusted values. Hördahl and Tristani (2014) also point to the possibility of more pronounced measurement errors for risk premiums during this period.

## 2. Equilibrium interest rate, interest rate rules and shadow interest rates

410. One key point of reference for monetary policy is the gap between the actual real interest rate and the equilibrium interest rate. This **equilibrium interest rate** is reached when actual GDP corresponds to potential output and inflation is stable. However, equilibrium concepts differ in terms of time horizons (GCEE Annual Report 2015 items 315 ff.). The long-term equilibrium interest rate and long-term potential output in turn play a central role in the **Taylor interest rate rules**. These rules react to deviations in macroeconomic development from the equilibrium and provide an interest rate recommendation for the central bank (Taylor, 1993; Taylor and Wieland, 2012; GCEE Annual Report 2015 items 301, 304, 370 ff.). In order to compare the aggregate effect of interest rate and quantitative measures with these recommendations, one can use **forward rates and shadow interest rates that are** calculated from the yield curve.
411. ECB representatives have cited the **decline in the equilibrium interest rate** as a reason for the further easing of monetary policy (Constâncio, 2016; Draghi, 2016b). They attribute this decline to a **global excess of desired saving** over planned investment. Demographic change is a possible reason for this. The propensity to save tends to increase in particular when the middle-aged working and saving generation accounts for a very large share of the population in relation to the retired generation (Bean et al., 2015). China, where the change in the age structure is particularly pronounced, is a good example of this sort of development. Many consider China's saving and current account surplus to be the

source of the global excess of planned saving (Bernanke, 2005). Germany is also cited as an example (Draghi, 2016d).

As for the United States, Ludwig et al. (2016) expect to see a drop in the equilibrium interest rate triggered by demographic factors of one percentage point by 2035. For Europe, on the other hand, Favero and Galasso (2015) predict a positive and slightly increasing equilibrium interest rate due to developments in the age structure over the next ten years.

**412.** A **decrease in planned investment** due to a lack of productive innovation (Gordon, 2012) or an excessively high real interest rate in a deflationary environment is often cited as another reason for stagnation and low equilibrium interest rates (Summers, 2014a, 2014b; GCEE Annual Report 2015 item 319). There are, however, several arguments against this theory. The potential for innovation has already been massively underestimated time and again in the past. What is more, growth expectations, at least in the United States, have not deteriorated considerably (Bean et al., 2015), and core inflation remains positive.

**413.** A number of **empirical studies** now conclude that the equilibrium interest rate has declined considerably since around 2010 (Barsky et al., 2014; Cúrdia, 2015; Cúrdia et al., 2015; Lubik and Matthes, 2015; Holsten et al., 2016; Laubach and Williams, 2016). In some cases, they calculate the interest rate that would emerge in a short-term equilibrium in a New-Keynesian model if the price level were completely flexible. This measure often fluctuates more than the actual real interest rate and varies considerably depending on the model used.

By contrast, the oft-cited approach used by Laubach and Williams (2003) provides a **medium-term equilibrium interest rate**. In order to arrive at this rate, they use a simple Keynesian model consisting of an aggregate demand curve and a Phillips curve. In 2014 and 2015, the estimated value comes to around 0 % for the United States (Laubach and Williams, 2016; GCEE Annual Report 2015 item 323; Beyer and Wieland, 2016). The model explains why the economy has been spared any prolonged period of deflation and why inflation has increased: namely because the gap between GDP and potential output had already been closed by 2012 despite weak growth, and rose to 1 % by 2015. This means that the equilibrium interest rate is only slightly higher than the actual (negative) real interest rate.

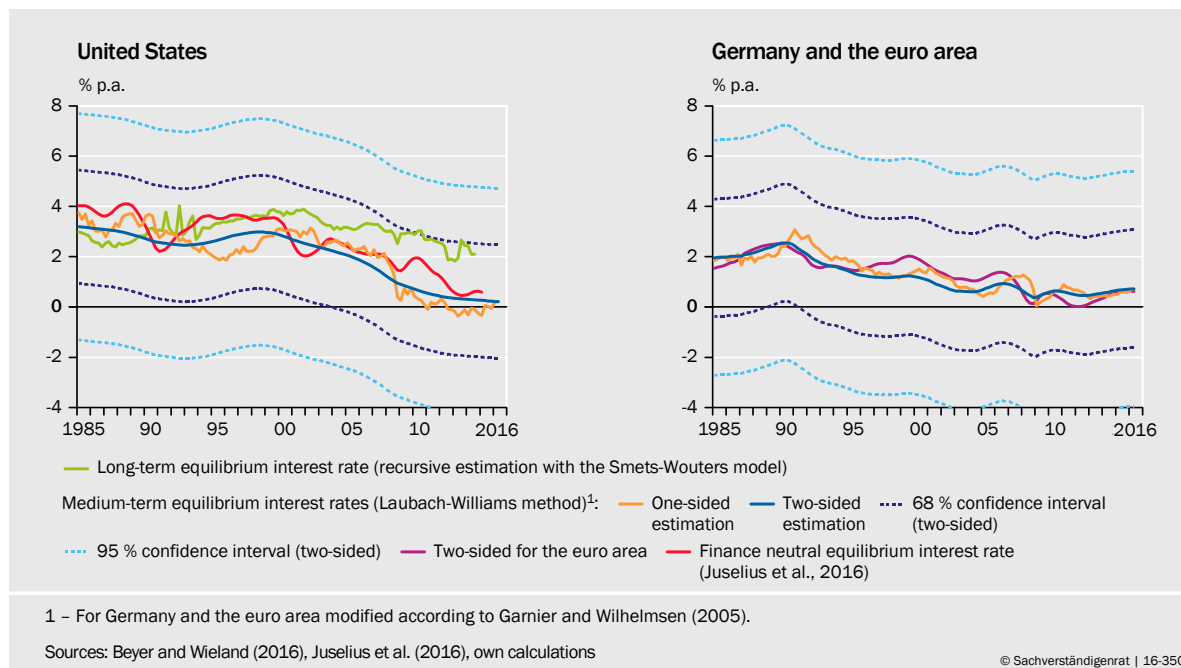
For the euro area, Holston et al. (2016) use this method to arrive at an estimate for the output gap and the equilibrium interest rate in 2015 of around –1 % and –0.4 % respectively. Beyer and Wieland (2016), however, arrive at values of around 0.5 % for Germany and the euro area. The estimates calculated using the Laubach-Williams method are **subject to extreme uncertainty** and react **very sensitively** to changes in technical assumptions (GCEE Annual Report 2015 item 326; Beyer and Wieland, 2016). ↘ [CHART 54](#)

**414.** However, some studies suggest that these **estimates for the equilibrium interest rate are distorted**, because **key determinants** are **omitted from the estimation equation**. Taylor and Wieland (2016), for example, point out that a smaller output gap is not necessarily due to a lower equilibrium interest



▸ CHART 54

Estimates for equilibrium interest rates



rate. The gap could be the result of other factors, such as more regulation or higher government debt and taxes. Similarly, the econometric estimates should take account of the ongoing deviation of monetary policy from rules that used to be adhered to (Hofmann and Bogdanova, 2015; Shin, 2016), as this offers a possible explanation for the low real interest rate.

415. Other **neglected variables** are the **credit constraints** resulting from the **weak financial system**. Their dampening effect could be confused with a decline in the equilibrium interest rate (Cukierman, 2016). During the financial crisis, for example, price declines of assets used as collateral are likely to have resulted in poorer access to loans for small and medium-sized borrowers. Failure to control for this effect results in a downward bias in the equilibrium interest rate estimates. Furthermore, the central bank's interest rate policy could include a reaction to financial stability. Estimation methods that take credit risks and the financial cycle into account produce equilibrium interest rates between 0.5 and 1.25 percentage points higher than the Laubach-Williams estimates (Kiley, 2015; Juselius et al., 2016).

Finally, long-term equilibrium interest rate estimates for the United States – obtained, for example, by re-estimating the popular structural macroeconomic model of Smets and Wouters (2007) – have barely fallen below the 2 % mark to date (GCEE Annual Report 2015 item 322; Taylor and Wieland, 2016). ▸ CHART 54 The German Council of Economic Experts is of the view that the short and medium-term equilibrium interest rate estimates available to date should not be taken as a green light to loosen the monetary policy reins considerably – such a policy would carry the risk of excessive increases in asset prices in the short term, and excessive inflation in the prices of goods and services in the longer term.

416. Based on the long-term equilibrium interest rate and the extent to which inflation deviates from the target and GDP deviates from potential output, the **Taylor rule** (GCEE Annual Report 2014 items 249 ff.; GCEE Annual Report 2015 item 303) provides a benchmark for the nominal interest rate level. Just like the original Taylor rule for the United States, the following application to the euro area is based on an equilibrium interest rate of 2 %. [↪ CHART 55 RIGHT](#) This value is consistent with the long-term average growth rate of the US economy. The GDP deflator (as in the original rule or in Alcidi et al., 2016) or core inflation should be used as the inflation measure (for ranges of inflation and output gap measures, see Hoffmann and Bogdanova, 2012; Shin, 2016).

A direct interest rate reaction to the HICP would result in an interest rate policy that would be much too volatile due to the considerable fluctuation resulting from energy prices. Already the main refinancing rate is much lower than the Taylor rule prescription. Yet, it does not even take into account the impact of the negative deposit rate and the quantitative easing. These measures are reflected in the implied anticipated short-term interest rates from the yield curve, which are clearly negative. This means that, **even assuming an equilibrium interest rate of 0 %, the ECB's policy would be much too expansionary in relation to the Taylor rule.** The gap is even larger if we use the aforementioned shadow interest rate as an overall estimate the impact of the quantitative easing measures on the yield curve.

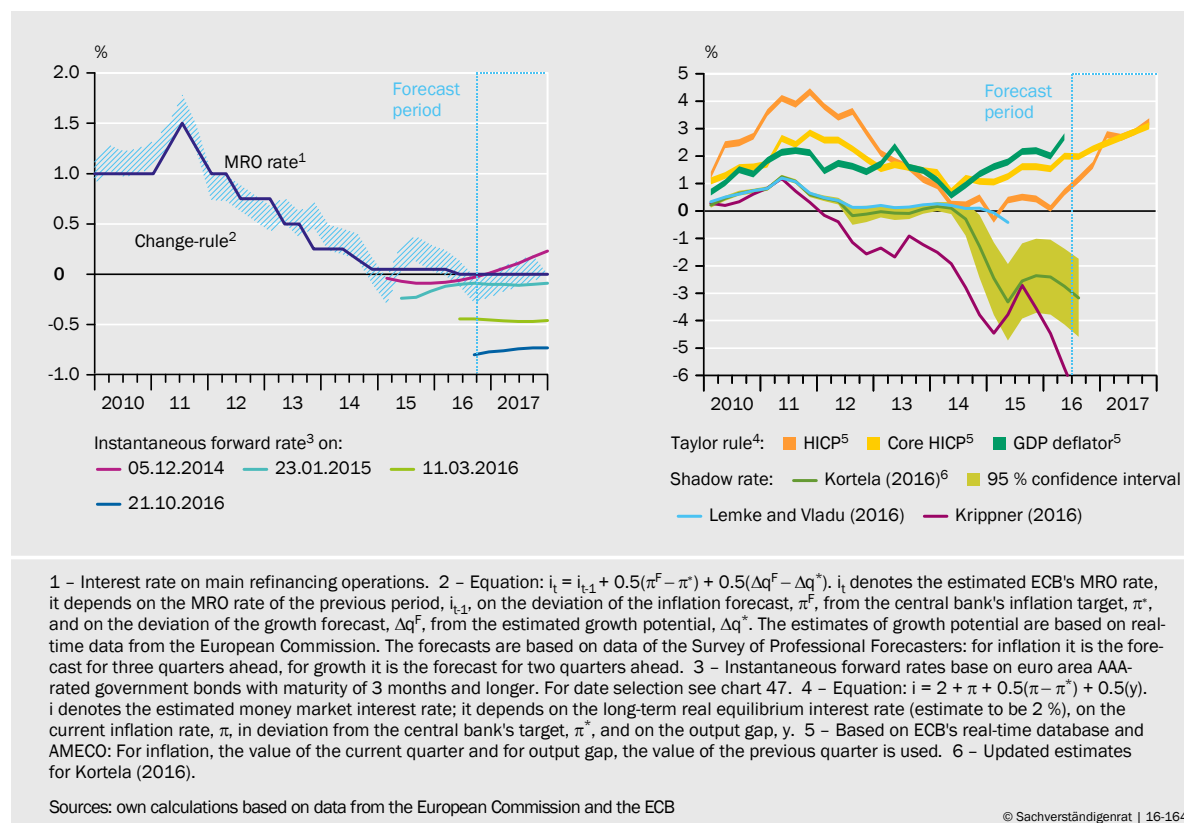


The shadow interest rate is proposed in the literature to assess the effect of monetary policy if unconventional measures are implemented (Krippner, 2013; Lombardi and Zhu, 2014; Wu and Xia, 2014). Shadow interest rates primarily reflect changes in the yield curves and, in some models, how they interact with macroeconomic variables. In “normal times”, the shadow interest rate is closely in line with the short-term money market rates. It can, however, decline further into negative values if the short-term rates have already reached a lower bound. This means that it provides an indicator of the impact of quantitative measures on longer-term interest rates via the signalling and portfolio rebalancing channel. It measures the unusual pressure on longer-term rates in the form of a hypothetical short-term interest rate that would arise in the absence of a nominal interest rate lower bound. The estimation results available are characterised by considerable uncertainty due to the model specification and the uncertainty regarding the lower bound of the interest rate (Lemke and Vladu, 2016). Kortela (2016), for example, arrives at a value of -3.2 % for the current shadow interest rate and a confidence interval of 95 % that ranges from -4.5 % to -1.7 %. Krippner (2016) arrives at a very low value of -7 %, but uses a model that was calibrated for the United States.

417. **Empirically estimated rules** can be used as a further benchmark for the ECB's reaction to macroeconomic developments. A simple change rule, for example, provides a good description of the monetary policy decisions taken in the past in reaction to inflation and growth forecasts (GCEE Annual Report 2013 items 182 ff., Annual Report 2015 items 372 ff.). The change rule can also be applied without estimates for the equilibrium interest rate and potential output (Orphanides and Williams, 2002); all that is required is an estimate for potential growth. The implied key policy rate band would signal further easing measures if it were to fall below the ECB's key policy rate. By contrast, it actually exceeded

↘ CHART 55

Interest rate bands of monetary policy rules compared to MRO rate, instantaneous forward rates and shadow rate



the key policy rate in mid-2015. ↘ CHART 55 LEFT The key policy rate band does not fall below the key policy rate for 2016 or 2017. This means that neither the change rule nor the Taylor rule signal any further easing measures for 2016 and 2017.

The ECB, however, started implementing more easing measures in the second half of 2014 and in 2015, taking additional measures in early 2016. These measures had an impact on the implied forward rates, which fell further into negative territory. This means that the ECB has already loosened monetary policy to a greater degree than in the past. By contrast, the Taylor rule and the change rule have been signalling for some time now that the extent of the ECB's quantitative easing **is not appropriate given macroeconomic developments in the euro area**. As a result, further easing would not be the right course of action. Rather, the ECB should slow down and end its bond purchases and should also opt not to keep reinvesting principal payments on the securities held. This would allow for a moderate reduction in the volume of securities held, meaning that risk premiums for medium and longer-term bonds would be more in sync with demand on the market again.

### 3. Risks for the financial sector and consolidation policy

418. Long-term rates are expected to remain at a low level for the time being if the ECB continues its large-scale bond purchases and even extends the EAPP purchase programme beyond March 2017. This poses considerable **risks to financial stability**. It also takes pressure off governments in the member states to forge ahead with the **consolidation and reform policy that has been pursued to date**.
419. The ongoing low-interest-rate environment is putting **pressure on the profitability of banks and insurance companies** (GCEE Annual Report 2015 items 381 ff.). Low market rates and a flattening yield curve reduce banks' interest margins (Borio et al., 2015; ECB, 2015b; Claessens et al., 2016; Jobst and Lin, 2016). This pressure on margins is actually likely to increase substantially over the coming years. [↪ ITEMS 506 FF](#). Banks are also being hit with direct costs due to the negative deposit rate. The resulting burden on banks depends on how the negative deposit rate is implemented. [↪ BOX 14](#)

#### [↪ BOX 14](#)

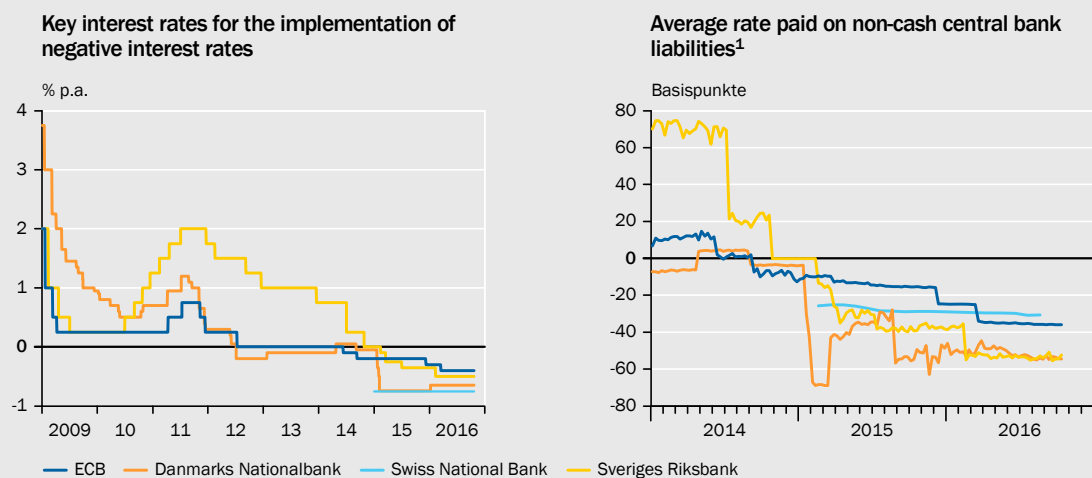
##### Implementation and impact of negative deposit rates

In Europe, the ECB, the Danish central bank (DN), the Swedish Riksbank (SR) and the Swiss National Bank (SNB) have introduced negative deposit rates. [↪ CHART 56 LEFT](#) Differences in implementation modalities have important implications for the costs to banks of holding non-cash central bank liabilities. For example, the marginal remuneration of each additional unit of reserves can vary (Bech and Malkhozov, 2016). The ECB, DN and SNB use a scale; this means that the average remuneration for the deposits depends not only on the interest rate, but also on the minimum reserve exemption threshold. [↪ CHART 56 RIGHT](#) The remuneration is currently the lowest in Denmark and Sweden. There have already been examples of tiered remuneration in the past. In the Eurosystem, banks have received the key policy rate on minimum reserves (currently 0 %) - whereas excess reserves have been subject to the deposit rate.

Central bank rates are being transmitted to short-term money market rates in very much the same way as positive rates thus far (Bech and Malkhozov, 2016). The overnight rate in the euro area follows the course of the deposit rate. [↪ CHART 56 LEFT](#) Banks are, however, seeking to avoid negative rates by either extending maturities or lending to riskier counterparties. Market access for banks in the peripheral countries of the euro area is likely to have improved (Bech and Malkhozov, 2016). However, this could also be partially due to other factors, such as the European Single Supervisory Mechanism (SSM) or the EAPP programme. Negative central bank rates are being passed on to the deposits of institutional clients. In some cases, different threshold values are used. Retail customers have generally been exempted to date, as they would probably react by withdrawing their deposits. Swiss banks appear to have reacted to the decline in margins in the lending business by lifting other lending rates – for example in the mortgage business (Bech and Malkhozov, 2016).

▾ CHART 56

### Central bank policy rates and remuneration of central bank liabilities



1 - Average rate paid by central banks on non-cash liabilities weighted by the amounts in corresponding accounts and facilities.

Sources: ECB, national central banks, own calculations

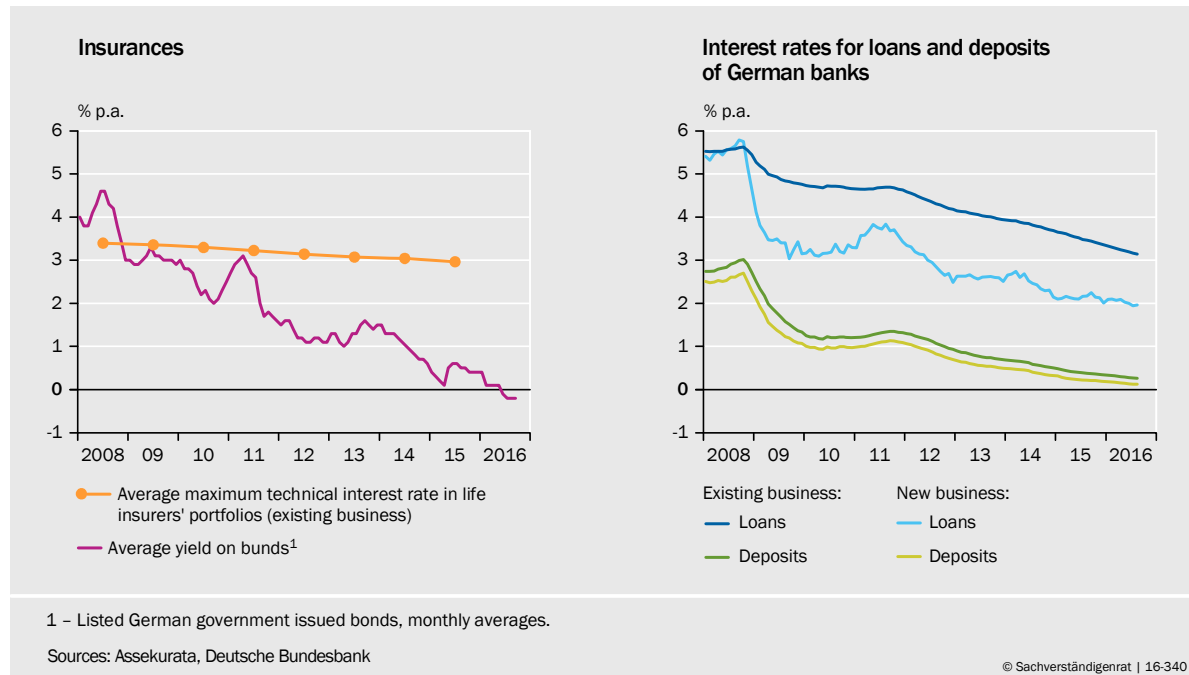
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420. **Life insurance companies** tend to be hit by a period of low interest rates in particular if they offer insurance policies with long-term interest guarantees, as has traditionally been the case in Germany (GCEE Annual Report 2015 items 382, 427). In 2015, the average interest rate guaranteed by German life insurers came to 2.97 % (Assekurata, 2016), considerably higher than the current return of 0.4 % at the end of 2015. ▾ CHART 57 LEFT This means that insurers are finding it increasingly difficult to keep the interest promises they made in the past, if their investments are in low-risk securities. Thimann (2016) points out that, in the future, insurers will no longer be able to offer products with long-term guarantees of this nature, which are also of great importance in France.
421. The pressure on profitability is creating an **incentive** for banks and insurance companies **to take on higher risks** (Borio and Zhu, 2012; Altunbas et al., 2014; Bonfim and Soares, 2014; Buch et al., 2014; GCEE Annual Report 2015 items 387 ff.). Deutsche Bundesbank (2016h), for example, is currently observing an increase in maturity transformation among German banks. This creates substantial interest rate risks. The lending rate for new business is steadily declining. ▾ CHART 57 RIGHT Once the central bank ultimately does have to raise the key policy rate, interest rates on short-term deposits with banks will rise. This means that exiting the low-interest rate policy too late would threaten bank solvency (GCEE Annual Report 2015 items 401, 412).

It would be better to start exiting the low-interest rate policy sooner in order to give the financial system time to adjust. There is a risk that the central bank will miss the opportunity to exit its policy at the right time due to mounting risks to financial stability, which will make more significant disruption virtually inevitable (**financial dominance**).

↘ CHART 57

Risks from low interest rates



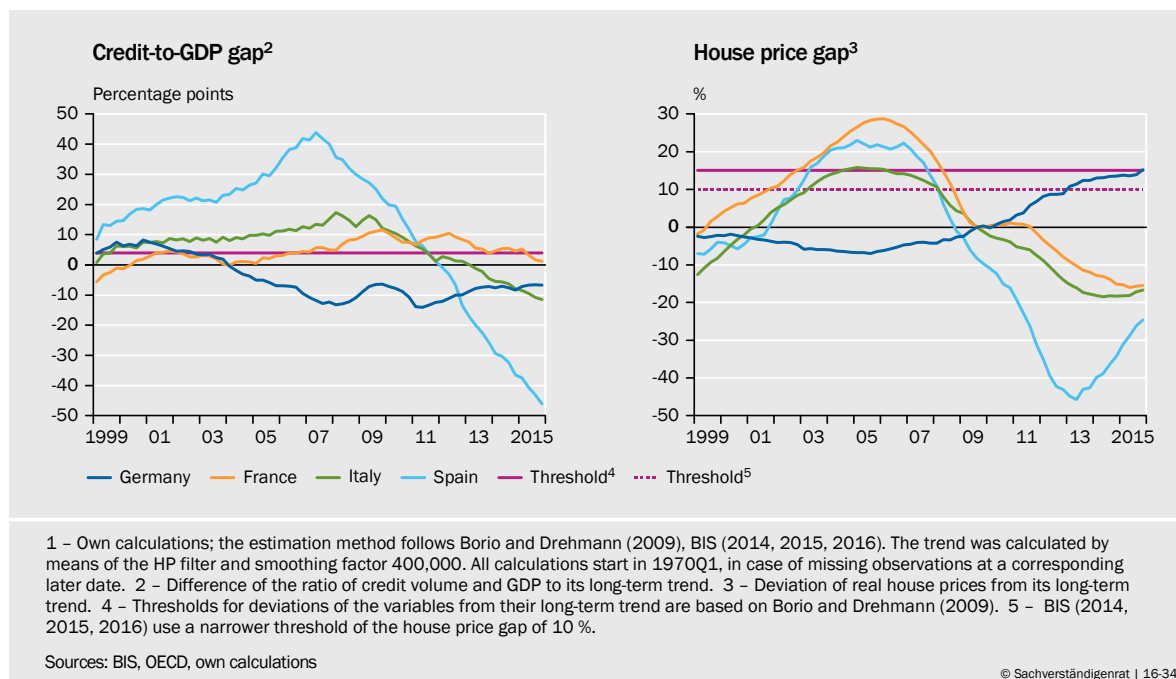
422. The accumulation of increased **risks within the financial sector** can also be monitored using a number of macroeconomic indicators (Alessi and Detken, 2009; Borio and Drehmann, 2009; GCEE Expertise 2010 box 4; Dell'Arricia et al., 2012; BIS, 2014, 2015, 2016; GCEE Annual Report 2014 box 14). These are designed to help identify developments that could threaten financial stability at an early stage. Borio and Drehmann (2009), for example, have proposed thresholds for the credit-to-GDP gap, house prices and real share prices. These thresholds have been set in such a way that any deviation from the long-term trend extending beyond these values in the past would have indicated crisis risks. Dell'Arricia et al. (2012) have developed an alternative threshold for the growth in the credit-to-GDP gap.

423. These indicators provided clear evidence of the **accumulation of systemic risks** in the years **before the financial crisis**. Despite warnings to this effect (Borio and White, 2003), however, there was no change of course in either financial regulation or monetary policy. ↘ CHART 58 shows when the **thresholds for the credit-to-GDP gap and house prices** identified by Borio and Drehmann (2009) have been exceeded in the past. In Spain, Italy and France, thresholds for both indicators were exceeded before the financial crisis. A scenario in which rising property prices come in tandem with strong credit growth poses a particular risk to financial stability (GCEE Annual Report 2015 item 408; Brunnermeier and Schnabel, 2016). Spain provided a dramatic example of this. ↘ CHART 58

The credit-to-GDP gap and property price gap in Spain, Italy and France have now fallen back below the threshold. While this was associated with a decline in property prices in Spain and Italy, property prices in France have remained largely stable. The gap in France was closed because the earlier upward trend increase was extrapolated.

↳ CHART 58

Credit-to-GDP gap and house price gap in selected member states of the euro area<sup>1</sup>



424. **House prices in Germany** have risen steadily and passed the 15 % threshold identified by Borio and Drehmann (2009) in the fourth quarter of 2015. Furthermore, they have been well above the 10 % threshold used by the Bank of International Settlements (BIS, 2014, 2015, 2016) since 2014. Since the development in the credit-to-GDP gap is not as pronounced, so far the credit expansion cannot be identified as a dangerous one. Nevertheless, it is important to keep a close eye on the German real estate sector with a view to potentially undesirable developments. Against the backdrop of the sustained low interest rates, the rise in real estate prices is unlikely to slow down. The Financial Stability Commission (2016) identified increased price momentum and a regional spread of house price inflation for 2015. Empirical studies concerning the financial cycle also show that excessive real estate price increases often occur as a precursor to excessive credit growth (Rünstler and Vlekke, 2016; Rünstler, 2016).
425. According to the ECB's Financial Stability Review, the prices of **commercial real estate in the euro area** show a particularly pronounced deviation from the long-term trend. In Belgium, Austria and Luxembourg, they appear to be considerably overvalued. Developments at country level also mask excess valuations at regional level, for example in major cities in Austria and Germany. These valuations should, however, be interpreted with caution due to the limited data available (ECB, 2016i).
426. The low interest rate level is having a considerable impact not only on the private financial sector, but also on **government finances**. For the time being, it is making government debt more sustainable, although governments should not expect this favourable environment to persist for the long term. On the contrary, the ECB will have to raise rates in line with the euro area economic recovery in order to combat rising inflation and exaggerated asset prices.

Thus, governments should **seize the opportunity to reduce their debt**. This would give them fiscal leeway for future recessions and crisis developments. Unfortunately, governments are making either only very limited use, or no use at all, of this opportunity. Instead, fiscal **consolidation efforts have been on the wane**. The structural primary balances, for example, show that consolidation efforts have been scaled down, or even abandoned altogether, in most member states. [↪ ITEMS 172 FF.](#)

427. There is a strategic link between state financing and monetary policy. Low interest rates create an **incentive to postpone the consolidation process**. The rate cuts implemented to date may have already contributed to state spending being higher than planned (Hachula et al., 2016) Inasmuch as consolidation is necessary to reduce a country's vulnerability to debt crises and distortions in the tax system, the low-interest rate policy poses a risk to longer-term growth. In this context, the leniency shown by the European Commission towards some member states as regards the monitoring of the Stability Pact is very problematic. An overview of developments in individual countries can be found in [↪ TABLE 23, APPENDIX.](#)

Solid public finances are one of the key prerequisites for a stability-oriented monetary policy, as Deutsche Bundesbank President Weidmann only recently emphasised (Weidmann, 2016). If fiscal policy does not ensure the sustainability of government finances, there is a risk that monetary policy will be used for this purpose (Sargent and Wallace, 1984; Leeper and Leith, 2016). This allows the state to obtain higher seigniorage gains and more favourable financing conditions due to more expansionary monetary policy. The central bank would then have to keep interest rates low for longer than price stability considerations would actually require (**fiscal dominance**).

428. The willingness to implement market-oriented structural reforms depends on political constellations and the extent of sustained growth slumps. Monetary policy influences this process via the macroeconomic conditions and the financial leeway available to the government. It creates room for manoeuvre, but also **incentives for postponing politically difficult reforms** (Leiner-Killinger et al., 2007). If we consider how long the ECB has now been providing support with a whole range of measures, it is not surprising to see how sluggish the reform process is proving to be in countries like Italy and France.

#### 4. Debate over the quantitative interpretation of the price stability mandate

429. The **ECB's mandate** is different to that of central banks which pursue explicit inflation targeting. Instead, the mandate establishes price stability as the ECB's primary objective. This is why ECB representatives have, in the past, emphasised that the ECB does not have an inflation target. According to the ECB's mandate, price stability should also be given priority over other objectives.



430. In its interpretation and technical implementation of the mandate in the form of a monetary policy strategy in 1999, the **ECB set its own quantitative definition of price stability**. This set an annual rate of increase in the HICP of under 2 % as the target to be achieved in the medium term. Shortly afterwards, the ECB pointed out that defining the objective as an increase ruled out deflation (ECB, 1999). Price stability was thus defined as a range of admissible inflation rates (Castelnuovo et al., 2003). In 2003, the Governing Council of the ECB clarified that a growth rate of the HICP of below, but close to, 2 % was to be achieved in the medium term.

This quantitative target was the result of a balance being struck between the costs of inflation and possible rationales for **tolerating small positive inflation rates** (Issing, 2003). The HICP was said to have been selected, in particular, due to the high level of transparency, reliability, prompt availability and low potential for measurement errors. The HICP reflects a representative basket of goods. This is why it includes import prices and indirect taxes, and reacts very sensitively to fluctuations in energy prices. [↘ ITEM 405](#) While a core inflation measure would help prevent any **overreaction to temporary price fluctuations**, the ECB opted for the headline index because core inflation does not fully capture changes in the purchasing power of private households. There were also concerns that the specific definition of core inflation would be controversial. Instead, the **medium-term focus of the ECB's strategy** was intended to prevent any overreaction to very volatile prices (Camba-Mendez, 2003; Issing, 2003).

431. The development of inflation and monetary policy over the last few years has sparked a **discussion on central bank objectives**. Repeated calls have been made, for example, for a **higher inflation target, such as 4 %** (Blanchard et al., 2010; Ball, 2014; de Grauwe and Ji, 2016). This, it was argued, would create more leeway for rate cuts in the future. Due to the reduction in the estimated level of medium-term equilibrium interest rates, it is claimed that periods of close-to-zero interest rates have become more likely (Williams, 2016). Yet, other commentators recommend that the inflation target be adapted to reflect the reality of sustained low inflation rates in order to stop targets from continually being missed (FAZ, 2015b).
432. The assessment of the **German Council of Economic Experts** is that the ECB should stick by its current definition of the mandate. Any change in the quantitative interpretation of the target, in whichever direction, would likely harm the ECB's credibility for a long time. Market participants would then expect this target to be subject to further changes in the future too. The stabilising effect of the announced target on the formation of inflation expectations could potentially be lost completely. Furthermore, a target rate of 4 % could not reasonably be deemed consistent with the idea of price stability. Households and businesses could no longer rely on fairly stable prices in the long run. Thus, they would not be able any more to essentially ignore inflation developments when making decisions (Bean et al., 2015).

In addition, even low positive inflation rates generate significant economic costs due to distortions caused by the tax system (Feldstein, 1997; Tödter and Ziebarth, 1999). Furthermore, nominal wage and price rigidities result in costs associated with positive inflation rates (Goodfriend and King, 2001; Camba-Mendez et al., 2003; Coenen, 2003; Giannoni and Woodford, 2003; Amano et al., 2009). These costs can be substantial enough to more than compensate for the advantage of more leeway for rate cuts in relation to the lower bound for interest rates (Coibion et al., 2012, Dordal-i-Carreras et al., 2016). Furthermore, central banks can still make use of quantitative easing measures at the lower bound on nominal interest rates.

433. In recent years, the rates of change in the HICP have been well below the ECB's price stability target due to repeated declines in the oil price. [▶ ITEM 405](#) This has raised the question as to whether the **HICP** is still suitable as a target variable. It has been suggested, for example, that **other price measures, such as core inflation or the GDP deflator**, be given more consideration, because these indicators are less sensitive to drops in energy prices (Alcidi et al., 2016). To reduce the costs associated with nominal rigidities, a measure of rigid prices would be ideal for setting monetary policy targets as opposed to a broad price index containing a large number of flexible prices (Aoki, 2001; Goodfriend and King, 2001). Core inflation would do a better job of meeting these requirements than the HICP headline index. If a sectoral structure with intermediate products is also considered, then the central bank should also keep an eye on producer prices (Huang and Liu, 2005) and select a price index that reflects wage growth rates (Mankiw and Reis, 2003).

434. The **assessment of the German Council of Economic Experts** is that there is no need to change the inflation measure in the operational definition of price stability. Instead, the ECB should put more **emphasis on the medium-term perspective of its strategy**. This perspective serves to prevent any overreaction to short-term fluctuations in the HICP headline index, such as those triggered by volatility in energy prices (Issing, 2003). In addition, the ECB should remember that its mandate relates to price stability in general. This means that the various developments in the HICP, in core inflation and in broader-based price measures such as the GDP deflator deserve the ECB's particular attention.

Focusing exclusively on the HICP would not be a strategy consistent with the price stability mandate. There are a number of well-founded empirical arguments for using broader-based inflation measures. Since the prices of the goods and services produced in the euro area as calculated by the GDP deflator have been increasing at a much faster rate than the HICP, the ECB can thus be somewhat more relaxed in its reactions to developments in the HICP. These developments are driven primarily by the flexible prices of imported energy.

## V. INTEREST RATES TOO LOW FOR GERMANY

435. The **impact of the ECB's monetary policy** is particularly evident in **Germany** in the form of extremely low interest rates. The German economy, however, bounced back much more quickly after the financial crisis and has been showing a much better development than the economies of the other euro area member states for years. So the interest rate level is even less consistent with macroeconomic developments in Germany than it is in the euro area as a whole. The **ECB's monetary policy mandate**, however, relates **to the euro area as a whole**, meaning that monetary policy cannot be used to conduct stabilisation policy for the German economy. As a result, **Germany** has to explore the remaining **economic policy options open to it**, for example with regard to fiscal policy and structural reforms.

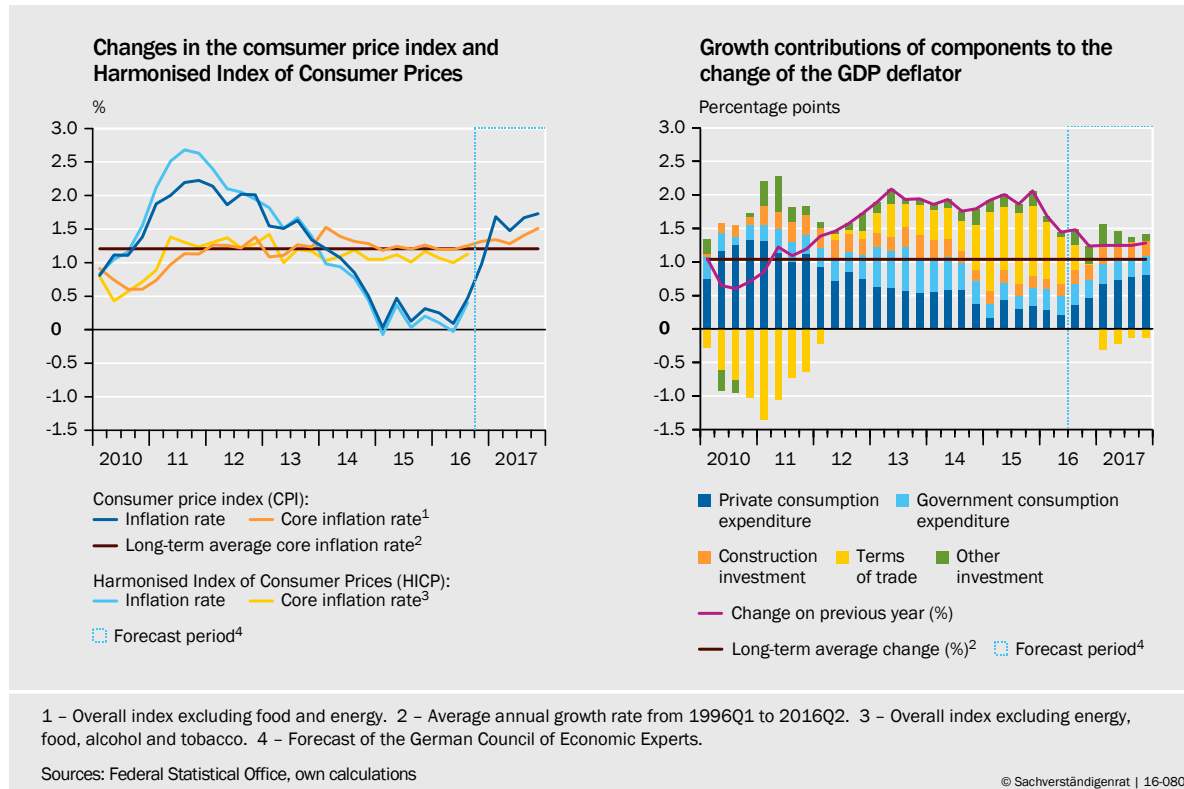
### 1. Macroeconomic development and interest rates

436. The **yields on German government bonds** with maturities of ten years are in negative territory, while real estate prices are showing a marked increase. [↘ ITEMS 390, 399](#) So it comes as no surprise that the side effects of quantitative easing are a hot topic of debate among the German public. Concerns are being raised, for example, about the low returns on safe investments for savers, retirement provision and company pensions, as well as the viability of the business models of banks and life insurers. The state, on the other hand, is among the winners, as are export companies, which are receiving a temporary competitive boost thanks to the very low euro exchange rate. [↘ ITEM 402](#) In order to assess whether the low-interest rate environment is appropriate for the German economy, it is useful to consider what level of short-term central bank and money market interest rates would suit inflation and economic activity in Germany.
437. The **core inflation rate** of the consumer price index (CPI) has been in line with the **20-year average** of 1.2 % since 2012. [↘ CHART 59 LEFT](#) This year, it has generally been just above this average value, at around 1.3 %. The inflation rate based on the CPI headline index, on the other hand, has been just over 0 % since the end of 2014. This is due to repeated drops in the price of oil. Now that oil prices appear to be stabilising, the rate of change in the CPI should start to pick up given that core inflation is positive. The same applies to the HICP and its core inflation. The CPI, however, is slightly different to the HICP in the sense that its coverage is wider. For example, it includes the development in rents for owner-occupied property (Federal Statistical Office, 2008).

Based on the **GDP deflator**, which includes the prices of all goods and services produced in Germany, prices rose at a rate of around 2 % between 2013 and the end of 2015. [↘ CHART 59 RIGHT](#) Although this rate dipped slightly at the beginning of this year, recent values of 1.4 % and the forecast for 2017 of 1.2 % are actually **above the average for the last 20 years**, which corresponds to 1.0 %. The GDP deflator does not include the prices of imported goods such as crude oil. Instead, it also includes the prices of capital goods produced in Germany and pub-

↘ CHART 59

Inflation measures and its components



lic services. Just like the prices of German-produced consumer goods and services, capital goods and public services are being affected directly by the ECB's expansionary monetary policy.

438. The question as to whether the rate of change in the prices of goods produced in Germany will remain stable or will continue to increase depends on capacity utilisation levels. The **German economy** is currently in a period of **slight overutilization** of production capacities. GDP has been growing at a faster rate than potential output since 2014, and the output gap has been positive since the beginning of 2016. ↘ ITEMS 219 FF. The output gap measures the extent to which GDP deviates from potential output in relative terms, describing an economy's position in the economic cycle. The German Council of Economic Experts forecasts a potential growth rate of 1.3 % and an output gap of 0.4 % for 2016. This means that we can expect to see further price pressure.

439. The ECB's **monetary policy** is putting **further upward pressure on production and prices** in Germany. Consequently, the current short and long-term interest rate level is not appropriate given the macroeconomic situation. The counterfactual case of a long-term stable equilibrium is achieved when the economy is expanding at the potential growth rate, the output gap remains permanently closed and the inflation rate corresponds to its long-term trend or target. In this scenario, the nominal equilibrium interest rate on the money market is equal to the sum of the real equilibrium interest rate and the rate of inflation.

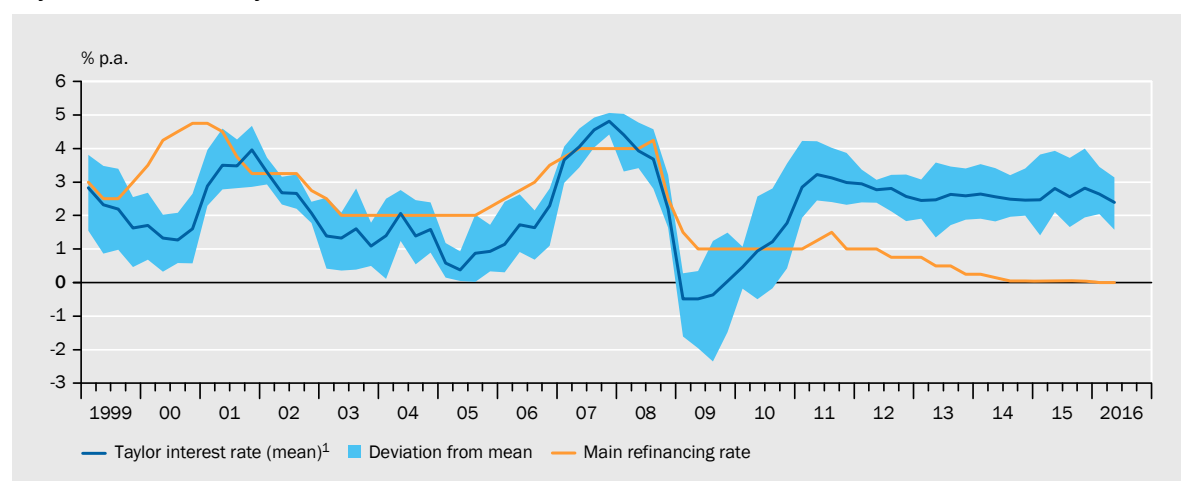
One possible estimate of the long-term real equilibrium interest rate arises from the long-term rate of growth in economic output. Depending on the inflation measure and estimate of the long-term real equilibrium interest rate, the **nom-**

**inal equilibrium interest rate** on the money market in Germany is likely to be **between 3 % and 4 %**. This indicates that the ECB's monetary policy is still having a very expansionary effect in Germany.

440. Monetary policy is having a very stimulative effect on the German export economy via the **exchange rate**. If Germany were not part of the euro area, the exchange rate would presumably have risen, putting a damper on exports and boosting German demand for imports from neighbouring countries. The current account surplus of around 9 % of GDP, which has been criticised among others by the European Commission, would be much lower. [↪ ITEM 239](#) If, by contrast, the exchange rate had remained stable since mid-2014, the current account surplus would likely have been around one percentage point lower. The drop in oil prices contributed around two percentage points to the current account surplus in 2016. [↪ ITEM 239](#)
441. The **thought experiment** as to what sort of **monetary policy** a central bank would implement if its **mandate is related to the macroeconomic development in Germany** can be conducted using simple interest rate rules. The empirical literature, for example, shows that the interest rate decisions made by the Deutsche Bundesbank before the establishment of the monetary union could be characterised by simple interest rate rules (Clarida and Gertler, 1997; Gerberding et al., 2005; Beck et al., 2015).
442. In the section below, the German Council of Economic Experts has used a method employed at the BIS (Hofmann and Bogdanova, 2012; Shin, 2016). This method is based on the original Taylor rule. [↪ ITEM 416](#) In line with the approach taken by Hofmann and Bogdanova (2012), however, different measures of inflation and output are used calculation of the Taylor rule prescriptions. [↪ CHART 60](#) shows a range of interest rate recommendations for Germany. The calculation

[↪ CHART 60](#)

Taylor rule for Germany



1 – Calculation is based on all combinations among three inflation measures (core HICP, GDP and consumption deflator) and four output measures (GCEE, IMF, HP filter and segmented linear trend). Following Hofmann and Bogdanova (2012) and Taylor (1993), the respective long-term trend growth is used for the real equilibrium interest rate. This is estimated based on the respective output gaps (GCEE, IMF, HP filter and segmented linear trend). The segmented linear trend consists of a break-point in the second quarter 2009. This point follows from a break-point unit root test based on Perron (1989). Following Hofmann and Bogdanova (2012), respective implicate inflation targets for the three used inflation measures are calculated: the average deviation of each inflation measure from the HICP for the period between the first quarter 1996 and the second quarter 2016 is added to the 2 % inflation target of the ECB.

Sources: ECB, IMF, own calculations

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differs from the application of the Taylor rule to the euro area [↘ ITEM 416](#) because a range of different measures for inflation and capacity utilisation are used.

The **inflation measures** are core inflation, the consumption deflator and the GDP deflator used in the original rule. The HICP is not used in the Taylor rule because it would imply extreme interest rate spikes due to the high proportion of volatile energy prices. [↘ ITEMS 405, 434](#) As in Hofmann and Bogdanova (2012), implicit inflation targets are calculated for the individual measures; the average deviation of the respective inflation measure from the HICP between 1996 and 2016 is added to the ECB's target of 2 % for this purpose. Estimates produced by the German Council of Economic Experts, the IMF, as well as the HP filter and a segmented linear trend are used for **potential output**. **Long-term real equilibrium interest rates** are set equal to the potential growth rate, as in Hofmann and Bogdanova (2012). Since 1999, the estimated potential growth rates have been fluctuating in a range between 0.5 % and 2 %. They are currently in the region of 0.8 % to 1.4 %. Particularly since 2011, this analysis **recommends an interest rate level of between 1.5 % and 4 %** for Germany. Even if the HICP were used in the Taylor rule, the lower bound of this range would have been much higher than the key policy rate since 2011.

443. According to this comparison, the **thought experiment** leads to the conclusion that current monetary policy is in no way appropriate for Germany. Although the rule points to a considerable **need for adjustment** given the significant gap between actual interest rate and the prescription from the rule, this does not necessarily mean that the money market rate should be raised to this level immediately. Even a small rate increase would put the brakes on macroeconomic development. If the output gap were smaller in the counterfactual case, the Taylor interest rate prescription would be lower.

If the ECB were to follow the recommendation of the German Council of Economic Experts with regard to the euro area, slowing down and ending its bond purchases sooner [↘ ITEM 417](#), this would likely push longer-term yields up and have a dampening effect on macroeconomic development in Germany as well. The same applies to an appreciation of the euro and a slowdown in real estate prices.

## 2. Stabilisation policy options in Germany

444. There is not, however, any monetary policy available that is oriented exclusively towards the national situation. The ECB's policy is supposed to look at average economic developments in the euro area as a whole. As a result, **there is no scope for using monetary policy to stabilise the German economy and inflation rate** beyond what is implied by Germany's weight within the euro area. There is no nominal exchange rate as a quickly reacting adjustment mechanism vis-à-vis the member states either. So within the monetary union, necessary adjustments to the real exchange rate require changes in relative price levels.

This is why further **structural reforms** that help to make wage and price formation on the market more flexible, improve labour and capital mobility and foster potential growth are so important within the monetary union. Furthermore, governments of the member states are free to design **national economic policies such that they** help stabilise national inflation and real activity.

445. This can involve taking fiscal or structural measures to boost potential output, in particular. Under certain circumstances, macroprudential measures may be useful. In principle, stabilisation policy is better placed with an independent central bank. As the empirical literature on political business cycles has shown, governments tend to allow economies to overheat in the run-up to an election (Nordhaus, 1975; Alesina, 1987, 1988; Clark, 2009; Aidt et al., 2011; de Haan and Klomp, 2013; Funashima, 2016). As a result, the **main focus** should be on **automatic** or **systematic mechanisms** as opposed to discretionary economic policy measures.
446. When it comes to **fiscal policy**, the **automatic stabilisers** are the first mechanism to think of. This term refers to the business cycle stabilising effects of government budgets that occur without taking any additional legislative measures. In an economic upturn, unemployment falls, as does the spending on unemployment benefits. Tax revenue increases due to higher employment, wage and salary increases and higher corporate profits. An additional effect comes from what is known as “fiscal drag” – as incomes rise, private households are subject to higher tax rates.
447. One **option** that can be used on a systematic and symmetrical basis relates to government debt. Higher tax revenue due to stronger growth should be used primarily to **reduce government debt** in relation to GDP. This allows the government to build up a cushion for recessions and periods of low growth in which tax revenue dips, and transfer payments, such as to the unemployed, rise. Furthermore, the debt ratio should be reduced from the 68 % forecast for 2016, ↘ [TABLE 12](#), pushing it far enough below the 60 % Maastricht threshold to ensure a sufficient safety margin. Germany plays a key role within the monetary union as an anchor of stability. The markets rely on Germany’s ability not only to bear its own government debt, but also to serve as a guarantor for the joint bailout programmes.

A fiscal policy that makes systematic use of economic boom periods to reduce German government debt thus boosts confidence in the euro area as a whole. Growth rates ahead of the potential rate and a positive output gap in an environment characterised by a monetary policy that remains very accommodative provide further arguments for at least achieving **balanced budgets**, or even better, for using further surpluses to **continue to repay debt**. Systematic moves to forge ahead with the consolidation of state finances have the potential to at least partly compensate for the lack of a stabilising national monetary policy.

448. **Discretionary fiscal policy** also offers additional room for manoeuvre in the form of economic stimulus packages that involve additional spending and transfer payments during recessions, and temporary spending cuts or tax hikes in boom periods. Due to the **delays in decision-making and implementa-**

**tion**, however, discretionary measures such as these can almost never have the desired effect at the right time and their impact is subject to uncertainty (Michaelis et al., 2015; Elstner et al., 2016). The level of the impact, and even whether it is negative or positive, depends not only on the instrument itself, but also on the planned spending path, the expectations of market participants and the overall economic conditions.

The **empirical literature** shows that **temporary changes in government spending and taxes do not have a major impact** (GCEE Annual Report 2013 item 221; Michaelis et al., 2015; Taylor, 2016). Comparative studies on European economic stimulus packages launched in 2008 and 2009 suggest that measures like these have rather moderate effects (GCEE Annual Report 2009 items 247 ff.; Cwik and Wieland, 2011). For Germany, Gadatsch et al. (2016) show that, while expansionary and restrictive fiscal shocks made a significant contribution to economic development from 2008 to 2010, it was still a fairly small contribution compared to the impact of other factors.

This is why monetary policy and automatic stabilisers should be the preferred policy tools in periods characterised by normal cyclical fluctuations. In **exceptional economic circumstances**, however, discretionary fiscal policy stabilisation measures can certainly play a role, especially if the ECB's monetary policy only takes insufficient account of economic developments in Germany (Michaelis et al., 2015).

449. Despite the small degree of overutilisation of capacities in the German economy at present, some commentators and institutions are still calling for **expansionary fiscal policy** (ECB, 2016j; European Commission, 2016; IMF, 2016). Since the Federal Government has “fiscal space”, it is proposed to increase government spending and generate positive spillover effects for the other member states (Draghi, 2016d). In the assessment of the German Council of Economic Experts, however, this would be the wrong time for Germany to increase its spending, because it would push GDP even further above potential output. In addition, Germany's fiscal policy is already expansionary, not least due to the higher spending in connection with the influx of refugees. [↘ ITEM 228](#)

Finally, any spillover effects on other member states would likely be very small, even in an environment of sustained low interest rates (GCEE Annual Report 2015 items 341 ff.). In this context, the **calls for an increase in government spending** are headed in the **wrong direction**. Referring to investment as opposed to consumption does nothing to change this. If public investment is given adequate priority over consumptive spending, then the necessary government investments can be made without increasing spending as a whole. [↘ ITEM 83](#) Moreover, capital expenditure as such does not necessarily have a long-term positive effect on economic growth (GCEE Annual Report 2013 box 19). A detailed cost-benefit analysis could provide better information in this regard.

450. The Federal Government is currently discussing the possible general **tax relief**. [↘ ITEMS 88 FF.](#) The current economic environment, however, does not provide any motivation for such tax cuts, which are aimed primarily at stimulating aggregate demand in near-term. An example of such measures would be the tax rebates



used in the United States as economic stimulus measures. However, tax reforms aimed at improving efficiency that have an impact on the supply side and boost work and production incentives have the potential to increase long-term potential output and, in the process, reduce the extent to which GDP deviates from potential output.

These reforms include measures that result in a long-term reduction in the marginal rates of tax on private and corporate income (GCEE Annual Report 2013 items 665 f., 669 ff.) or, like the allowance for corporate equity proposed by the German Council of Economic Experts, achieve funding neutrality in corporate taxation (GCEE Annual Report 2015 items 790 ff.). Even spending-neutral tax reforms can have a positive impact on potential output if they help to reduce distortions within the tax system. This is achieved if exclusions are abolished and more tax is levied on consumption as opposed to private or corporate income.

451. The EMU member states still have considerable room for manoeuvre when it comes to regulation of the factor and goods markets. **Structural reforms** aimed at increasing an economy's potential output for the long term would, in Germany's current economic situation, have the positive side effect of narrowing the output gap and also reducing the current account surplus (GCEE Annual Report 2014 items 458, 484). A number of reforms could strengthen growth in Germany in the long term. These include moves to create an overall framework that provides incentives for performance and promotes innovation such that technological expertise is expanded (GCEE Annual Report 2015 items 664 ff.), moves to improve start-up financing (GCEE Annual Report 2015 items 680 ff.), to reduce barriers to market entry in the service sector (GCEE Annual Report 2015 items 616 ff.), to reduce the level of regulation on labour markets (GCEE Annual Report 2015 items 566 ff.) and to make the restructuring of the energy supply sector more efficient. [↘ ITEM 906 F](#). As a rule of thumb: measures that **increase potential growth** help to reduce the **risk** of the German economy **overheating**.
452. **Macroprudential policy** is responsible for securing the stability of the financial system and to prevent the real economic costs from a financial crisis (GCEE Annual Report 2014 items 362 ff.). It attempts, among other things, to reduce the risks stemming from the financial cycle and to make the financial sector less procyclical, for example by using countercyclical capital buffers. Financial cycles are different from economic cycles. They reflect the dynamics of the interplay between asset prices, financing conditions and default risks that triggers financial ups and downs. They are generally longer than economic cycles and can be measured by a combination of credit aggregates and real estate prices (Drehmann et al., 2012; BIS, 2014). Although financial cycles and economic cycles need not be in sync with each other, economies are often hit by particularly severe recessions when a financial boom comes to an end.
453. If the **accumulation of risks in the financial cycle** coincided with an increase in capacity utilisation and sustained low interest rates, macroprudential measures would have a dual benefit. They would limit the risks in the financial system ("leaning against the wind"), slow down credit growth as well as econom-

ic growth. In general, macroprudential supervision in Europe and Germany has an extensive toolbox at its disposal (GCEE Annual Report 2014 items 382 ff.). Germany, however, is lacking credit and borrower-specific instruments such as loan-to-value and debt-to-income ratios, which the literature deems to be particularly effective (GCEE Annual Report 2015 item 417).

The Federal Government is currently being called upon to implement a recommendation made by the Financial Stability Commission (2015) in June 2015 to limit potential risks from the real estate market. This recommendation provides, among other things, for the creation of a statutory basis for instruments like these. If systemic risks accumulate on the housing market, the available macroprudential tools should be used.

## VI. CONCLUSION: AN END TO THE BOND PURCHASES

454. The monetary policy pursued by the ECB has played a key role in pushing bond prices up massively, contributing to **extremely low medium and longer-term yields**. Via various transmission channels, it has resulted in the depreciation of the euro and in higher equity, real estate and other asset prices. As a result, it has contributed to the economic recovery in the euro area. Various indicators, however, suggest that the **ECB's policy is now too expansionary**. The development of the prices of goods and services produced in the euro area (GDP deflator) has already been showing stable **inflation rates of over 1 %** for some time.

This means that the ECB could take a more relaxed look at the development of the Harmonised Index of Consumer Prices (HICP), which is the focal point of the strategy it has opted to follow and continues to show rates of change close to zero due to repeated oil price declines. Instead, it should do more to emphasise the medium-term perspective of its strategy.

455. Although a certain level of capacity underutilisation in the euro area economy and subdued inflation momentum could be cited as arguments in favour of an expansionary monetary policy, these arguments do not justify the extent of the current monetary policy easing. **Rules** that provide a good explanation of past monetary policy decisions, for example, show that, with its quantitative easing measures, the ECB is providing greater accommodation in reaction to inflation and growth than in the past. The Taylor rule also suggests that monetary policy should be tightened. This applies even if one assumes a long-term **equilibrium interest rate** in the region of 0 %. The empirical literature, however, does not provide any reliable evidence that the long-term equilibrium interest rate has fallen to such a low level.
456. As a result, the German Council of Economic Experts reaffirms its assessment that the ECB should **slow down and end its bond purchases**. This would

likely take the pressure off the medium to longer-term yields. The tightening of monetary policy would help to prevent a situation in which the extremely low interest rate level creates **risks** to financial stability and the continuation of the consolidation and reform policy in the euro area. The mounting interest rate risk in the banking system, in particular, means that great care should be taken not to scale back the monetary expansion at a too late point in time. There is ultimately the risk that the central bank will miss the opportunity to exit from this policy at the right time due to mounting risks to financial stability, which will make more significant disruptions virtually inevitable.

457. The **German economy** is characterised by a light overutilisation of capacity. Core inflation has been hovering around the long-term average for some years now. Inflation measured in terms of the GDP deflator has also been lingering close to 2 % for some time, putting it around one percentage point above its long-term average. This means that the **extremely low interest rates are not appropriate** to the overall economic situation in Germany. The Federal Government should use the options available to it to compensate, as far as possible, for the lack of a monetary policy aimed at ensuring stability in Germany.

At present, this includes, in particular, a fiscal policy aimed at using higher tax revenues due to stronger growth primarily to **reduce government debt** in relation to GDP. In addition, all measures and **structural reforms** that would boost potential growth would help to reduce the overutilisation and prevent any possible future overheating of the German economy.

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## A differing opinion

458. One member of the German Council of Economic Experts, Peter Bofinger, does not agree with the opinion held by the majority of Council members that the ECB's policy is not appropriate for either the euro area or for Germany.
459. Any assessment as to whether the ECB's **monetary policy** can be deemed **appropriate** has to be made in the context of its **mandate**, which is to ensure price stability. Given the significant time lag before monetary policy measures take effect, inflation forecasts are particularly suitable for assessing monetary policy. ECB President Draghi regularly mentions the ECB staff's inflation projections in his press conferences.

The current forecasts released by major institutions and forecasts based on surveys among analysts all conclude that inflation in the euro area will remain **below the ECB's target** of "below, but close to, 2 %" until 2018. ↘ TABLE 21 Since

↘ TABLE 21

## Inflation measures for the euro area

		2016	2017	2018	Long-term
ECB staff	September 2016	0.2	1.2	1.6	
Joint Economic Forecast	October 2016	0.2	1.2	1.5	
Consensus Forecast	October 2016	0.2	1.3		
Survey of Professional Forecasters	July 2016	0.3	1.2	1.5	1.8
IMF	October 2016	0.2	1.1	1.3	

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these forecasts take the ECB's current policy into account, there are no grounds for concluding that the monetary policy is not appropriate for the euro area.

460. The key role played by **inflation forecasts** in the ECB's strategy is consistent with the **medium-term focus** explicitly selected by the ECB for its monetary policy strategy from the beginning. In this regard, the Council majority's recommendation that the ECB "focus its strategy on the medium term" is incomprehensible.
461. An assessment of whether the monetary policy is appropriate for the euro area must also examine the extent to which it could present **risks to financial stability**. There are no signs of any such risks at the moment.
- The "**credit-to-GDP gap**" calculated by the Bank for International Settlements (BIS) reveals a negative value for the first quarter of 2016 (–8.8 %).
  - The "**property price gap**" published by the same institution is in double-digit negative territory for France, Italy, the Netherlands and Spain. Germany and Portugal are just above the 10 % risk threshold with values of 13.3 % and 12.4 % respectively. ↘ CHART 58
  - The low-interest rate policy has not had any clearly negative effects on the **stability of the banking system** thus far. ↘ CHART 57 In its 2016 Financial Stability Review, the ECB points out that bank earnings actually showed a slight year-on-year improvement in 2015, primarily driven by lower impairments. In this respect, the low-interest rate policy is still having a positive impact on bank returns. Due to an increase in lending volume, however, even net interest income has shown positive development.
  - Finally, share prices in the euro area have not risen further since the implementation of quantitative easing. The EURO STOXX50 is actually down slightly on the level witnessed in mid-2014, before ECB President Draghi had announced more extensive quantitative easing measures. This means that the impact of the low-interest rate policy and, in particular, quantitative easing on asset prices in the euro area is extremely limited.
462. The majority of Council members rely primarily on interest rate rules to support their criticism of the ECB. The first rule they use in this respect is the conventional **Taylor rule**. Based on the traditional Taylor rule, which provides for an

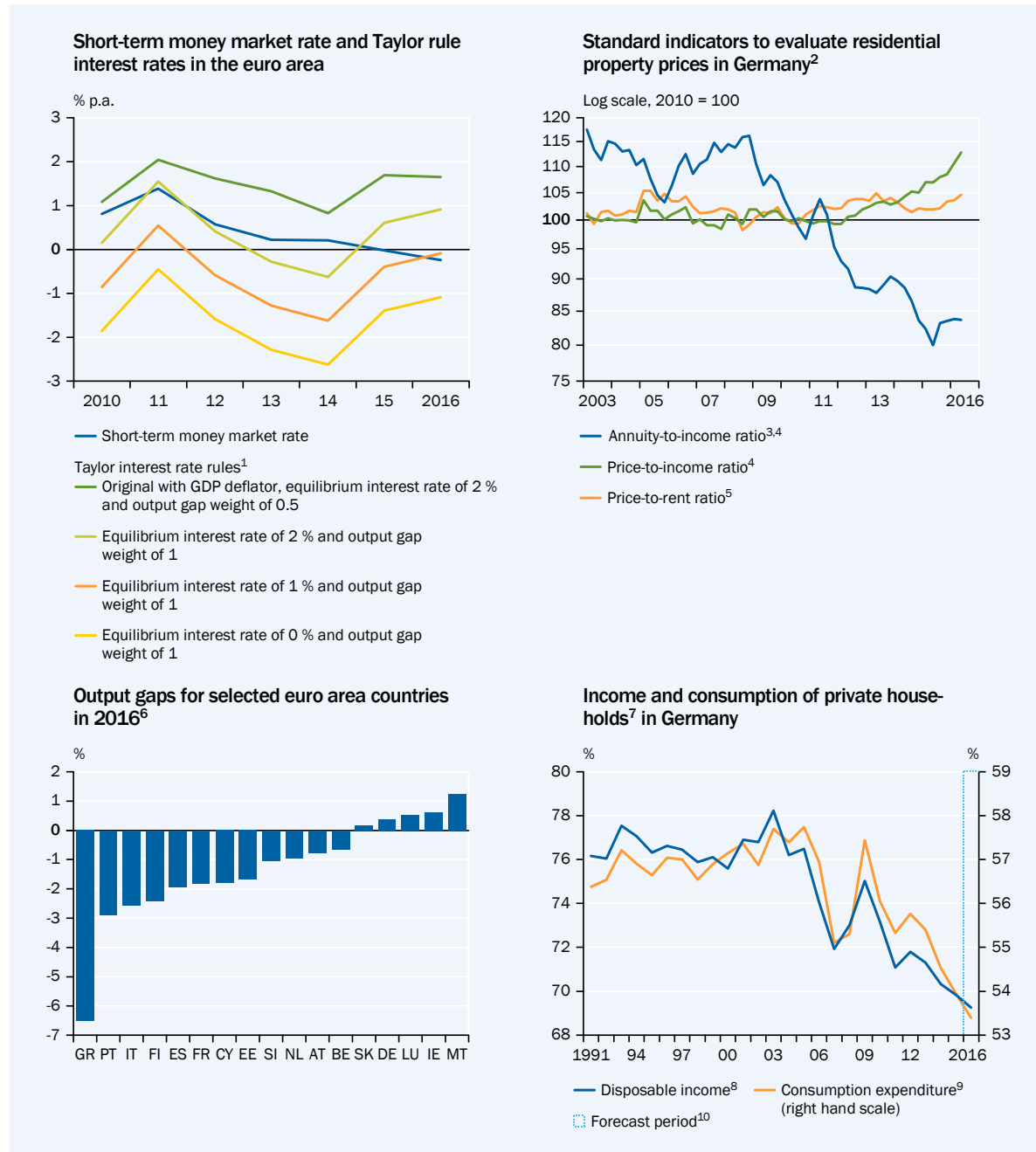
equilibrium interest rate of 2 % and assigns a weighting of 0.5 to both the inflation gap and the output gap, the ECB's key policy rate is, in fact, too low. The question arises, however, as to whether the reaction of the Federal Reserve identified by John Taylor in his observation of US interest rate policy in the period from 1987 to 1992 can still serve as an adequate guide for monetary policy under the conditions currently prevailing in the euro area. The conventional Taylor rule would, for example, have required much higher key policy rates for the entire period since the beginning of this decade. ↘ CHART 55 In light of the recession in the euro area in 2012 and 2013, the persistently high unemployment rate and an output gap that has, until recently, been well in negative territory, mechanistic application of the Taylor rule would have resulted, in all probability, in substantial macroeconomic costs.

463. The gap between a key policy rate derived from the conventional Taylor rule and the actual key policy rate is narrowed considerably assuming an **equilibrium interest rate** of 1 % or 0 % as opposed to 2 %. There is also the option of increasing the **weighting attached to the output gap** from 0.5 to 1.0. As Taylor (1999) shows, this reduces the output variance without resulting in any significant increase in the inflation variance. Based on an equilibrium interest rate of zero, this then produces a Taylor interest rate of -1.1 % at present. ↘ CHART 61 UPPER LEFT Given the very considerable degree of uncertainty surrounding the equilibrium interest rate estimates – which has also been emphasised by the majority – this value is not entirely incompatible with a shadow rate of -1.7 % (lower bound of the 95 % confidence interval) calculated by Kortela (2016).
464. Secondly, as in previous years, the majority of Council members also use a **change rule** to assess the ECB's policy. This leads them to the conclusion that the ECB has already loosened its monetary policy reins to a greater degree than in the past. But this "rule", which merely describes the ECB's behaviour, cannot necessarily be interpreted as proof that the monetary policy being pursued is inappropriate. After all, compared with the previous situation, the **macroeconomic environment** in the euro area has undergone fundamental changes since the euro crisis years of 2010 to 2012, in particular. So it would actually be surprising if this had not prompted a change of course on the part of the ECB as well.
465. In general, the application of rules should not result in a **mechanistic assessment** of monetary policy. Bernanke (2015) pointed out that the simplicity of the Taylor rule masks the complexity of the monetary policy decisions to be taken by the members of a central bank's decision-making body. Monetary policy, according to Bernanke, should be **systematic, not automatic**.
466. As far as **Germany** is concerned, it is true that the interest rate policy pursued by the ECB is more expansionary than a monetary policy under the auspices of a national central bank would be. This is hardly surprising in a monetary union in which monetary policy can only ever be guided by average economic developments.
467. However, it is not clear why the majority conclude that this has given rise to "**exceptional, and in some cases dangerous developments**" which could

result in the Federal Government being called upon to “use the options available to it to compensate for the lack of a monetary policy tailored to suit Germany’s macroeconomic development”.

▾ CHART 61

Short-term money market rate and Taylor rule interest rates, real estate price development, output gaps, income and consumption of private households



1 – Equation:  $i = r^* + \pi + 0,5(\pi - \pi^*) + 0,5(y)$ .  $i$  denotes the implied money market interest rate by the Taylor rule; it depends on the long-term equilibrium interest rate,  $r^*$ , on the current inflation rate,  $\pi$ , in deviation from central bank's inflation target,  $\pi^*$ , and on the output gap,  $y$ . 2 – Bundesbank calculations based on data provided by the Association of German Pfandbrief Banks (vdp). 3 – Annuity of a mortgage loan with a fixed interest rate (between 5 and 10 years) and a hypothetical term of 30 years in relation to household income. 4 – Disposable income per household in Germany, nominal. An increase represents a rise in the purchase price in relation to disposable income. 5 – Prices and rents of apartments. 6 – Real GDP less potential GDP in relation to potential GDP. Estimation of IMF. GR-Greece, PT-Portugal, IT-Italy, FI-Finland, ES-Spain, FR-France, CY-Cyprus, EE-Estonia, SI-Slovenia, NL-Netherlands, AT-Austria, BE-Belgium, SK-Slovakia, DE-Germany, LU-Luxembourg, IE-Ireland, MT-Malta. 7 – Including non-profit institutions serving households. 8 – In Relation to national disposable income. 9 – In relation to nominal GDP. 10 – Forecast of the German Council of Economic Experts.

Sources: Deutsche Bundesbank, Federal Statistical Office, IMF, OECD, own calculations

- The **credit-to-GDP gap** calculated by the BIS for Germany is still in negative territory (–6.1 %), while the **property price gap** is just above the threshold. The latter, however, must be viewed in the context of real estate prices that had been stagnating for almost a decade. Moreover, the increase in real estate prices is not nearly as pronounced as the rise seen in a number of other countries between 2000 and 2007. ↘ CHART 49 Common indicators such as the ratio of real estate prices to annual rents or real estate prices to incomes do not reveal any major deviations in a longer-term comparison. The only ratio that has fallen considerably is the ratio of annuity payments to incomes. ↘ CHART 61 UPPER RIGHT There has not been any marked increase in the **DAX** compared with mid-2014 either.
  - **Investment activity** in Germany is rather low in a longer-term comparison based on the ratio of gross capital formation and, in particular, gross fixed capital formation in construction to GDP.
  - On the whole, none of the forecasts for 2017 and 2018 predict **any inflationary risks** for the German economy provided that growth remains stable. The deflators of GDP and private consumption are likely to be around 1.5 % until 2018 (Joint Economic Forecast Project Group, 2016).
468. The low-interest rate policy could translate into risks for the financial system due to an increase in **maturity transformations in the banking system**. This can, and indeed should, be adequately addressed by ensuring that banking supervision and macroprudential regulation pay more attention to this risk. This has been pointed out repeatedly by the majority of Council members as well.  
↘ ITEMS 421, 509
469. The **Taylor** rule has indicated an interest rate level that is several percentage points too low for Germany for the past six years. ↘ CHART 60 If none of the forecasts for the period leading up to 2018 point towards any undesirable macroeconomic developments, however, this rule should only be applied with considerable caution.
470. The majority of Council members are of the opinion that growth rates ahead of the potential rate and a positive output gap in Germany provide arguments supporting “**systematic moves to forge ahead with the consolidation of state finances**”. This would, however, jeopardise the macroeconomic stability of the euro area. All of the other larger member states still have high negative output gaps. ↘ CHART 61 LOWER LEFT If these countries are advised to consolidate their state finances and Germany is called upon to implement counter-cyclical fiscal policy at the same time, this will stop the euro area output gap from closing. This will also make it more difficult for the ECB to exit from its low-interest rate policy and quantitative easing.
471. The euro area needs symmetrical, as opposed to asymmetrical, adjustments. Germany has been one of the main obstacles to such adjustments for years. This applies, in particular, to **wage development**, which, particularly in the period leading up to the Great Recession of 2009, was one of the main factors responsible for an **excessively low core inflation rate**, particularly in Germany but also in the euro area as a whole. To achieve price development in the euro area

in line with the ECB's target, unit labour costs in the member states would have to increase by almost 2 % in the medium term. Allowing for the fact that wage development will be somewhat more restrained in countries with high unemployment, this translates into an increase in unit labour costs of over 2 % in Germany. The rates of increase seen in 2015 and 2016 fall considerably short of this level, at around 1.5 % and as little as 1.3 % respectively. Unit labour costs in the euro area as a whole rose by only 0.3 % in 2015, which is one of the main reasons for the insufficient price development in the euro area.

472. Consequently, the most effective way out of the ECB's low-interest rate policy would involve a slightly more marked increase in **wages in Germany** over the next few years. This was recently also recommended by Chief Economist at the International Monetary Fund (IMF), Maurice Obstfeld (Der Spiegel (2016)). In the case of Japan, which has been suffering from insufficient wage development for a prolonged period, the IMF (2016b) even raised the possibility of an **income policy**, for example by increasing public-sector wages.
473. The relatively meagre increase in wages in Germany has resulted in a continuous decline in the proportion of **household income** in relation to the disposable income of the economy as a whole in recent years. The other side of the coin is that the share of income attributable to corporations and state income has increased. This has resulted in a significant decline in the **propensity to consume**, which is down by 3.5 percentage points from the level seen between 1991 and 2009, at 53.4 %. This is also a major factor in the rising German current account surplus. As a result, stronger growth in private consumption in Germany could make a key contribution to stimulating economic growth in the euro area and reducing Germany's current account surplus.



# APPENDIX TO THE CHAPTER

↘ TABLE 22

## Chronology of the ECB's measures since December 2015

Measure/ programme	An- nounce	Start	Scheduled end date	Details
Rate cut	03.12. 2015	09.12 2015	-	Deposit rate lowered by ten basis points to -0.3 %.
EAPP adjust- ments	03.12. 2015	01.01 2016	March 2017	Extension of the intended term until March 2017; reinvestment of principal payments on maturing securities, inclusion of euro-denominated bonds issued by regional and local authorities in the euro area.
Full allotment	03.12. 2015	-	End of 2017	Extension of the settlement of main and longer-term refinancing operations (three-month maturity) until the end of the last minimum reserve maintenance period in 2017 as a fixed-rate tender with full allotment.
Communicati- on	21.01. 2016	-	-	The Governing Council of the ECB decides to review and, where appropriate, adjust the monetary policy course in March 2016.
Rate cut	10.03. 2016	16.03. 2016	-	Main refinancing rate cut by five basis points to 0 % and deposit rate lowered by ten basis points to -0.4 %.
EAPP adjust- ments	10.03. 2016	19.04. 2016	March 2017	Increase by €20 billion to €80 billion a month; increase in the purchase limit for international organisations and multilateral development banks from 33 % to 50 %.
Targeted longer-term refinancing operations (TLTROs II) <sup>1</sup>	10.03. 2016	June 2016	March 2017	Refinancing operations with a maximum four-year maturity. Banks can take out up to 30 % of their outstanding lending volume (to non-financial corporations and private households, excl. mortgage loans) as at 31 January 2016, less any volume still outstanding under the first two TLTROs I. In addition, banks were able to repay all outstanding TLTROs I voluntarily in June 2016 and, at the same time, participate in the first TLTRO II. The interest rate depends on net lending between 1 February 2016 and 31 January 2018 in relation to the bank's individual benchmark <sup>2</sup> , and thus varies between the main refinancing rate and the deposit rate. Allotment based on the deposit rate is made if net lending rises by 2.5 % in relation to the benchmark. The interest rate is reduced on a linear scale for increases of between 0 % and 2.5 %.
Corporate Sector Pur- chase Pro- gramme (CSPP) <sup>1</sup>	10.03. 2016	June 2016	March 2017	Inclusion of the purchase programme for corporate bonds in the EAPP. These relate to euro-denominated corporate bonds <sup>3</sup> (excl. banks) issued by companies with registered office in the euro area and a rating of BBB- or higher. They must meet the requirements of the Eurosystem's collateral framework for monetary policy refinancing operations, have a residual maturity of between six months and 30 years and the Eurosystem applies an issue share limit of 70 %. The purchases are processed by six national central banks (Belgium, Germany, Finland, France, Italy and Spain) and coordinated by the ECB. The bonds can be purchased on the primary and secondary market (bonds issued by public-sector companies only on the secondary market – the issue share limit for these is lower in accordance with the PSPP regulations).

1 – For further details, please refer to the Deutsche Bundesbank Monthly Report May 2016. 2 – The benchmark for banks with negative net lending in the period from 1 February 2015 to 31 January 2016 is lending volume as at 31 January 2016 less net lending in the twelve previous months. The benchmark for banks with positive net lending is lending volume as at 31 January 2016. 3 – Including insurance companies.

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TABLE 23

A fiscal policy assessment of selected euro area countries

	Germany	France	Italy	Portugal	Spain
Status quo:	No EDP <sup>1</sup> , in the "preventive arm" of the SGP <sup>2</sup>	EDP ongoing since 2009, in the "corrective arm" of the SGP	No EDP, in the "preventive arm" of the SGP	EDP ongoing since 2009, in the "corrective arm" of the SGP	EDP ongoing since 2009, in the "corrective arm" of the SGP
Objective:	Debt reduction in line with the objectives of the stability programme (SP)	Correction of the deficit in 2017	Debt reduction in line with the objectives of the stability programme (SP)	Procedure originally scheduled to end in 2015 (recommendation from 2013). Target of 2015 missed, new recommendation by the European Commission is a sustained correction until 2016	Procedure originally scheduled to end in 2012. Extended three times (until 2013, 2014 and 2016), because unexpected shocks resulted in a deterioration in the fiscal situation despite austerity measures. Target of concluding the EDP in 2016 likely to be missed
Penalty procedure:	No, because objectives were met in 2015	No, because objectives were met in 2015	No, because objectives were met in 2015	Initiated because objectives were not met in 2015, no penalty imposed	Initiated because objectives were not met in 2015, no penalty imposed
Budget deficit/surplus (% of GDP)	2015 0.7 2016 <sup>a</sup> 0.2 2017 <sup>a</sup> 0.1	2015 -3.5 2016 <sup>a</sup> -3.4 2017 <sup>a</sup> -3.2	2015 -2.6 2016 <sup>a</sup> -2.4 2017 <sup>a</sup> -1.9	2015 -4.4 2016 <sup>a</sup> -2.7 2017 <sup>a</sup> -2.3	2015 -5.1 2016 <sup>a</sup> -3.9 2017 <sup>a</sup> -3.1
Government debt (% of GDP)	71.2 68.3 65.8	96.4 97.0 95.8	132.7 131.8	129.0 124.5	99.2 100.3 99.6
2015 deficit targets (% of GDP)	0.3	-3.8	-2.7	-2.7	-4.2
2016 deficit targets (% of GDP)	x	-3.3	-2.7	-2.7	-2.8
2015/2016 target deviations <sup>3</sup>	0.5 0.2 0.1	0.3 -0.1 -0.5	0.0 -0.1 -0.1	-1.7 -0.5 -0.9	-0.9 -0.3 -0.2
Revenue (% of GDP)	44.6 44.5 44.6	53.2 52.8 52.6	47.9 47.2 46.7	43.9 44.0 43.5	38.2 38.2 38.3
Spending (% of GDP)	43.9 44.3 44.5	56.8 56.2 55.9	50.5 49.7 48.6	48.3 46.6 45.8	43.3 42.1 41.3
Reasons for target deviation in 2015:					
Revenue:	Slightly higher revenue	Slightly lower revenue (-0.1 percentage points of GDP); Discretionary measures reduced tax revenue (-0.1 percentage points of GDP)	Slightly higher revenues	Lower revenue: lower tax revenue (-0.3 % of GDP), lower revenue due to lower EU transfers, anticipatory effect of higher revenue due to corporate taxes being brought forward (0.2 % of GDP)	Lower revenue: lower tax revenue (-0.4 % of GDP) due to lower income and corporate taxes, higher revenue due to auction of UMTS frequencies (0.2 % of GDP), the reclassification of PPPs by Eurostat had a negative impact (-0.2 % of GDP)
Spending:		Slight decrease in spending (-0.1 percentage points of GDP); lower interest expenses (-0.1 % of GDP), drop in investment by local administrative authorities (-0.2 percentage points of GDP), lower social transfers, higher spending on "Competitiveness & Employment Tax credit"	Higher spending on aid to banks and the payout of pension arrears to pensioners after the de-indexation of 2012/13 was rejected by the constitutional court	Higher spending: increased spending due to the resolution of a bank (1.4 % of GDP), less spending due to lower interest expenses (-0.4 % of GDP) and lower public investment (-0.4 % of GDP)	Higher spending: Support for the financial sector (0.1 % of GDP), payout of the 2012 Christmas bonus that was not granted after a court decision (0.1 % of GDP), "expenditure slippages" at local and central government level, reduced spending due to lower interest expenses (-0.3 % of GDP)

1 – EDP: Excessive Deficit Procedure. 2 – SGP: Stability and Growth Pact. 3 – Green: better than planned target values of 2015 and 2016, red: worse than planned target values of 2015 and 2016. a – Estimate by the European Commission. Sources: European Commission, 2015 and 2016 Stability Programme Assessment Reports of the individual countries © German Council of Economic Experts | 16-297

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