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Annual Report
2018

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We mourn the loss of the following members of our staff

Günter Schusdzarra	12 February 2018
Alexandra Engelhardt	14 February 2018
Roland Ulrich Schalow	22 February 2018
Bernhard Rauh	24 February 2018
Rainer Holzapfel	7 March 2018
Peter Werker	21 March 2018
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Matthias Fred Dieter Fritsch	12 June 2018
Bettina Drehwald	13 June 2018
Klaus Michael Hock	21 June 2018
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Thomas Hütt	30 August 2018
Ingrid Miethe	8 October 2018
Hermann Rittenauer	9 October 2018
Thorsten Körner	16 November 2018
Volker Arndt	28 November 2018
Ute Schürhaus	10 December 2018
Phillip Reichel	13 December 2018
Sven Stut	13 December 2018
Annette Döing	20 December 2018
Roland Herold	20 December 2018

We also remember the retired staff members of the Bank who passed away in 2018.

We will honour their memory.

DEUTSCHE BUNDESBANK

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p	Provisional
r	Revised
e	Estimated
pe	Partly estimated
…	Figure available at a later date
.	Figure unknown, not to be published or not meaningful
0	Less than 0.5 but more than nil
–	Nil

Discrepancies in the totals are due to rounding.

Bundesbank round-up

Bundesbank round-up

The year 2018 saw the euro celebrate its 20th anniversary – two decades of existence throughout which the money we share in Europe has demonstrated its credentials as a stable currency. It was a period that saw euro area inflation average 1.7%. The single currency has been a success story, then, thanks in part to the Bundesbank's contribution as a member of the Eurosystem. The euro enjoys high public acceptance. In one survey, two-thirds of respondents in the euro area think that having the single currency is a good thing for their country. The euro's public approval levels have never been higher.[1]

However, it was a period that also saw the onset of the financial and sovereign debt crisis, with September 2018 marking the tenth anniversary of the collapse of US investment bank Lehman Brothers. In retrospect, the Lehman bankruptcy took the global financial crisis to another dimension, ushering in the severest worldwide recession in post-war history. This crisis shrank global gross domestic product (GDP) by 2%[2] in 2009, took 10% off the volume of international trade in goods and services, and sent joblessness sharply higher in many countries. Extensive rescue packages for banks, fiscal stimulus programmes, and exceptional monetary policy accommodation prevented the situation from going from bad to worse – there had, remember, been a real prospect of the economy going into freefall, just like it had done in the midst of the Great Depression in the early 1930s. This needs to be borne in mind when the general public now wonder, as is their right, whether these emergency measures were a price worth paying.

In the euro area, the financial crisis later coalesced with a debt crisis in individual Member States. For many people, the past ten years brought severe economic hardship and sacrifice. The process of digesting both the root causes and the fallout of these crises has been shaping economic policymaking to this very day. Efforts have been targeted at scaling back public debt, shoring up national competitiveness, reinforcing financial system resilience, and making the institutional architecture of monetary union fit to face future challenges.

At the same time, in Germany we need to face up to a raft of fresh challenges. In the financial system, after years of stronger aggregate growth and low interest rates there are signs of cyclical vulnerability building up. Not just that: banks and enterprises in particular need to ready themselves for Brexit. And it would be wrong to turn a blind eye to long-term trends – the growing prevalence of digital technologies is having a transformative impact in some cases on our working and everyday lives. Innovative systems which allow us to pay in real time or via mobile phone are just one such development I could mention from the world of payments. Digital technologies are a rich source of opportunity for existing and new providers of financial services, but they also introduce new risks. The threats they represent to cyber security and the question of whether crypto-assets could shake financial stability are two issues that spring to mind.

For all the technological advances, the long-term growth prospects in Germany and Europe remain muted. One reason for this is the pervasive impact of demographic change, which makes it all the more important for economic policymakers to embrace measures which stimulate growth potential. This is not a task for central banks, however.

More than ten years on from the collapse of Lehman Brothers, monetary policy in the euro area is still in accommodative mode – in fact, it

1 See European Commission, Flash Eurobarometer 473 (The Euro Area, October 2018).
2 Aggregate growth data from the International Monetary Fund based on market exchange rates.

is more or less as expansionary as it was when the crisis was raging. That said, the Eurosystem's decision to bring the net asset purchases to an end marks the first major step towards policy normalisation. How policy proceeds from here will depend on how the data unfold. I would now like to look in slightly more detail at the past year in terms of economic activity, monetary policy, fiscal policy and the financial system, and also share my thoughts on how major challenges we are all facing have had a bearing on some of the Bundesbank's important work.

Economic activity and price developments

The euro area economy has now made significant progress in recovering from the aftermath of the crisis, and recovery has long since given way to a broad-based upswing which persisted in 2018. The unemployment rate dropped below the 8% mark by December 2018, the lowest it has been for a decade. On average, 158 million people were in employment last year – 4 million up on the 2008 figure – and real GDP was 8% higher than before the crisis. Current data indicate that euro area GDP expanded by 1.8% last year, outpacing the potential growth rates estimated by a variety of sources. That said, growth fell short of the previous year's brisk rate, not least because stimulus from export markets seems to have lulled, and issues specific to the euro area throttled the expansion in the second half of the year. These included the problems faced by car manufacturers in switching to a new emissions testing procedure, and domestic tensions in individual Member States. However, growth in gross fixed asset formation was probably still strong in 2018, and household consumption will have increased moderately. It is particularly gratifying to note how broad-based the upswing has been across countries. The dispersion of national growth rates was low, and GDP in 2018 ought to have risen in every Member State, including those which endured major upheavals in recent years.

Last year saw economic activity in Germany slow down more sharply than elsewhere, with real GDP growing by 1.5% in calendar-adjusted terms, which is largely in line with the increase in capacities. Accordingly, aggregate capacity utilisation remained as high as ever. There were signs that labour markets were gradually tightening, partly because unemployment slid to the lowest it had been since reunification. Aggregate growth began to stutter in the second half of the year, however, and activity even contracted slightly in the third quarter. Supply-side problems in the automotive industry, which caused large-scale production stoppages, played a major role in this regard. A number of German car manufacturers ran into difficulties over the introduction of a new EU-wide standard for measuring exhaust emissions. The fourth quarter saw production dip in other manufacturing sectors as well. All in all, activity still appears to be sluggish at the turn of the year.

The softer pace of global expansion is probably one major factor behind the slowdown in economic growth in Germany. Last year saw increasing concerns emerge over political developments – most notably, Brexit, geopolitical conflicts and global trade disputes. The potential fallout that would ensue if these risks materialise was not the only worry – there were also fears that the elevated uncertainty itself could take its toll on global growth. However, the sharp deterioration in sentiment observed in a number of countries in the first half-year should arguably be regarded in part as a normalisation of what had previously been an exceptionally good level of sentiment.[3] What is more, an empirical paper prepared by Bundesbank economists indicates that the relationship between uncertainty and economic activity is not always as close as is often believed, particularly for one frequently used indicator of political uncertainty.[4]

3 See Deutsche Bundesbank, Global and European setting, Monthly Report, August 2018, pp. 11 f.
4 See Deutsche Bundesbank, The macroeconomic impact of uncertainty, Monthly Report, October 2018, pp. 49-64.

But if, for example, the erection of new trade barriers becomes a reality, rather than just a threat, world trade will probably be impaired, as will the global economy. The Bundesbank has run simulations which find that the measures already adopted in the trade dispute between the United States and China could depress real GDP in both countries within a few years by 0.5%.[5] The impact on other economies like Germany's, while less severe, would nonetheless be negative as well. The United States is showing a willingness to negotiate on economic relations with major partner countries. Welcome though such bilateral solutions are, the main concern must be to uphold and evolve the rules-based multilateral trading system.

In part, the reduced pace of global activity can be interpreted as a normalisation, given that global industrial production, world trade and investment had expanded very strongly in 2017. Manufacturing growth in the advanced economies, in particular, had been exceptionally vibrant in 2017, when industrial production in that group of countries picked up by 3%. This was the strongest growth rate since 2010 and on a par with the rates observed when activity was booming in 2006 and 2007.[6] Owing to the importance of manufacturing and the country's focus on exports, Germany is relatively sensitive to cyclical fluctuations in global investment activity and world trade. Having invigorated German aggregate growth in 2017, stimulus from these areas is now not as strong as it once was. But even with little or no contribution to growth from industry, the German economy can at least be expected to register subdued growth at present on the back of the momentum shown by the country's consumption-related services sectors. Nevertheless, as things stand, the annual average increase in real GDP in 2019 will probably be considerably lower than the 1.6% figure which the Bundesbank's experts had projected in their December 2018 forecast.

All in all, though, the main forces driving aggregate growth in Germany are as intact as they ever were – the global economy is expanding, monetary policy remains exceptionally accommodative, and the loosened fiscal policy will probably add further stimulus as this year progresses. The persistently upbeat trend in the labour market will arguably be a major factor bolstering household income. Wage growth has already accelerated significantly and ought to further strengthen domestic upward price pressures as well. Last year saw the Harmonised Index of Consumer Prices (HICP) in Germany increase by 1.9%, which was slightly higher than the 2017 figure. Judging by the current data, the headline rate will come in lower this year, but to a large extent, this will be down to the gyrations in crude oil prices, which should only feed into the rate of inflation for a time.

Stronger wage growth is looking increasingly likely in the euro area as well. Hourly wages in trade and industry in the third quarter of 2018 were 2.5% up on the same quarter of 2017, which is the most they have risen since 2012. As labour market conditions continue to improve, domestic upward price pressures in the euro area can likewise be expected to gradually intensify.

Monetary policy

In light of the progress made towards achieving the objective of price stability, the ECB Governing Council decided at its December 2018 meeting to cease net asset purchases under the asset purchase programme (APP) at the end of the year. However, the Governing Council intends to continue reinvesting, in full, the principal payments from maturing securities purchased so far for an extended period of time past the date when it starts raising the key ECB interest rates, and in any case for as long

5 See Deutsche Bundesbank, The potential global economic impact of the USA-China trade dispute, Monthly Report, November 2018, pp. 11-13.
6 Data from Centraal Planbureau.

as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation. It also indicated that it continues to expect key ECB interest rates to remain at their present exceptionally low levels at least through the summer of 2019, and in any case for as long as necessary.

Up until the end of 2018, the Eurosystem purchased assets worth just short of €2.6 trillion under the APP. Monthly purchases went from a pace of €60 billion in 2017 to €30 billion between January and September 2018, and then to €15 billion from October 2018. These amounts represent net asset purchases, i.e. additional purchases over and above reinvestments of principal payments from maturing securities. Much as in previous years, the purchases left their mark on the Bundesbank's TARGET2 claims (see the box on pp. 16 f.). Technically speaking, it was possible, without exception, to implement the purchases smoothly and acquire the desired volumes in the individual market segments. Market liquidity was sufficient, thanks in part to the fact that the Eurosystem generally made its purchased stocks of assets available for securities lending operations. A range of detailed rules and risk-mitigating constraints also needed to be considered, such as the credit quality criteria for the eligibility of individual assets, purchase limits per security, and provisions to take into account the prohibition on monetary financing. Another enduring principle was that the purchases should have as little impact on the market as possible – that is to say, they should not unduly affect individual asset prices. Net asset purchases may have been discontinued at the end of 2018, but all the key parameters for implementing the programme will continue to apply during the reinvestment phase.

The programme's economic impact is determined by the total stock of assets on the central bank's books. Figuratively speaking, putting an end to the net asset purchases means that the ECB Governing Council is leaving its foot on the gas pedal, just not pushing it down any further. The monetary policy stance therefore remains highly accommodative. Ceasing the net asset purchases is just the first step, albeit an important one, towards exiting the exceptionally accommodative monetary policy and the non-standard measures implemented by the Eurosystem.

With policy normalisation now under way, the main question concerns the future modalities of monetary policy. The framework staked out before the crisis should provide some guidance for the return to policy normality (see the box on pp. 19 ff.). As conceivable as it is that the crisis has left a lasting impression on financial markets and only an adjusted toolkit can guarantee monetary policy effectiveness, the changes observed so far might also be a reflection of the influence of monetary policy itself. This can only be assessed once more progress has been made towards policy normalisation.

In all likelihood, the normalisation of monetary policy will be a gradual process lasting several years. In this regard, the risks and side effects of the very loose monetary policy should not be underestimated. These include the potential threat to financial stability and also the close proximity to fiscal policy which came about because monetary policymakers purchased government bonds.

The current low interest rate environment is proving to be a testing time for savers in particular. At the beginning of 2018, the real average return on German households' financial assets slipped into negative territory for the first time in six years, not least because of the poor performance by equity markets. But one should consider, too, that the general public are not just savers, but employees, real estate owners and taxpayers as well. And in these capacities, they are reaping rich rewards from the low market interest rates. An economy buoyed by loose monetary policy improves the prospects of getting a job, borrowers benefit from favourable lending rates, and a lower public debt servicing

Germany's TARGET2 claims in 2018

At the end of 2018, the Bundesbank's TARGET2 claims on the European Central Bank (ECB) amounted to €966 billion.[1] At the same time, aggregate TARGET2 claims within the Eurosystem came to €1.3 trillion,[2] having reached a temporary record high in the summer of 2012 at just over €1 trillion. Back then, the increase was attributable to the European sovereign debt crisis in conjunction with the expansion in the volume of liquidity provided by the Eurosystem central banks.[3] In the subsequent two years, the financial markets calmed down and balances fell perceptibly again to a value of below €600 billion. Since 2015, however, balances have increased sharply again in the context of the Eurosystem's expanded asset purchase programme (APP).[4] The purchase programme created growing excess liquidity in the euro area. The bulk of this liquidity flowed to Germany and remained there, not least because the majority of asset purchases were settled via the financial centre of Germany.[5] As a result, there was an increase, first, in deposits with the Bundesbank – especially those made by commercial banks – and, second, in the Bundesbank's TARGET2 claims on the ECB.

Overall, the growth in the Bundesbank's TARGET2 claims in 2018 also essentially reflects the purchase programme. The increase was weaker than in the preceding years. This is consistent with the fact that the monthly purchase volume under the APP was substantially reduced in stages last year.[6] Against the backdrop of the uncertainty emerging in connection with Italian government policy, the balances temporarily rose relatively strongly in the second quarter, but receded again afterwards. All in all, the German TARGET2 position at year-end was just under €60 billion higher than a year earlier (€907 billion). Given that the Bundesbank's liabilities arising from banknotes in circulation increased by just over €40 billion over the same period, the net amount of both Bundesbank balance sheet items grew only moderately to €565 billion.

The Bundesbank builds up accounting provisions for risks arising from Eurosystem transactions and its own portfolios (see also p. 61). This is based on the assumption that the monetary union remains in existence and that the national central banks (NCBs) meet their obligations to the ECB. The Member States should ensure the financial independence of their respective NCB and

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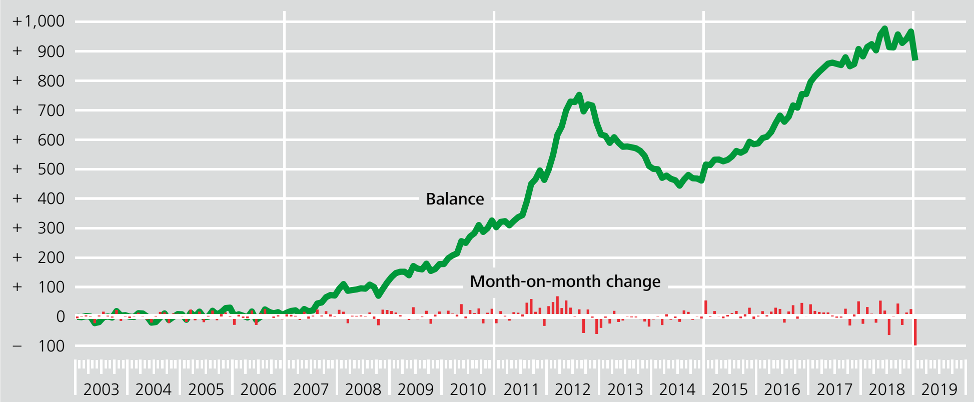
1 TARGET2 is the payment system used by Eurosystem central banks to settle national and cross-border payments in real time.
2 In this context, it should be noted that there are usually temporary changes in the national TARGET2 balances around reporting dates such as year-ends or quarter-ends. As a rule, German TARGET2 claims typically increase.
3 See Deutsche Bundesbank, TARGET2 balances – mirroring developments in financial markets, Monthly Report, December 2017, pp. 75 f.
4 In March 2015, the purchase programmes for covered bonds (CBPP3) and asset-backed securities (ABSPP), which were launched in autumn 2014, were extended into the expanded asset purchase programme (APP), now also including a public sector purchase programme (PSPP). Further categories of securities were added at a later date. See https://www.bundesbank.de/dynamic/action/en/homepage/glossary/729724/glossary?firstLetter=A&contentId=653230#anchor-653230
5 See Deutsche Bundesbank (2017), op. cit.; Deutsche Bundesbank, The increase in Germany's TARGET2 claims, Monthly Report, March 2017, pp. 30 f.; Deutsche Bundesbank, The impact of Eurosystem securities purchases on the TARGET2 balances, Monthly Report, March 2016, pp. 53 ff.
6 In March 2015, the monthly volume was initially set at €60 billion and upped to €80 billion in March 2016. In April 2017, it was scaled back to €60 billion, before it was further lowered, as previously mentioned, to €30 billion a month in early 2018. From October to December 2018, securities worth €15 billion were acquired each month.

The Bundesbank's TARGET2 balance

€ billion



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recapitalise it, if necessary.[7] As an ECB shareholder, the Bundesbank would be indirectly affected by any losses incurred by the ECB. The size of the German TARGET2 balance or the Bundesbank's net claims on the ECB is irrelevant in this context.

With net asset purchases by the Eurosystem ending in late 2018, a crucial driver of the German TARGET2 claims of the last few years will cease to exist. However, the proceeds of maturing securities will continue to be reinvested until further notice, meaning that the central bank liquidity created by the APP will remain in the market. Unless this liquidity starts to be shifted across borders in the financial markets, the part of Germany's TARGET2 balance generated in this way will persist.

Consequently, a key prerequisite for a sustainable reduction in the TARGET2 balances in the Eurosystem would be for the Eurosystem to scale back the monetary policy-related expansion of its balance sheet going forward, allowing the cross-border interbank market in the euro area to take on greater significance again. Moreover, what matters is that the euro area as a whole and the countries with high TARGET2 liabilities in particular be seen as attractive investment destinations by international financial investors.[8] To achieve this, uncertainty needs to be reduced and economic potential increased through reforms and the pursuit of consistent economic and fiscal policies.

7 In its convergence reports (see, for example, ECB, Convergence Report, June 2016, pp. 25 ff., https://www.ecb.europa.eu/pub/pdf/conrep/cr201606.en.pdf), the ECB outlines the concept of financial independence, according to which "an NCB should always be sufficiently capitalised". Specifically, the ECB takes the following view with regard to the capital base of NCBs (op. cit., pp. 25 f.): "Therefore, the event of an NCB's net equity becoming less than its statutory capital or even negative would require that the respective Member State provides the NCB with an appropriate amount of capital at least up to the level of the statutory capital within a reasonable period of time so as to comply with the principle of financial independence."
8 Given that the German financial market is often used by international investors as a gateway to the European capital market, the German TARGET2 balance would also tend to shrink if there was demand for securities from other Member States with TARGET2 claims. However, total claims in the Eurosystem would not change if this were the case.

burden ultimately eases the pressure on taxpayers.

Public finances and the road ahead for monetary union

If government debt in the euro area for the past 11 years had carried the significantly higher average interest rate for the year 2007, the additional interest expenditure would have pushed the 2018 debt-to-GDP ratio of 87% roughly 12 percentage points higher, all other things being equal. Substantial though the relief provided by the low interest rates has been, the debt-to-GDP ratio is dropping at no more than a slow pace and is still very high.[7] Of the 19 Member States of the euro area, only 10 had a debt-to-GDP ratio in 2018 which was below, or close to, the Maastricht ceiling of 60%. Five countries had debt levels that were actually higher – or even substantially higher – than GDP.

One major reason why debt-to-GDP ratios are declining from their high levels at no more than a slow pace is that a great many medium-term fiscal targets are still being missed by a wide margin. The highly indebted countries in particular embarked on a loose fiscal path, meaning that they have yet again let slip an opportunity to create scope for fiscal policy to have a stabilising effect in case the economy takes a turn for the worse.

Time and again, the deficit target has been breached since the euro was launched. Looking back, the deficit ratios of participating countries have exceeded the 3% mark in slightly less than 40% of cases. The debt-to-GDP ratio, meanwhile, has been exceeded even more frequently – in roughly 60% of cases. The underlying fiscal target of a balanced budget position over the medium term[8] is another objective which many countries have either never achieved or – at best – only sporadically since monetary union was established. However, breaches of limits are rarely, if ever, met with sanctions because of the broad discretionary scope granted under the fiscal surveillance framework. Thus, neither the insufficient reduction of debt levels in Italy, nor French plans to increase the country's deficit ratio above 3%, have met with any disciplinary response. The European Commission chose not to propose that the Council open excessive deficit procedures.

Given a single monetary policy, there is a dwindling incentive for national fiscal policymakers to run their budgets prudently, and greater scope for shifting more of the cost of their debt to other Member States or the euro area as a whole. Restoring a clear balance between action and liability is the key to putting these incentives back on an even keel. If Member States continue to insist on national sovereignty in fiscal policy matters, they cannot very well call for joint liability at the same time. The answer in this case is to reinforce the principle of national ownership.

Increasing the binding force of the fiscal rules is another step that would help crisis-proof the euro area. Besides making the rules more straightforward, it would also be important to interpret them more consistently. This could be achieved by giving the European Stability Mechanism (ESM) a pivotal role in routine fiscal surveillance. One advantage of the ESM is that it can operate more independently of other political considerations than the European Commission.

It would be wise to make suitable arrangements which permit the orderly restructuring of

7 The debt level data used here from the European Commission's Economic Forecast differ from those under the Eurostat notification. The latter consolidates lending between euro area countries with the result that the debt-to-GDP ratio for the euro area as a whole is somewhat lower (by 2 percentage points in 2017). Validated results for 2018 were not available when this report went to press.
8 The target is to achieve a budget that is close to balance in structural terms. The European Commission only reports such budgets from 2010 onwards, which is why the data refer to the cyclically adjusted balance.

Monetary policy normalisation and central bank communication

Over the last ten years, the Eurosystem has introduced a large number of non-standard monetary policy measures in response to the macroeconomic consequences of the financial and sovereign debt crisis, such as fully allotted longer-term refinancing operations and asset purchase programmes. The non-standard measures were designed to strengthen the monetary policy transmission process and to address the risks associated with an overly long period of low inflation. Given the ECB Governing Council's assessment that the sustained convergence of euro area inflation with the Eurosystem's inflation target will continue, the Governing Council ended net asset purchases as at the end of 2018 (for details on the Governing Council's individual decisions, see the Chronology of economic and monetary policy measures, pp. 31 ff.). This decision marks the first, but significant, step on the road to monetary policy normalisation. A further step would be to make the first increase in the currently very low policy rates. In future, the ECB's policy rate would therefore be reinstated as the key lever for steering monetary policy. This is why, as early as the middle of last year, the ECB Governing Council also strengthened its forward guidance.

The more progress that is made towards policy normalisation, the more important it will be to develop guidelines for the design of the monetary policy toolkit in the post-crisis era. There is probably a broad consensus that the Eurosystem has to comply with the core principles of effectiveness and efficiency in carrying out its mandate. The future toolkit must be effective in terms of safeguarding price stability. At the same time, it must be ensured that due account is taken of the market economy principles enshrined in the EU treaties.

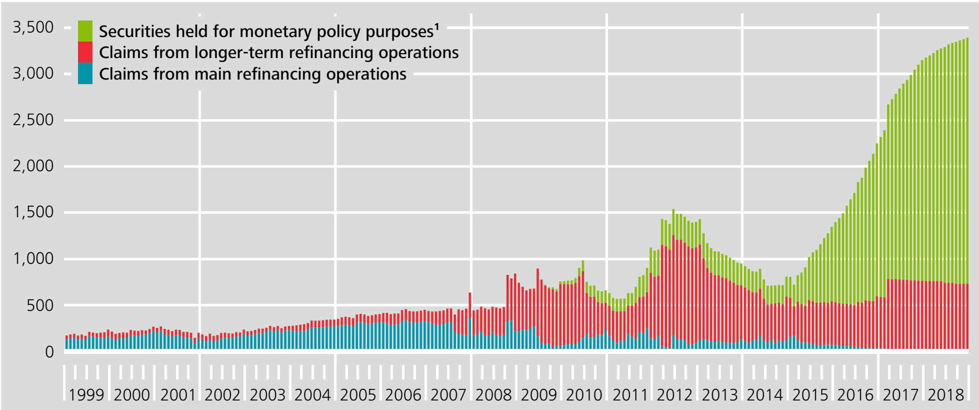
Established before the crisis, the Eurosystem's monetary policy framework was characterised by a lean central bank balance sheet. The main steering instrument consisted of refinancing operations with competitive bidding procedures and a limited allotment volume. The standing facilities formed a broad and symmetrical corridor around the main refinancing rate; the short-term money market rate moved within this corridor. This toolkit fulfilled the above principles and ensured a balance between the effectiveness of the instruments and the efficiency of the markets. It therefore makes sense to use the toolkit to provide normative guidance during the policy normalisation process.

In addition to normative considerations, however, it will also be important to bear in mind the circumstances surrounding monetary policy in the financial markets and the economy as a whole. It is sometimes argued in this connection that a simple return to the pre-crisis monetary policy toolkit has become unlikely.[1] Reasons given for this include, for example, the fact that the interbank money market is fragmented and that turnover in the unsecured money market has fallen considerably, which could hamper the transmission of monetary policy impulses. What is more, some point out that material changes to commercial banks' risk management and to banking regulation have led to a marked rise in demand for safe assets, such as central bank money. It is also argued that the equilibrium real interest rate has

1 See, for example, the speech by former ECB Vice-President V. Constâncio, "Past and future of the ECB monetary policy", conference on "Central banks in historical perspective: What changed after the financial crisis?", organised by the Maltese central bank in Valletta on 4 May 2018.

Selected assets of the Eurosystem's consolidated balance sheet

€ billion, month-end data



Source: ECB. **1** By euro area residents.
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fallen substantially in recent years, making it more likely that short-term interest rates could drop to the lower bound again in the future. This, the reasoning goes, would restrict the overall scope for conventional monetary policy.[2] Consequently, it is claimed that higher total assets and a broader and more flexible toolkit are necessary for monetary policy to remain effective. Another idea being proffered is that the central bank should make safe assets available to the financial system in order to enhance financial stability.

Monetary policy must not be allowed to disregard significant changes in the financial markets and in the regulatory environment. Yet calls for a wide-ranging overhaul of the operational framework seem premature at the present stage. This is illustrated, for instance, by the Federal Reserve System, which in the early years of its monetary policy normalisation process was keeping its options open regarding the specific design of its post-crisis toolkit.

The decision about the future toolkit is a difficult one to make, above all, because the non-standard monetary policy measures were themselves partly responsible for – or at least reinforced – the changes mentioned above. The very extensive provision of liquidity by the Eurosystem over a number of years played a decisive part in the persistently weak activity in the interbank market. The asset purchase programme reduced the stock of safe assets held by the private sector. At the same time, the ultra-accommodative monetary policy led to a prolonged decline in interest rates in the money and capital market, which is reflected accordingly in the estimates of the natural rate of interest. Thus, there is no way of knowing just how extensive the structural changes in the financial markets beyond that will be until monetary policy accommodation is gradually rolled back in the years to come.

Thus, as the normalisation process gets under way, the Eurosystem's guidance should be confined to roughly outlining the cornerstones of the future framework. For instance, future total assets ought to be as large as necessary to ensure that mone-

2 Various analyses indicate that estimates of the natural real rate of interest are subject to a large degree of uncertainty, however. See, for example, Deutsche Bundesbank, The natural rate of interest, Monthly Report, October 2017, pp. 27 ff.

tary policy is strong enough to ensure price stability. At the same time, however, they should be as lean as possible so as not to hamper market activities too much in the achievement of their objective. Moreover, a lean balance sheet would appear to be desirable because it leaves a central bank with more scope to provide additional expansionary stimuli in exceptional situations.

These reasons also argue against the Eurosystem making safe assets available, as this would lead to a substantially higher level of total assets than necessary. Another argument against this idea is that every monetary policy intervention the Eurosystem makes has to be covered by its monetary policy mandate. Safeguarding financial stability is not an objective in its own right where the Eurosystem is concerned. Extending the mandate in this way would likely overburden monetary policy and blur the distinction between responsibilities.[3] Instead, it is the job of euro area governments to make sure that government bonds are again consistently classified as safe assets, above all by scaling back high government debt levels.

Properly designed government bond purchases are an entirely legitimate monetary policy instrument, but in the euro area, substantial government bond purchases should be deployed – if at all – only in exceptional cases, particularly to ward off a material risk of deflation when there is a binding zero lower bound on interest rates. This is because they blur the boundary between monetary policy and fiscal policy; and in a monetary union in which each country pursues its own fiscal policy autonomously, it is particularly important to keep the two policy areas clearly separated.

In addition, the return to conventional monetary policy also implies in the longer term that the maturities of refinancing operations, which mainly run for multiple years as a result of the crisis, should be reduced significantly and that the competitive elements of the pre-crisis toolkit should be readmitted. This would strengthen the banks' inherent responsibility for their own liquidity and credit risk management and lower the risk of market distortions.

In any event, the ultra-accommodative monetary policy and the risks and side effects it entails should not be drawn out longer than necessary – not least to regain room for monetary policy manoeuvre in future. As the normalisation process continues, it will be important to gradually improve our understanding of the structural changes in the financial markets and identify any resulting need to adjust the monetary policy framework. Proceeding in this way is preferable to responding too hastily to obvious changes in circumstances that are currently evolving, which would encroach on more and more market segments.

3 See Deutsche Bundesbank, The importance of macroprudential policy for monetary policy, Monthly Report, March 2015, pp. 39 ff.

government debt, should it be necessary to do so, especially given that the Member States still retain national ownership of their fiscal policies. EU Heads of State or Government took their first steps in this direction in December 2018 with their decisions to expand upon the role played by the ESM. Above and beyond that, it would also be helpful to automatically extend bond maturities whenever financial assistance is granted through the ESM and remove regulatory privileges for government bonds on bank balance sheets.

In my view, abolishing these privileges is another necessary precondition for establishing a common deposit insurance scheme, which could be erected alongside the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM) to complete the three pillars of the European banking union. A single deposit insurance scheme can lend greater stability to the financial system. However, the regulatory privileges have encouraged banks in some countries to accumulate huge stocks of debt issued by their home countries on their books. In this setting, a European deposit insurance scheme would ultimately mutualise fiscal risk and run counter to the principle of liability. Action also needs to be taken to reduce what are still, in some cases, large holdings of non-performing loans (NPLs) which accumulated on bank balance sheets on account of national developments.

Banking supervision and financial stability

The capital and liquidity positions of German banks were solid last year. This was confirmed by the major institutions' strong showing in the EU-wide stress test exercise carried out by the European Banking Authority (EBA). However, banks were also beleaguered by profitability issues in the persistent low interest rate setting. Supervisors pressed ahead with their campaign to thoroughly examine internal models and also liaised closely with banks in readiness for Brexit and the business relocations it will entail.

At the European level, a large number of measures have been implemented over the past two years to address the high NPL stocks burdening the continent's banking sector. These include, in particular, the ECB's Guidance to banks on non-performing loans, which calls on large banks saddled with high NPL ratios to develop a strategy to reduce NPLs and sets out extensive organisational requirements for managing them. This Guidance is incorporated into the prudential process, creating transparency and planning certainty for the significant SSM institutions. What is more, this qualitative Guidance served as a starting point for the EBA's Guidelines on management of non-performing and forborne exposures, published in October 2018, which will be applicable to all banks in Europe as from mid-2019. In line with the principle of proportionality, some relief has been granted for smaller and less complex institutions. Furthermore, an addendum articulating supervisory expectations for prudential provisioning of new non-performing exposures was added to the ECB's Guidance in March 2018. Its aim is to avoid a build-up of similarly high risk on banks' balance sheets in the future. What is more, during the further course of the year, the ECB decided to also formulate institution-specific prudential risk provisioning expectations for the legacy NPLs held by significant institutions, in a move which creates strong incentives to scale back the risks associated with the stocks of legacy NPLs on European banks' balance sheets within a reasonable space of time. The significant SSM credit institutions subject to direct ECB supervision have already made major inroads into their stocks of NPLs, reducing them from just under €760 billion in total in the third quarter of 2017 to less than €630 billion in the third quarter of 2018. This lowered these institutions' average NPL ratio by roughly 1 percentage point. However, the stocks of NPLs remain highly heterogeneous across SSM Member States and credit institutions. As a result, the risks presented by the high stocks of NPLs in individual countries are still an issue, despite generally moving in the right direction.

The United Kingdom's intention to leave the European Union is another topic which required particular attention from banking supervisors and commercial banks in 2018. As the year got under way, institutions were evidently still somewhat reticent to take their final locational decisions, and the absence of any clear political agreements often led them to postpone these decisions until mid-year. But given that institutions need some time to reorganise their operations as planned, there came a point at which they could not put off their decisions any longer. Institutions benefited from the fact that, for the most part, they had based their plans on a "hard Brexit" scenario, just as supervisors had advised them to from the outset. Supervisory consistency, then, is one reason why credit institutions are relatively well prepared. Furthermore, supervisors made it clear from day one that letter-box companies would not be permitted as new bases within the EU. This means, for example, that the financial institutions will need to deploy sufficient qualified personnel to operate their critical functions at the respective location within the European Union at all times.

Brexit looks set to have a transformative impact on the structure of Germany's banking landscape, and banking supervisors will have to take this on board. As things stand at the moment, a total of 16 credit institutions will be moving units to Germany or expanding their existing operations here. Those institutions still without a German base are planning to start rolling out business operations in the second quarter of 2019. The Bundesbank has made suitable staffing arrangements in both its off-site and on-site supervision units to closely monitor these institutions' progress towards taking up business activity.

Another area where the Brexit vote has created major uncertainty is central counterparty (CCP) clearing, since the European clearing market for OTC derivatives is currently dominated by UK CCPs. For a long time, EU27 market participants did not know for sure whether they would continue to have access to UK CCPs post-Brexit. The European Commission has alleviated this uncertainty for now by announcing contingency plans. In the event of a "no deal Brexit", a temporary equivalence arrangement will come into play for an initial period of 12 months, meaning that the EU has agreed to recognise UK CCPs for a limited period of time. If, however, the withdrawal agreement is ratified by both sides, the existing European supervisory regime for EU CCPs would continue to also apply directly to UK CCPs for the duration of the transition period arranged in the agreement. The new EU supervisory regime for third-country CCPs (EMIR 2), which was announced in 2017, meanwhile, would only come into force after the transitional period when UK CCPs become third-country CCPs.

Banking supervision and regulation were expanded in the wake of the financial crisis to include a capacity known as macroprudential surveillance. It has the statutory mandate to identify and assess risks to financial stability. The long spell of aggregate growth and low interest rates has seen risks build up within Germany's financial system. Growth rates in corporate lending and the rate of change in the credit-to-GDP ratio point to a cyclical build-up of risk. On top of this, more detailed analyses reveal mounting cyclical vulnerabilities on financial institutions' balance sheets.[9] For one thing, there is the danger of underestimating credit risk, in particular in the banking sector. Indeed, institutions have significantly reduced their risk weights and provisioning for credit risk in recent years in response to the low loan loss rates at present. For another, the current high asset prices harbour the risk that loan collateral is being overvalued, especially for real estate. The Bundesbank estimates that residential property

9 See Deutsche Bundesbank, Financial Stability Review 2018.

in urban areas of Germany was still overvalued by between 15% and 30% in 2018.

An unexpected heavy slump in the economy combined with mounting loan losses and dwindling asset prices could ripple through the banking system. Loan losses and rising regulatory risk weights might squeeze the capital buffers of larger banks. Smaller and medium-sized banks would mainly feel the impact of losses in the mortgage lending business, because this accounts for a large proportion of their lending operations. There is a risk that, unlike during the 2008 financial crisis, smaller and medium-sized institutions might then no longer be able to provide a degree of stability. In macroprudential terms, this kind of scenario raises the risk of herding, with banks simultaneously seeking to offload assets and cut back on their lending to the economy as a whole. Hence, an economic slump could well be propagated by the financial system.

Whether and to what extent adverse macroeconomic developments are amplified by the financial system very much depends on the capital buffers in place in the financial system. It might transpire that the existing buffers are not enough to curb contagion within the financial system and the negative feedback effects on the real economy. In conclusion, then, the overall risk situation in the German financial system points to considerable cyclical risk. This indicates the need for macroprudential action to be taken.

Digitalisation

Preserving stability is a never-ending task which is always throwing up fresh challenges, not least because of technological innovations. The growing prevalence of digital technologies is driving structural change in the economy and financial system. One notable point of interest for central banks is how digitalisation has a bearing on general price developments. It may well be the case that digitalisation has two opposing effects: while higher levels of productivity and price transparency ought to dampen inflation, all other things being equal, the emergence of superstar firms such as major internet businesses, with the resulting concentration of market power, may generally tend to push up consumer prices. But as things stand at the moment, there are no signs as yet that digitalisation is having a significant effect on the inflation rate.

Digitalisation was also a defining issue for the banking sector in 2018. It offers banks numerous ways in which to develop more powerful products for their clients and to save costs. At the same time, banks are facing new competitors: smaller fintech players are offering innovative solutions for individual areas of banking, while large technology companies, known as bigtech firms, could become competitors in whole business areas such as payments. As a result, banks are under pressure to review, and potentially adjust, their business models.

Banking supervisors regularly check that banks are profitable and that their business models are sustainable, and they, too, have responded to the challenges of digitalisation in the banking sector. For instance, they ensure that banks adequately manage IT risks. One concrete example of the way in which supervisors are positioning themselves vis-à-vis a technological trend is the special guidance on cloud computing published in November 2018. In this, the Federal Financial Supervisory Authority (BaFin) and the Bundesbank lay out their joint view on outsourcing to cloud providers and the associated supervisory requirements.

In order to give themselves an edge in the digital age, banks sometimes establish entirely new, agile organisational structures. This may cause tensions with regard to prudential requirements, for instance in terms of the internal control system and the documentation of decisions. Banking supervisors are therefore keeping a very close eye on this development, too. They are also watching carefully to see whether new risks are building across individual institutions. Potential concentration risks as a result of increased outsourcing of activities and processes to just a few providers are a case in point. Digitalisation will continue to play an important role in banking supervision going forward. For instance, IT risks are defined as a supervisory priority within the SSM in 2019 and are also a firm component of Germany's supervisory strategy this year.

The increasing use of digital technology is fundamentally changing internal processes, and not just for commercial banks – the Bundesbank is also affected. For example, digitalisation in statistics allows efficiency to be enhanced and data quality to be improved. Algorithms are devised based on expert know-how and test datasets (machine learning), which are then used to process data. This increases the precision and reliability of the data and reduces the number of queries that have to be addressed to reporting institutions. Another outcome is that the data are available earlier. The new techniques can be applied in many areas: from quality management in surveys to the classification of companies to statistical tests. Similarly, it is virtually impossible to amalgamate various complex datasets without powerful algorithms. The application of such algorithms is currently being pursued in securities, money market and business statistics, corporate master data, in the Research Data and Service Centre, as well as in seasonal adjustment.

In cashless payments, too, the importance of digital technologies is rising. For instance, use of contactless cards among consumers is growing apace. In addition, both the German banking industry and international technology firms are offering new services that allow smartphones to be used to pay in store (mobile payment). Crypto-tokens such as bitcoins, meanwhile, continue to play a negligible role in payments and have, overall, proved to offer little stable value. Strong volatility was driven, in particular, by speculation. The Bundesbank does not currently see in them a risk to the German financial system (see the box on pp. 26 ff.). Nonetheless, financial institutions and central banks alike are still examining what potential distributed ledger technology (DLT) – on which the tokens are based – could have in terms of settling financial transactions. Specifically, the Bundesbank joined forces with Deutsche Börse in 2018 to develop and test a DLT-based prototype for securities settlement for analytical purposes. The DLT versions they tested did prove to be basically suitable for high-volume applications. However, settlement was slightly slower and more cost-intensive than with conventional technology.

Real-time retail payments (instant payments) are particularly important for the future development of the payment system. On 30 November 2018, TARGET Instant Payment Settlement (TIPS), the Eurosystem's instant payment solution, was successfully launched. It extends the range of services offered by the Eurosystem and allows pan-European settlement of instant payments between banks as TIPS participants. This means that transfers in central bank money can be settled in a matter of seconds around the clock, 365 days a year – even at weekends and on bank holidays. However, market participants will have to make considerable investments before they can offer consumers instant payments, investments that will take time to realise. The volume of instant payments in Europe is expected to grow in 2019, which should also benefit TIPS.

The Bundesbank's range of cashless payment services is also used by UK banks. Besides settling SEPA payments using the Bundesbank's Retail Payment System (RPS) SEPA clearer, British banks also connect to TARGET2 Bundesbank to settle a wide range of transactions. As TARGET2 participants are required, amongst other things, to be established in the European Economic Area (EEA) or to have a branch located there, the uncertainty associated with the Brexit negotiations meant that market participants were forced to make appropriate preparations for the various scenarios. In many cases, this meant re-

Crypto-tokens: current developments and their implications for financial stability

Over the past few years, sharp movements in the prices of crypto-tokens have shifted them more closely into the public eye.[1] The market now counts over 2,000 crypto-tokens.[2] They are often also known as cryptocurrencies or virtual currencies. Although these names suggest otherwise, crypto-tokens are neither legal tender nor do they constitute a claim on an issuer. It is thus practically impossible to determine the intrinsic value of a crypto-token. Currently, they are first and foremost a speculative device, which is one reason why their prices are highly volatile.

Price fluctuations of this magnitude mean that crypto-tokens are not suitable as a store of value or as a unit of account. This also explains why they have hardly been used as a payment instrument so far. Transaction costs are often high, and the time it takes to settle a transaction is relatively long. Crypto-tokens therefore cannot fulfil the key economic functions of money. The view that crypto-tokens lack the key attributes of sovereign currencies is also shared internationally, for instance at the G20 level.[3]

Crypto-tokens are privately generated, digital tokens that are used in public or private computer networks. The universe of digitally generated tokens can, for the sake of simplicity, be divided into three categories of use: first, payment tokens used as a payment instrument; second, securities tokens representing transferable and tradable membership rights or contractual claims; and third, utility tokens entitling the holder to procure predefined goods or services.[4] However, in practice, most are hybrid tokens that can be used for a number of purposes.

One key feature of crypto-tokens, especially payment tokens, is that they can be used as the basis for a decentralised digital payment system. Traditional financial intermediaries, such as banks, that typically organise and settle payment transactions centrally are not required in this kind of decentralised payment system. Instead, payments are transferred within a public peer-to-peer network. Cryptographic procedures log a chronological transaction history. Mathematical algorithms ensure that the token can be used only once and that all participants in the peer-to-peer network have the same transaction history status.

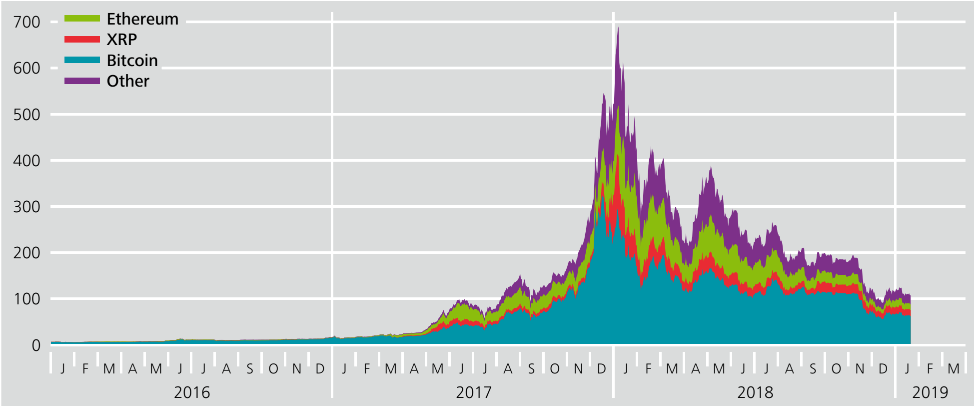
Despite the market's decentralised approach, more and more centralised market infrastructures for crypto-tokens were established last year. Digital trading platforms, for instance, make it easier to transfer tokens from one person to another and to exchange one type of token for another. In addition, holders of crypto-tokens are increasingly appointing service providers, such as wallet service providers, as brokers.

To date, direct interfaces to the financial system are few and far between, one being financial derivatives. Nevertheless, given

1 One example is the fluctuations in the price of bitcoins, which are one of the oldest crypto-tokens, and probably the best known. In mid-September 2017, one bitcoin was trading at only just over US$3,000. According to figures published by coinmarketcap.com, its price soared to more than US$19,000 in mid-December 2017, only to fall back strongly at the beginning of 2018.
2 According to figures published by coinmarketcap.com in December 2018.
3 G20 Argentinian Presidency in 2018, Communiqué – Finance Ministers and Central Bank Governors 19-20 March 2018, Buenos Aires, www.bundesfinanzministerium.de
4 Based on O. Fußwinkel and C. Kreiterling, Blockchain Technology – Thoughts on Regulation, in BaFin Perspectives, Issue 1, 2018.

Market capitalisation of the top 20 crypto-tokens*

US$ billion, daily data



Source: Data taken from https://coinmarketcap.com * The crypto-tokens with the highest market capitalisation on 21 January 2019.
Deutsche Bundesbank

the rise in the popularity of crypto-tokens, there are three questions to address. Can crypto-tokens pose a threat to the stability of the financial system? If so, are there any risks to financial stability at the moment? And, on another note, to what extent can crypto-tokens be used for criminal activities?

Market capitalisation and interconnectedness with the rest of the financial system are relevant when gauging the impact of price fluctuations of assets – crypto-tokens included – on financial stability.[5] As a result, adverse developments in crypto-token markets can have an impact on the financial system and the real economy via at least three channels.

First, mispricing in general can distort investment decisions in the real economy and result in bad investments. However, given that the macroeconomic significance of crypto-tokens – measured in terms of market capitalisation[6] – is currently low, the impact of bad investments in companies that generate crypto-tokens on the real economy is minimal.

Second, there are risks to financial stability if financial institutions or funds hold crypto-tokens either directly or indirectly on their balance sheets. In the case of direct investment in crypto-tokens, for example, sharp fluctuations in prices or liquidity shortages could trigger panic sales and result in high losses. This could impinge on the stability of the financial system as a whole. However, this is an unlikely scenario at present because, according to information from banking supervisory authorities, financial institutions' holdings of such investments are negligible so far (information as at Q3 2018). If financial institutions were to commence large-scale, crypto-token-backed lending to households, they would be indirectly exposed to potential disruptions in the crypto-token market. If a great many households were affected by plummeting

5 Unlike established assets, crypto-tokens are particularly exposed to technological and operational risk, such as cyber security risk. See Financial Stability Board (2018), Crypto-asset markets. Potential channels for future financial stability implications.
6 In January 2017, the market capitalisation of the segment was still below US$20 billion. It then rose sharply, peaking at just below US$814 billion at the beginning of January 2018 before falling back to the current level of just under US$122 billion. The market capitalisation of crypto-tokens therefore currently amounts to only around 0.5% of the market capitalisation of the S&P 500 index (information as at 20 December 2018). See coinmarketcap.com

prices, this could mean a greater number of defaults with potentially high losses in the financial sector. Currently, there are no indications that households or other agents hold large credit-financed investments in crypto-tokens.

A third channel of risk may exist if the financial system were to indirectly amplify the effects of unfavourable developments. Price fluctuations have a direct impact on household wealth. Households will adjust their consumption behaviour if their wealth rises or falls. Depending on the intensity of this wealth effect, these adjustments might be significant from a macroeconomic perspective. By restricting lending, the financial system may amplify macroeconomic fluctuations if the households in question finance consumption by taking out credit.[7] While there is a large number of crypto-token users worldwide, the tokens themselves are very unevenly distributed. Only a handful of investors currently hold a substantial amount of digital assets and would suffer huge blows in an adverse scenario.[8] It is also striking that there is no correlation between the performance of crypto-tokens and that of established assets over time.[9] If the correlation had been very strong, this may have been an indicator for potential contagion effects on other asset markets. At present, however, there is no evidence supporting this effect, either. Overall, despite their increased importance, crypto-tokens do not pose a threat to financial stability at this time.

The question thus remains as to how far crypto-tokens can harm consumers or be used for criminal activities. Many of the over 2,000 crypto-tokens were generated via initial coin offerings. This is a way of raising capital whereby investors receive newly generated crypto-tokens in return for their investment. As this is mostly a private process and can be carried out without prior official approval, cases of fraud frequently abound among initial coin offerings. Investing in crypto-tokens thus entails high risks for investors. As a result, the Federal Financial Supervisory Authority (BaFin) and the Bundesbank have been warning of the risks involved in investing in crypto-tokens and initial coin offerings.[10] Global market fragmentation and the option of transferring tokens anonymously also make conditions easier for tax evasion, money laundering and terrorist financing. Efforts to combat such activities are made more difficult, also due to the patchwork of different national regulations.[11]

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7 See Deutsche Bundesbank, Financial Stability Review 2018; and Financial Stability Board (2018), Crypto-asset markets. Potential channels for future financial stability implications.

8 At last count, there were around 139 million user accounts for crypto-tokens distributed among at least 35 million users. It is estimated that between 2% and 9% of the population in industrial countries hold crypto-tokens. See M. Rauchs, A. Blandin, K. Klein, G. Pieters, M. Recanatini and B. Zhang (2018), 2nd Global Cryptoasset Benchmarking Study, Cambridge Centre for Alternative Finance, University of Cambridge Judge Business School.

9 Time variance in the correlation structure was estimated using a dynamic multivariate correlation model. This enables both the volatility of bitcoin and gold yields and the time-varying correlations between the data to be modelled depending on own lagged values. See R. Engle (2002), Dynamic Conditional Correlation: A Simple Class of Multivariate Generalized Autoregressive Conditional Heteroskedasticity Models, Journal of Business and Economic Statistics, Vol. 20, pp. 339-350.

10 See also Consumer warning: the risks of initial coin offerings of 9 November 2017 (https://www.bafin.de/SharedDocs/Veroeffentlichungen/EN/Meldung/2017/meldung_171109_ICOs_en.html) and "Virtuelle Währungen und ICOs: ESAs und IOSCO warnen vor Risiken, BIZ fordert besseren Schutz der Anleger" of 13 February 2018 (https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Meldung/2018/meldung_180209_virtuelle_Waehrungen_ICOs.html).

11 G20 Argentinian Presidency in 2018, Communiqué – Finance Ministers and Central Bank Governors 19-20 March 2018, Buenos Aires, www.bundesfinanzministerium.de structuring within the enterprise, applying for licences within the EEA or ensuring other legal access requirements were met.

With regard to payments, the issue of cyber security also took on increasing importance for the Bundesbank in 2018. The Bundesbank worked on numerous Eurosystem initiatives, including the cyber resilience oversight expectations, which have since been published. It also carried out an exercise with market infrastructure operators on a cyberattack scenario and published TIBER-EU, a European framework for penetration tests (red team testing). Implementation of the framework in Germany, known as TIBER-DE, has already started and will continue in 2019.

Digitalisation is also slowly but surely having an impact on Germans' in-store payment behaviour. According to the fourth study on payment behaviour in Germany, which the Bundesbank presented in February 2018, new payment methods are rapidly gaining traction. Online payment methods have become established and are used to settle just under 4% of total sales. Moreover, contactless cards accounted for more than 1% of sales for the first time. By contrast, the percentage of cash payments, which are usually used for small amounts, in overall sales has, in recent years, fallen by an average of just over 1 percentage point per year. Nonetheless, almost three out of four purchases were still paid for with cash. Cash thus remained the most common means of in-store payment in Germany, ahead of the debit card.

To ensure an even more efficient supply of cash, the Bundesbank's new branch in Dortmund will gradually start operations in 2019. It will be the Bundesbank's largest branch in terms of floor space, business volume and staff numbers and will gradually replace the five existing branches in the Rhine-Ruhr area. The Bundesbank's branch network will then comprise 31 branches in total. Alongside the Bundesbank, credit institutions, cash-in-transit companies and, increasingly, retailers have a major role to play in the cash cycle. The Bundesbank has, since 2014, offered an online tool which staff at such companies can use to learn all about checking the authenticity and fitness of banknotes and coins. This online tool has now been fundamentally overhauled and made more user-friendly.

Further challenges

Digitalisation not only changes processes and products, it also creates new job and qualification profiles. Education is key to reaping the benefits of this change. A well-educated general public is, however, also important for a central bank's work, especially when dealing with topics such as money, currency and monetary policy. Knowledge creates trust, and central banks rely on trust to safeguard their independence and guarantee price stability. Our economic education programme helped strengthen the general public's understanding of money, monetary policy and the central bank's tasks again in 2018. For instance, throughout Germany, some 72,800 people took part in almost 2,380 economic education events last year. Our new publication "Geld verstehen" (Understanding money), which is aimed at younger secondary school pupils, closes a gap in our collection of materials, enabling us now to offer resources for school children of all ages. On top of that, a special publication was drawn up in cooperation with the Wochenschau-Verlag publishing company entitled "Geld und Geldpolitik" (Money and monetary policy), offering teachers comprehensive background information for their lessons. And finally, our Money Museum again proved a popular and unique learning attraction, welcoming 53,000 visitors in 2018. The special exhibition "Gold. Treasures at the Deutsche Bundesbank", in particular, attracted large numbers of visitors. The exhibition focused on the prominent role gold has played in the history of money and currencies and illustrated how the Bundesbank ended up with the gold reserves which even today represent the majority of the country's reserve assets.

Alongside digitalisation, profound demographic change represents a second force that is shaping the economy on a long-term basis. In Germany especially, the working-age population is set to shrink over the years to come. At the same time, the structure of the population is shifting towards older persons with lower labour force participation. This reduces the long-term growth prospects, could also affect the level of interest rates and puts pressure on government finances. However, demographic trends are important not only for economic analysis and projections. The Bundesbank is, as an employer, also directly affected by the demographics-driven aging of its workforce. This was one reason why its annual management conference was dedicated to the topic of "Healthy leadership" last year.

A particular challenge for the Bundesbank is the future design of its Frankfurt Central Office. One objective is for all the Bundesbank's Frankfurt Central Office staff to be united at one location on its premises in Frankfurt's Bockenheim district. In May 2018, the Bank initiated a pan-European tender with an integrated design competition. Six architecture firms submitted design proposals. In December, the Executive Board reached a decision. The Frankfurt architecture firm Ferdinand Heide was commissioned with taking its draft and developing a full and detailed concept. Plans involve, amongst other things, erecting three additional office buildings as well as renovating the Bank's main building in Wilhelm-Epstein-Strasse. Regarded by many as a symbol of stability, the main building will continue to be prominent. And the signal being sent in terms of urban planning holds good elsewhere, namely that the Bundesbank's commitment to ensuring stability remains intact.

Acknowledgements

Finally I would like to take this opportunity to thank all our staff on behalf of the entire Executive Board as well as personally. My first term in office ends on 30 April 2019. Over the past few years, we have grappled with challenging crises, faced fundamentally new structures – in banking supervision to mention just one example – and have embarked on new, not entirely uncontroversial paths in monetary policy. In all of this, the full support, the energy and the competence of our staff were always vital. They make the Bundesbank what it is today – a highly respected institution that people trust. For this to be the case, every individual's input counts, as does the team effort. My thanks go to our members of staff for their commitment, expertise and reliability both in their day-to-day work and in the special tasks and projects which also have to be carried out, and which often involve extraordinary effort. I am confident that we will, together, master future challenges and justify the faith the public places in our institution.

Frankfurt am Main, February 2019

Dr Jens Weidmann
President of the Deutsche Bundesbank

Chronology of economic and monetary policy measures

1 January 2018

The basic income tax allowance is raised by €180 to €9,000, child tax allowance is increased by €72 to €7,428, and monthly child benefits rise by €2 per child. Moreover, the other income tax brackets are increased ("shifted to the right") to eliminate the effect of bracket creep owing to inflation in 2017 for all income categories.

The contribution rate to the statutory pension insurance scheme is reduced from 18.7% to 18.6%.

The Federal Ministry of Health had calculated that, following on from an average additional contribution rate of 1.1% for health insurance institutions in 2017, a rate of 1.0% would be necessary to cover expenditure in 2018. However, the actual average supplementary contribution rates of individual health insurance institutions only decline by around half as much.

28 February 2018

The federal states of Hamburg and Schleswig-Holstein and the Savings Banks Association of Schleswig-Holstein sign an agreement to sell their shares in HSH Nordbank AG to private investors. This privatisation requires the approval of the European Commission and banking supervisory bodies, amongst others.

12 March 2018

The chairs of the CDU, the CSU and the SPD sign a coalition agreement to form a new Federal Government. The aim is a central government budget with no net borrowing. However, this budget will include recourse to any cyclical surpluses and the refugee reserve. German fiscal policy is thus set to become clearly expansionary over the next few years. In this vein, the contribution rate to the Federal Employment Agency is to be cut by 0.3 percentage point to 2.7%, and there are plans to abolish the solidarity surcharge up to a certain exemption limit (with a sliding scale) in 2021. Additional funding has been earmarked, first and foremost, for social affairs, education, digitalisation and families. A fundamental pension reform is envisaged for the period after 2025; a commission is to submit appropriate proposals by March 2020. At the EU level, the coalition indicates that it is open to taking further steps towards integration and to Germany making a greater financial contribution.

10 April 2018

The Federal Constitutional Court rules that the standard rateable values for assessing property tax are unconstitutional in their current form. This is due to the unequal treatment of taxpayers resulting from obsolete valuation rules. Property tax provisions must be revised by the end of 2019, but there will be another five years to implement the reforms.

18 April 2018

The Federal Cabinet presents an updated stability programme for Germany which does not yet contain the fiscal policy measures adopted in the coalition agreement. The programme foresees real GDP growth of 2.4% in 2018, 1.9% in 2019 and 1.3% each year thereafter up to 2022. The general government budget is set to continue achieving surpluses until 2021 and the debt ratio to fall.

23 April 2018

The general government deficit and debt data reported by the EU countries are published after validation by Eurostat. They reveal that the German government recorded a surplus of 1.3% of GDP and a debt ratio of 64.1% in 2017. For 2018, the Federal Government anticipates a surplus of 0.9% of GDP and a decline in the debt ratio to 61.1%.

2 May 2018

The new Federal Cabinet approves a revised draft of the 2018 central government budget as well as the benchmark figures for the 2019 budget and for the fiscal plan up to and including 2022. Once again, no net borrowing is envisaged for the planning period as a whole. Despite the favourable financial situation, funding deficits have been planned for. However, these are set to be covered by the complete dismantling of the refugee reserve, which had climbed to €24 billion by the close of the 2017 fiscal year.

23 May 2018

The European Commission presents a report on Italy, amongst other countries, on the basis of Article 126(3) of the Treaty on the Functioning of the European Union (TFEU). In the report, the Commission assesses compliance with the debt criterion in 2017 and recommends that no excessive deficit procedure be initiated. In spring 2019, this evaluation is to be conducted once more on the basis of new data. The improvement in the structural balance in 2018 will be a determining factor here.

5 June 2018

The Federal Government submits its updated draft budgetary plan for the general government budget to the European Commission. In contrast to April's stability programme, the majority of the fiscal policy measures adopted in the coalition agreement have now been incorporated. For 2018, the Federal Government anticipates a surplus of 1¼% of GDP. This is set to decline to between ½% and ¾% in the years thereafter until 2022. The structural surplus relative to GDP is expected to fall from 1% in 2018 to ¼% in 2019, and should then progressively increase to ¾%. The debt ratio is forecast to decline from 61% to 58¼% in 2019 and sink further to 52% in 2022.

14 June 2018

The ECB Governing Council decides that purchases under the expanded asset purchase programme (APP) will continue, as previously announced, at a monthly pace of €30 billion net until the end of September 2018. Moreover, subject to confirmation of its current assessment of the medium-term inflation outlook by newly available data, the Governing Council aims to reduce the net volume of monthly asset purchases to €15 billion after the end of September 2018 and to discontinue purchases entirely after the end of December 2018. The Council still intends to uphold its policy of reinvesting the principal payments for an extended period of time after the end of the net purchases, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

At the same time, it strengthens its forward guidance on the future development of key interest rates. It now expects that policy rates will remain at their present levels at least through the summer of 2019, and in any case for as long as necessary to ensure the continued sustained convergence of inflation to levels that are below, but close to, 2% over the medium term.

15 June 2018

The Bundesbank anticipates real GDP growth of 2.0% in 2018, 1.9% in 2019 and 1.6% in 2020 in calendar-adjusted terms (unadjusted for calendar effects, growth of 2.0% is expected for 2020 on account of the higher number of working days). According to this projection, although the German economy is expanding at a faster rate than production capacity, economic growth will not be as strong as it was a year earlier. The inflation rate as measured by the Harmonised Index of Consumer Prices (HICP) is likely to rise marginally to 1.8% in 2018 and then to remain roughly unchanged in the following years. Excluding energy and food, inflation is likely to pick up from 1.4% in 2018 to 1.7% in 2019 and to 2.0% in 2020.

22 June 2018

On the recommendation of the European Commission, the Council of the European Union ends the excessive deficit procedure for France. In 2009, the Council had identified an excessive deficit for the previous year, which was supposed to be corrected by 2012 at the latest. However, the correction deadline was extended in December 2009, June 2013 and March 2015 by two years in each instance on account of unexpected adverse economic developments. Although France missed its consolidation target for improving the structural balance by a significant amount, with a deficit of 2.6% of GDP, it adhered to the reference value of 3% in 2017.

The Eurogroup adopts further debt relief measures for Greece: the intended 2018 interest rate hike for some of the loans in the second European Financial Stability Facility (EFSF) assistance programme will be scrapped, subject to certain conditions, principal and interest payments for EFSF loans will once again be deferred for ten years, and, in addition to this, the maturity of these loans will be extended by a further ten years. According to European Stability Mechanism (ESM) calculations, the Greek debt ratio should thus be 30 percentage points lower in 2060.

26 June 2018

Both the Stability Council and its independent advisory board anticipate that Germany will continue to comply, by a comfortable margin, with the upper limit of 0.5% of GDP for the structural general government deficit. The Stability Council concludes that the five states in receipt of consolidation assistance have again adhered to the agreed paths for reducing their structural deficits in the 2017 fiscal year. The federal states of Bremen and Saarland are urged to consistently pursue their budget consolidation goals.

4 July 2018

The Bundestag approves the federal budget for 2018. Compared with the May draft budget, €2½ billion more in tax revenue is expected. This is to be transferred to a digitalisation fund. The planned deficit of €2 billion is set to be funded via the refugee reserve and coin seigniorage, making it possible to avoid net borrowing in budgetary terms. This creates a safety margin of €8 billion below the net borrowing limit pursuant to the debt brake.

6 July 2018

The Federal Cabinet approves a draft central government budget for 2019 and the medium-term financial plan up to 2022. Expenditure will be expanded accordingly on account of anticipated additional revenue following the May tax estimate. The refugee reserve will be used up by 2022. The creation of a reserve for demographic challenges is a new development; €2 billion is to be transferred to this reserve each year from 2022 onwards. This will later be used to finance additional central government grants to the statutory pension insurance scheme, which are needed to implement plans to guarantee a pension level of 48% (based on 45 years of employment at average wage) up to and including 2025, and to simultaneously cap the contribution rate at 20% ("double limit").

20 August 2018

The third assistance programme for Greece, adopted in August 2012, is concluded. The ESM has granted €61.9 billion of a maximum of €86 billion in assistance loans at extremely favourable conditions under this programme.

13 September 2018

As indicated in June 2018, the Governing Council of the ECB decides to reduce net purchases under the APP to €15 billion per month after September 2018. It continues to anticipate the discontinuation of net purchases after the end of December 2018 subject to incoming data confirming its medium-term inflation outlook.

15 October 2018

The Federal Government submits its draft budgetary plan for the 2019 general government budget to the European Commission. In contrast to the budget plan for 2018, which was updated in June, a somewhat higher surplus of 1½% of GDP is expected for 2018. Only a limited further decline to 1% of GDP is anticipated in 2019. The structural fiscal balance is estimated at 1½% in 2018 and ½% in 2019. The debt ratio is projected to fall to 61% in 2018 and to 58% in 2019.

22 October 2018

The general government deficit and debt figures reported by the EU Member States are published after validation by Eurostat. According to these data, in 2017 Germany recorded a general government surplus of 1.0% of GDP coupled with a year-end government debt ratio of 63.9%.

23 October 2018

The European Commission rejects Italy's draft budgetary plan for 2019. Having identified a particularly serious deviation from the requirements of the Stability and Growth Pact, it demands for the first time since the procedure was implemented in 2013 that improvements be made.

7 November 2018

In its Annual Report, the German Council of Economic Experts forecasts a continuation of the economic upturn in Germany. Despite less favourable external conditions and temporary production problems in the automotive industry in the third quarter of 2018, the report indicates that there is no reason to expect a prolonged economic downturn. A rise in real GDP of 1.6% for 2018 and 1.5% for 2019 is projected (with no notable calendar effects in either year). The Council continues to see increasing signs of overutilised aggregate capacity.

13 November 2018

Italy defies the request made by the European Commission in October to present a revised draft budget for 2019, bringing this arm of European budgetary surveillance to a close. However, the European Commission views Italy's insufficient willingness to cooperate as an aggravating factor in its reassessment of the country's compliance with the debt criterion in 2017.

14 November 2018

Representatives of the EU and the British government agree on a draft withdrawal agreement and political declaration on their future relationship. This also outlines a possible transition period up to the end of 2020, during which the UK would retain its membership of the customs union and remain inside the single market. The draft deal requires the approval of the UK Parliament. On the EU side, it is subject to a super qualified majority vote in the Council of the European Union and needs to be ratified by the European Parliament. However, the UK's planned withdrawal from the EU on 29 March 2019 is not contingent on there being a withdrawal agreement in place.

21 November 2018

Due to Italy being insufficiently willing to compromise over its draft budgetary plan for 2019, the European Commission presents a report prepared in accordance with Article 126(3) of the TFEU earlier than originally intended. In the report, it assesses the country's compliance with the debt criterion in 2017. In the same assessment made in May 2018, compliance in 2018 was declared conditional upon a minimum improvement in its structural deficit ratio. It now appears that this condition will not be met. In view of this, the report suggests that an excessive deficit procedure is warranted.

23 November 2018

The Bundestag adopts the Federal budget for 2019. Budgetary burdens, particularly in the form of tax transfers to state and local government, replace the global precautionary allotments worth €9 billion included in July's draft budget. The planned withdrawal from the refugee reserve to cover the deficit is raised by €½ billion compared with the draft budget to €5½ billion. The gap between the deficit and the budget ceiling pursuant to the debt brake under Germany's Basic Law is a mere €3 billion.

28 November 2018

Following approval from the European Commission and banking supervisors, the sale of HSH Nordbank AG to private investors is concluded. In future, the bank will operate under the name Hamburg Commercial Bank AG. The asset guarantee provided by state owners Hamburg and Schleswig-Holstein is settled, placing these states' budgets under additional strain to the tune of almost €5 billion.

29 November 2018

The Economic and Financial Committee agrees with the opinion issued by the European Commission in November that Italy is in breach of the fiscal rules.

3 December 2018

The ECB Governing Council adopts legal acts on the regular five-yearly adjustment to its capital key for subscription to the ECB's capital. The shares of the national central banks (NCBs) in the ECB's capital are weighted according to the share of the respective Member States in the total population and GDP of the EU, in equal measure. Following the latest review, 16 NCBs (including the Bundesbank) will have a higher share in the ECB's capital than before and 12 NCBs will have a lower share. The new capital key will enter into force on 1 January 2019.

6 December 2018

The Stability Council and its independent advisory board anticipate that Germany will comply, by a comfortable margin, with the upper limit of 0.5% of GDP for the general government structural deficit over the entire fiscal planning period. Moreover, the Stability Council intends to assess compliance with debt brake rules at the central and state government level from 2020 onwards. The results, which will be determined using a standardised procedure in line with European rules, will only be published if the central or state government in question gives its consent. No harmonised cyclical adjustment procedure is prescribed. In addition, the reporting group deviates from broader European requirements. Only the core budget and those off-budget entities with borrowing authorisation will be taken into account.

10 December 2018

France announces that its deficit will exceed the reference value of 3% of GDP in 2019. This is due to the budget-burdening fiscal measures to be implemented in 2019 in response to nationwide protests in France. Under European fiscal rules, purposefully exceeding the reference value paves the way for an excessive deficit procedure. Nonetheless, the European Commission refrains from launching this procedure citing exceptional circumstances. However, contrary to what is specified in the rules regarding an exemption on these grounds, circumstances are not outside the French government's control.

The European Court of Justice delivers its judgement on the interpretation of Article 50 of the Treaty on European Union (TEU). According to its ruling, the UK has the right to unilaterally revoke its intention to withdraw from the EU.

11 December 2018

The European Court of Justice delivers its judgement on a request by the Federal Constitutional Court for a preliminary ruling regarding the purchase of public sector bonds by the European System of Central Banks (ESCB). According to its ruling, the public sector purchase programme (PSPP) does not exceed the ESCB's monetary policy mandate. The principal reasons behind this decision are that bonds issued by individual countries are not selectively bought up, credit ratings are reviewed, the duration of the programme is limited and the volume is restricted. Furthermore, there are limits on the share of a single security and of an issuer's outstanding securities that may be purchased. No judgement was delivered regarding potential pressure on government budgets in the event of changes to loss sharing. The Federal Constitutional Court must now examine whether an infringement of the German constitution is deemed to have occurred.

13 December 2018

The ECB Governing Council decides that net asset purchases under the APP will end in December 2018 and, at the same time, enhances its forward guidance on reinvestment. It intends to continue reinvesting, in full, the principal payments from maturing securities purchased under the APP for an extended period of time past the date when it starts raising the key ECB interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

In addition, the ECB Governing Council adopts a raft of technical parameters for reinvestment. For the PSPP, for instance, the allocation across eligible jurisdictions will continue to be guided, on a stock basis, by the respective NCBs' subscription to the ECB capital key, as amended over time. As a rule, redemptions will be reinvested in the jurisdiction in which principal repayments are made, but the portfolio allocation across jurisdictions will continue to be adjusted with a view to gradually bringing the share of the PSPP portfolio into closer alignment with the respective NCBs' subscription to the ECB capital key.

14 December 2018

The EU Heads of State or Government agree on steps to reform economic and monetary union. To better prevent crises, access conditions for precautionary credit lines under the ESM are to be changed. To improve crisis management, the aim is for the ESM to be able to serve as a mediator between euro area countries and creditors. In addition, simplified voting rules for government bonds (single limb collective action clauses) are intended to make it easier to get creditors to agree to debt restructuring. The ESM is to provide the common backstop for the Single Resolution Fund (SRF) by no later than the end of 2023. To this end, the ESM will provide a revolving credit line, the size of which will be aligned with target SRF funds (1% of covered deposits; currently around €65 billion). This credit line will cover all possible uses of the SRF. In return, the ESM's direct bank recapitalisation instrument will be dropped. The common backstop for the SRF may be introduced earlier, provided that banks make sufficient progress in reducing their exposure to risks in the banking system by 2020. Furthermore, the Eurogroup is tasked with drawing up a proposal for a budget to promote euro area competitiveness and convergence. This is to become part of the EU budget. There is no consensus regarding a European deposit insurance scheme or a European stabilisation facility.

The Bundesbank anticipates real GDP growth of 1.6% in 2019 and 2020 and of 1.5% in 2021 in calendar-adjusted terms (unadjusted for calendar effects, growth of 2.0% is expected for 2020 on account of the higher number of working days). The damper in the third quarter of 2018 caused by temporary production problems in the automotive industry is likely to be quickly resolved. With this in mind, the German economy looks set to keep booming. However, the already high level of aggregate capacity utilisation will increase only marginally. Consumer price inflation as measured by the HICP will first fall from 1.9% in 2018 to 1.4% in 2019 before probably rising to 1.8% in both 2020 and 2021. Excluding energy and food, the inflation rate is therefore likely to climb from 1.2% in 2018 to 1.8% in 2020. In 2021, it could hit 2.0%.

17 December 2018

The state of Hesse assumes the remaining cash advances accrued by its local governments that were not taken out for the purpose of asset acquisition. All in all, €5 billion worth of liabilities were transferred in the second half of the year. The local authorities are required to contribute to long-term repayments. Furthermore, budgetary rules were tightened up so as to prevent holdings of liquidity advances of this kind from resurging in the long term.

19 December 2018

Following negotiations with the European Commission, the Italian government presents a revised draft budgetary plan for 2019. The deficit ratio will rise to 2.0% instead of 2.4% as previously planned. In view of this, the European Commission decides against recommending to the Council of the European Union that an excessive deficit procedure be launched – in spite of the fact that the country's structural deficit decrease in 2018 is still insufficient and that the European Commission had previously declared this to be the deciding factor with respect to opening the procedure.

1 January 2019

The basic income tax allowance is raised by €168 to €9,168. The other income tax brackets are increased ("shifted to the right"). This is intended to offset at least the estimated effect of bracket creep owing to inflation in 2018. The child tax allowance is raised by €192 to €7,620. A further adjustment will be made in early 2020. Overall, it thus reflects the upcoming increase in child benefits, which will come into effect in mid-2019.

The contribution rate to the unemployment insurance scheme is lowered by 0.5 percentage point to 2.5%.

The contribution rate to the public long-term care insurance scheme is raised from 2.55% to 3.05% (plus an additional 0.25% in each case for childless persons).

An expansion of mothers' pensions sees mothers to children born before 1992 receive 2.5 pension entitlement points, up from 2 points, for each child raised, increasing their pension benefits. Pensions for persons with reduced earning capacity are ramped up significantly for new cases. In a departure from the norm, the contribution rate is not cut despite the fact that the reserve limit of 1.5 times the scheme's monthly expenditure is likely to be exceeded by the end of 2019.

From now on, the supplementary contribution set by individual statutory health insurance institutions will no longer be paid by members alone; instead, half will be covered by enterprises, government or the statutory pension insurance scheme. The rate deemed necessary by the Federal Ministry of Health to cover relevant expenditure is lowered by 0.1 percentage point to 0.9%.

15 January 2019

British MPs reject the EU withdrawal agreement negotiated in November by a significant margin.

The Federal Ministry of Finance presents the provisional outturn for the 2018 federal budget. According to the figures, a surplus of €11 billion was recorded. Compared with the budget plans, which had not been finalised until the third quarter and envisaged a deficit of €2 billion, the outturn comprised markedly lower expenditure as well as additional tax and other revenue. The structural outturn is reported as +0.15% of GDP. The debt brake limit of -0.35% of GDP is clearly undershot once again.

29 January 2019

A majority of British MPs vote to renegotiate the terms of the EU withdrawal agreement.

31 January 2019

In its Annual Economic Report for 2019, the Federal Government anticipates real GDP growth of 1.0% (no notable calendar effects). According to the report, economic growth will be weaker than in the previous year. While domestic expansionary forces are likely to still make themselves felt this year, the global economic outlook has deteriorated.

14 February 2019

The Federal Statistical Office reports real GDP growth of 1.4% for 2018 (1.5% in calendar-adjusted terms).

22 February 2019

For 2018, the Federal Statistical Office publishes a general government fiscal surplus of 1.7% of GDP, pursuant to the Maastricht definition of the national accounts.

27 February 2019

The Bundesbank publishes its annual accounts for the 2018 financial year. The profit of €2,433 million is transferred to central government.

Annual accounts of the Deutsche Bundesbank for 2018

Balance sheet of the Deutsche Bundesbank as at 31 December 2018

Assets

			31.12.2017
		€ million	€ million
1 Gold and gold receivables		121,445	117,347
of which: gold receivables €313,958.76			(0)
2 Claims on non-euro area residents denominated in foreign currency			
2.1 Receivables from the IMF	19,896		(18,280)
2.2 Balances with banks and security investments, external loans and other external assets	31,796		(31,215)
		51,693	49,495
3 Claims on euro area residents denominated in foreign currency		1,644	7,168
4 Claims on non-euro area residents denominated in euro		1,943	4,396
5 Lending to euro area credit institutions related to monetary policy operations denominated in euro			
5.1 Main refinancing operations	1,890		(1,049)
5.2 Longer-term refinancing operations	87,648		(93,272)
5.3 Fine-tuning reverse operations	–		(–)
5.4 Structural reverse operations	–		(–)
5.5 Marginal lending facility	894		(–)
		90,432	94,320
6 Other claims on euro area credit institutions denominated in euro		120	464
7 Securities of euro area residents denominated in euro			
7.1 Securities held for monetary policy purposes	571,829		(512,125)
7.2 Other securities	–		(–)
		571,829	512,125
8 Claims on the Federal Government		4,440	(4,440)
9 Intra-Eurosystem claims			
9.1 Participating interest in the ECB	1,948		(1,948)
9.2 Claims equivalent to the transfer of foreign reserves to the ECB	10,430		(10,430)
9.3 Net claims related to the allocation of euro banknotes within the Eurosystem	–		(–)
9.4 Other claims within the Eurosystem (net)	966,324		(906,805)
		978,702	919,183
10 Items in course of settlement		2	2
11 Other assets			
11.1 Coins	1,078		(1,041)
11.2 Tangible and intangible fixed assets	874		(795)
11.3 Other financial assets	12,053		(11,194)
11.4 Off-balance-sheet instruments revaluation differences	7		(92)
11.5 Accruals and prepaid expenses	5,206		(5,272)
11.6 Sundry	313		(295)
		19,532	18,688
		1,841,781	1,727,629

Liabilities

		€ million	31.12.2017 € million
1 Banknotes in circulation		289,587	275,376
2 Liabilities to euro area credit institutions related to monetary policy operations denominated in euro			
2.1 Current accounts	421,415		(392,785)
2.2 Deposit facility	151,385		(217,039)
2.3 Fixed-term deposits	–		(–)
2.4 Fine-tuning reverse operations	–		(–)
2.5 Deposits related to margin calls	6		(2)
		572,806	609,826
3 Other liabilities to euro area credit institutions denominated in euro		4,300	2,677
4 Liabilities to other euro area residents denominated in euro			
4.1 General government deposits	65,590		(66,970)
4.2 Other liabilities	57,950		(51,815)
		123,540	118,785
5 Liabilities to non-euro area residents denominated in euro		280,798	199,813
6 Liabilities to euro area residents denominated in foreign currency		0	0
7 Liabilities to non-euro area residents denominated in foreign currency		–	1,008
8 Counterpart of special drawing rights allocated by the IMF		14,656	14,322
9 Intra-Eurosystem liabilities			
9.1 Liabilities related to the issuance of ECB debt certificates	–		(–)
9.2 Net liabilities related to the allocation of euro banknotes within the Eurosystem	401,094		(359,306)
9.3 Other liabilities within the Eurosystem (net)	–		(–)
		401,094	359,306
10 Items in course of settlement		1	1
11 Other liabilities			
11.1 Off-balance-sheet instruments revaluation differences	–		(–)
11.2 Accruals and income collected in advance	781		(447)
11.3 Sundry	1,940		(1,938)
		2,721	2,385
12 Provisions		25,598	23,485
13 Revaluation accounts		118,499	113,079
14 Capital and reserves			
14.1 Capital	2,500		(2,500)
14.2 Reserves	3,246		(3,164)
		5,746	5,664
15 Distributable profit		2,433	1,902
		1,841,781	1,727,629

Profit and loss account of the Deutsche Bundesbank for the year 2018

			2017
		€ million	€ million
1.1 Interest income	6,161		(5,174)
1.2 Interest expense	– 1,241		(– 1,002)
1 Net interest income		4,920	4,172
2.1 Realised gains/losses arising from financial operations	208		(537)
2.2 Write-downs on financial assets and positions	– 120		(– 215)
2.3 Transfers to/from provisions for general risks, foreign exchange risks and price risks	– 1,475		(– 1,075)
2 Net result of financial operations, write-downs and risk provisions		– 1,387	– 754
3.1 Fees and commissions income	91		(74)
3.2 Fees and commissions expenses	– 41		(– 34)
3 Net income from fees and commissions		50	41
4 Income from participating interests		393	329
5 Net result of pooling of monetary income		– 194	– 406
6 Other income		191	118
Total net income		3,973	3,501
7 Staff costs		849	866
8 Administrative expenses		434	416
9 Depreciation of tangible and intangible fixed assets		92	85
10 Banknote production services		47	110
11 Other expenses		36	21
Profit for the year		2,516	2,002
12 Allocation to/withdrawals from reserves owing to the restriction on distribution pursuant to Section 253(6) of the German Commercial Code (*Handelsgesetzbuch*)		– 82	– 100
Distributable profit		2,433	1,902

Frankfurt am Main, 5 February 2019

DEUTSCHE BUNDESBANK
Executive Board

Dr Jens Weidmann Professor Claudia Buch

Burkhard Balz Dr Johannes Beermann Dr Sabine Mauderer Professor Joachim Wuermeling

Unqualified independent auditor's report for statutory audits of annual financial statements

To the Deutsche Bundesbank, Frankfurt am Main

Auditor's opinion on the annual financial statements

We have audited the annual financial statements of the Deutsche Bundesbank, Frankfurt am Main, consisting of the balance sheet as at 31 December 2018 and the profit and loss account for the business year from 1 January 2018 to 31 December 2018.

In our opinion, based on the findings of our audit, the said annual financial statements comply, in all material respects, with the legal requirements and the principles for the accounting of the Deutsche Bundesbank approved by the Executive Board pursuant to Section 26(2) of the Bundesbank Act and give a true and fair view of the net assets and financial position of the Deutsche Bundesbank as at 31 December 2018 and the results of operations for the business year from 1 January 2018 to 31 December 2018 in accordance with German principles of proper accounting.

Pursuant to Section 322(3) sentence 1 of the German Commercial Code (*Handelsgesetzbuch* – HGB), we declare that our audit has not led to any reservations with regard to the regularity of the annual financial statements.

Basis for the auditor's opinion on the annual financial statements

We conducted our audit of the annual financial statements in accordance with Section 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the *Institut der Wirtschaftsprüfer* [Institute of Public Auditors in Germany] (IDW) as well as, on a supplementary basis, the International Standards on Auditing (ISAs). Our responsibilities pursuant to these provisions, principles and standards are further described in the "Auditor's responsibilities for the audit of the annual financial statements" section of our report. We are independent of the Deutsche Bundesbank in accordance with German commercial and professional laws and regulations, and we have fulfilled our other German ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information

The Executive Board is responsible for other information. Other information comprises any and all information in the Annual Report with the exception of the annual financial statements and the auditor's report.

Our opinion on the annual financial statements does not cover this other information, and we therefore do not express an auditor's opinion or draw any other form of audit conclusion regarding this other information.

In connection with our audit, we have the responsibility to read the other information and to evaluate whether

– there are material inconsistencies between the other information and the annual financial statements or the findings of our audit, or

– the other information otherwise appears to contain a material misstatement.

If we conclude, on the basis of our audit, that the other information contains a material misstatement, we are obliged to draw attention to this matter. We have nothing to report in this regard.

Responsibilities of the Executive Board for the annual financial statements

The Executive Board is responsible for the preparation of the annual financial statements in accordance with the legal requirements and the principles for the accounting of the Deutsche Bundesbank approved by the Executive Board pursuant to Section 26(2) of the Bundesbank Act and for ensuring that the annual financial statements give a true and fair view of the net assets, financial position and results of operations of the Deutsche Bundesbank in accordance with German principles of proper accounting. Moreover, the Executive Board is responsible for such internal control as it determines necessary in accordance with German principles of proper accounting to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, the Executive Board is responsible for assessing the Deutsche Bundesbank's ability to continue as a going concern. It is also responsible for disclosing, as applicable, matters related to going concern and using the going-concern basis of accounting, provided there are no factual or legal impediments thereto.

The Executive Board is responsible for overseeing the Deutsche Bundesbank's financial reporting process for the preparation of the annual financial statements.

Auditor's responsibilities for the audit of the annual financial statements

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion on the annual financial statements.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the *Institut der Wirtschaftsprüfer* as well as, on a supplementary basis, the ISAs will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual financial statements.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also

– identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the overriding of internal control.

– obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Deutsche Bundesbank's internal control.

– evaluate the appropriateness of the accounting policies used by the Executive Board as well as the reasonableness of accounting estimates and related disclosures made by the Executive Board.

– conclude on the appropriateness of the Executive Board's use of the going-concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the

Deutsche Bundesbank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Deutsche Bundesbank to cease to continue as a going concern.

– evaluate the overall presentation, structure and content of the annual financial statements and whether the annual financial statements represent the underlying transactions and events in a manner that gives a true and fair view of the net assets, financial position and results of operations of the Deutsche Bundesbank in accordance with German principles of proper accounting.

We communicate with the Executive Board regarding, amongst other matters, the planned scope and timing of the audit and significant audit findings, including any deficiencies in internal control that we identify during our audit.

Frankfurt am Main, 19 February 2019

KPMG AG
Wirtschaftsprüfungsgesellschaft

Helke	Müller
Wirtschaftsprüfer	Wirtschaftsprüfer

Overview of the Deutsche Bundesbank's accounting principles

General accounting principles
Record of economic reality, thus giving a true and fair view of the Bundesbank's net assets, financial position and results of operations; prudence; adjustment for post-balance-sheet events; materiality; going-concern basis; accruals principle; consistency and comparability.

Recording of spot transactions
Spot transactions in gold and foreign currencies shall be accounted for from the trade date to determine the average cost and the realised gains and realised losses. Recognition of these spot transactions and of spot transactions in securities shall be based on the settlement approach.

Balance sheet valuation rules
Gold, foreign currency instruments, securities and financial instruments shall be valued at mid-market rates and prices as at the balance sheet date. Securities held to maturity shall be valued at amortised cost; write-downs are charged if impairment is expected to be permanent. The same applies to non-marketable securities and securities held for monetary policy purposes by virtue of a decision adopted by the Governing Council of the ECB.

No distinction shall be made between price and currency revaluation differences for gold, but a single gold revaluation difference shall be accounted for, based on the euro price per defined unit of weight of gold derived from the EUR/USD exchange rate as at the balance sheet date.

Revaluation shall take place on a currency-by-currency basis for foreign exchange (including off-balance-sheet transactions).

In the case of securities, each revaluation shall be on a code-by-code basis (same ISIN number/type).

Repurchase agreements
A repurchase agreement (repo) shall be recorded as a collateralised inward deposit on the liabilities side of the balance sheet, while the item that has been given as collateral remains on the assets side of the balance sheet. A reverse repurchase agreement (reverse repo) shall be recorded as a collateralised outward loan on the assets side of the balance sheet for the amount of the loan.

In the case of lending transactions, the assets shall remain on the balance sheet of the transferor. Lending transactions as part of which cash collateral is provided shall be accounted for in the same way as repos.

Income recognition
Realised gains and realised losses can arise only in the case of transactions which reduce a securities or foreign currency position. They shall be derived from a comparison of the transaction value with the acquisition value as calculated using the average cost method; they shall be taken to the profit and loss account.

Revaluation gains and losses shall accrue from a comparison of an item's value at a market price with its acquisition value as calculated using the average cost method. Unrealised gains shall not be recognised as income but transferred directly to a revaluation account.

Unrealised losses shall be taken to the profit and loss account if they exceed previous revaluation gains registered in the corresponding revaluation account. Unrealised losses taken to the profit and loss account in prior periods shall not be reversed in subsequent years against new unrealised gains. There shall be no netting of unrealised losses in any one security, in any currency or in gold holdings against unrealised gains in other securities, currency or gold.

The average cost method shall be used on a daily basis to compute the acquisition cost in the case of assets that are subject to exchange rate and/or price movements. The average cost of the assets shall be reduced by unrealised losses taken to the profit and loss account at the end of the year.

In the case of securities, the difference between the acquisition and the redemption value (premium or discount) shall be amortised over the remaining contractual life of the securities in accordance with the internal rate of return method, presented as part of interest income (amortisation) and included in the acquisition value (amortised cost).

Accruals denominated in foreign currencies shall be translated at the mid-market rate on each business day and change the respective foreign currency position.

Accounting rules for off-balance-sheet instruments

Foreign exchange forward transactions, forward legs of foreign exchange swaps and other currency instruments involving an exchange of one currency for another at a future date shall be included in the net foreign currency position as from the trade date.

Interest rate swaps, futures, forward rate agreements and other interest rate instruments shall be accounted for and valued on an item-by-item basis.

Profits and losses arising from off-balance-sheet instruments shall be recognised and treated in a similar manner to those from on-balance-sheet instruments.

Tangible and intangible fixed assets

Tangible and intangible fixed assets shall be valued at cost less depreciation and amortisation. Depreciation and amortisation shall be calculated on a straight-line basis and applied over the expected economic life of the asset. A distinction shall be made as follows:

– computers, related hardware and software, and motor vehicles: four years;
– equipment, furniture and plant in building: ten years;
– building and refurbishment expenditure: 25 years;
– depreciation shall not apply to land.

Tangible and intangible fixed assets, the acquisition value of which, after deduction of value added tax, is less than €10,000 shall be written off in full in the year in which they were acquired.

Provisions

With the exception of the provisions for Eurosystem monetary policy operations, provisions shall be accounted for in accordance with the regulations set forth in the Commercial Code (*Handelsgesetzbuch* – HGB). Pursuant to Section 26(2) of the Bundesbank Act (*Bundesbankgesetz* – BBankG), it shall be possible to create provisions for general risks associated with domestic and foreign business.

Transitional arrangements

The assets and liabilities shown on the closing Deutsche Mark balance sheet as at 31 December 1998 shall be revalued as at 1 January 1999. Unrealised gains arising on or before 1 January 1999 shall be recorded separately from the unrealised gains which arise after 1 January 1999. The market rates/prices applied by the Bundesbank on the euro-denominated opening balance sheet as at 1 January 1999 shall be deemed to be the average acquisition rates/prices as at 1 January 1999. The revaluation accounts for unrealised gains accruing on or before 1 January 1999 shall be released only in connection with decreases in value and in the event of disposals after 1 January 1999.

General information on the annual accounts

Legal basis

Sections 26 and 27 of the Bundesbank Act *(Gesetz über die Deutsche Bundesbank)* form the legal basis for the annual accounts and the distribution of profit. In accordance with the provisions on accounting laid down in Section 26(2) sentence 2 of the Bundesbank Act, the Bundesbank may apply the accounting principles governing the annual accounts of the ECB.

Accounting principles of the Deutsche Bundesbank

The Governing Council of the ECB adopted the principles it applies to its annual accounts in accordance with Article 26.2 of the Statute of the ESCB. The Bundesbank decided to adopt those principles as the accounting principles of the Deutsche Bundesbank.[1] An overview of the Deutsche Bundesbank's accounting principles is given on the preceding pages. The annual accounts of the Bundesbank are thus in alignment with the harmonised rules applied in the Eurosystem, both in terms of the structure of the balance sheet and the profit and loss account, and with regard to the balance sheet valuation and accounting principles.

Creation of reserves owing to the restriction on distribution pursuant to Section 253(6) of the Commercial Code

Pursuant to Section 253 of the German Commercial Code *(Handelsgesetzbuch),* provisions for post-employment benefit obligations must be discounted at the average market rate corresponding to their residual maturity calculated over the past ten financial years. The savings in terms of provisions that arise from applying the ten-year rather than a seven-year observation period must be calculated annually and may not be distributed. In accordance with Section 253(6) sentence 2 of the Commercial Code, the distribution of profits shall be restricted to the part that exceeds the amount for which distribution is forbidden less any disposable reserves. However, the Bundesbank does not have any such reserves. The amount for which distribution is restricted itself has to be treated as reserves, and the transfer to reserves takes place in the profit and loss account once the profit for the year has been determined as part of the appropriation of profit. The residual amount is reported as distributable profit (net profit).

Balance sheet entry of euro banknotes and …

The ECB and the national central banks of the euro area countries, which collectively comprise the Eurosystem, issue banknotes denominated in euro. The following allocation procedure was approved for recording the euro banknotes in circulation in the financial statements of the individual central banks in the Eurosystem.[2] The respective share of the total value of euro banknotes in circulation due to each central bank in the Eurosystem is calculated on the last business day of each month in accordance with the key for allocating euro banknotes. The ECB is allocated an 8% share of the total value of the euro banknotes in circulation, whereas the remaining 92% is allocated to the national central banks in proportion to their respective paid-up shares in the capital of the ECB. As at 31 December 2018, the Bundesbank had a 25.6% share in the fully paid-up capital of the ECB and, therefore, a 23.5% share of the euro banknotes in circulation in accordance with the banknote allocation key. The value of the Bundesbank's share in the total amount of euro banknotes issued by the Eurosystem is shown in item 1 "Banknotes in circulation" on the liabilities side of the balance sheet.

… of intra-Eurosystem balances arising from the allocation of euro banknotes

The difference between the value of the euro banknotes allocated to each central bank of the Eurosystem in accordance with the banknote allocation key and the value of the euro banknotes that the central bank actually puts into circulation gives rise to remunerated intra-

1 Published as a revised version in Deutsche Bundesbank Notice No 10001/2017 of 3 February 2017.
2 Decision of the European Central Bank of 13 December 2010 on the issue of euro banknotes (ECB/2010/29), as last amended by the Decision of the European Central Bank of 29 November 2018 (ECB/2018/31).

Eurosystem balances.[3] If the value of the euro banknotes actually issued is greater than the value according to the banknote allocation key, the difference is recorded on the balance sheet as an intra-Eurosystem liability in liability sub-item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem". If the value of the euro banknotes actually issued is less than the value according to the banknote allocation key, the difference is recorded in asset sub-item 9.3 "Net claims related to the allocation of euro banknotes within the Eurosystem". These balances are remunerated at the respective rate of the main refinancing operations.

In the year of the cash changeover and in the following five years, the intra-Eurosystem balances arising from the allocation of euro banknotes within the Eurosystem are adjusted in order to avoid significant changes to national central banks' relative income positions from those in previous years. The adjustments are made by taking into account the difference between the average value of the banknotes that each national central bank had in circulation in the reference period and the average value of the banknotes that would have been allocated to each of them during that period in accordance with the ECB's capital key. The adjustments are reduced in annual increments until the first day of the sixth year after the year of the cash changeover. Thereafter, income from euro banknotes in circulation is allocated fully in proportion to the national central banks' paid-up shares in the ECB's capital. In the year under review, the adjustments resulted from the accession of the Latvian central bank in 2014 and the Lithuanian central bank in 2015; the adjustments will cease accordingly as at 31 December 2019 and 31 December 2020 respectively. The interest expense and interest income arising from the remuneration of the intra-Eurosystem balances are cleared through the accounts of the ECB and are shown in the Bundesbank's profit and loss account in item 1 "Net interest income".

ECB's interim profit distribution

The ECB's income from the 8% share of the euro banknotes in circulation as well as from securities purchased by the ECB as part of the securities markets programme (SMP), the third covered bond purchase programme (CBPP3), the asset-backed securities purchase programme (ABSPP) and the public sector purchase programme (PSPP) is distributed to the national central banks of the Eurosystem as interim profit in the same financial year in which the income arises, unless the ECB's net profit is less than this income or the Governing Council of the ECB decides to retain the amount for allocation to the ECB risk provision.[4] For the financial year 2018, the aforementioned ECB income in the amount of €1,191 million (2017: €988 million) was distributed among the national central banks as interim profit. The Bundesbank's share of €305 million (2017: €253 million) is shown under item 4 "Income from participating interests" in its profit and loss account.

Change to the ECB's capital key on 1 January 2019

Pursuant to the provisions laid down in Article 29.3 of the Statute of the ESCB, the key establishing the respective subscriptions of the ESCB national central banks to the ECB's capital is to be adjusted every five years. Accordingly, the ECB's capital key was adjusted at the beginning of 2019. The Bundesbank's share in the ECB's subscribed capital rose from 18.0% to 18.4% on 1 January 2019, the Bundesbank's share in the fully paid-up capital of the ECB went up from 25.6% to 26.4%, and the participating interest in the ECB (asset sub-item 9.1 "Participating interest in the ECB") increased from €1,948 million to €1,988 million. The Bundesbank's claim arising from the transfer of foreign reserves to the ECB (asset sub-item 9.2 "Claims equivalent to the transfer of foreign reserves to

3 Decision of the European Central Bank of 3 November 2016 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (ECB/2016/36).
4 Decision of the European Central Bank of 15 December 2014 on the interim distribution of the income of the European Central Bank (recast) (ECB/2014/57), as last amended by the Decision of the European Central Bank of 2 July 2015 (ECB/2015/25).

the ECB") also grew, from €10,430 million to €10,644 million.

Preparation and auditing of financial statements

The Executive Board prepared the Deutsche Bundesbank's financial statements for the financial year 2018 on 5 February 2019. The financial statements were audited by KPMG AG Wirtschaftsprüfungsgesellschaft, Frankfurt am Main. The Executive Board had appointed the firm as external auditors on 27 January 2015 in accordance with Section 26(3) of the Bundesbank Act. The auditors confirmed without qualification on 19 February 2019 that the Bundesbank's financial statements for 2018 – consisting of the balance sheet and the profit and loss account – comply, in all material respects, with the legal requirements and the accounting principles of the Deutsche Bundesbank approved by the Executive Board and give a true and fair view of the net assets, financial position and results of operations of the Deutsche Bundesbank. After studying the external auditors' report, the Executive Board decided to publish the financial statements and transfer the Bundesbank's profit to the Federal Government on 27 February 2019.

Notes on the individual balance sheet items

Assets

1 Gold and gold receivables

As at 31 December 2018, the Bundesbank's physical holdings (bars) of fine gold amounted to 3,369,750 kg or 108 million ounces (ozf). These are supplemented by an additional 9 kg of gold receivables that were generated by the settlement of margins in the context of gold transactions. The gold was valued at market prices at the end of the year (1 kg = €36,039.73 or 1 ozf = €1,120.961). Compared with the previous year's price of 1 kg = €34,783.28 or 1 ozf = €1,081.881, this represents an increase of 3.6%. The gold holdings declined by just 0.1% (3,910 kg or 0.1 million ozf) in the year under review. This was due to the sale of gold to the Federal Government at market prices for the purpose of minting gold coins. The resulting income in the amount of €127 million is shown in sub-item 2.1 "Realised gains/losses arising from financial operations" in the profit and loss account.

Gold reserves by storage location

	31.12.2018		31.12.2017		Year-on-year change			
Storage location	Tonnes	€ million	Tonnes	€ million	Tonnes	%	€ million	%
Deutsche Bundesbank, Frankfurt	1,710	61,630	1,710	59,482	0	0.0	2,149	3.6
Federal Reserve Bank, New York	1,236	44,553	1,236	43,000	–	–	1,553	3.6
Bank of England, London	423	15,261	427	14,865	– 4	– 0.9	396	2.7
Total	3,370	121,445	3,374	117,347	– 4	– 0.1	4,098	3.5

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Receivables from the IMF

Item	31.12.2018		31.12.2017		Year-on-year change			
	SDR million	€ million	SDR million	€ million	SDR million	%	SDR million	%
German quota	26,634	32,371	26,634	31,632	–	–	739	2.3
less Euro balances	23,113	28,091	24,445	29,031	– 1,331	– 5.4	– 940	– 3.2
Drawing rights within the reserve tranche	3,521	4,279	2,190	2,601	1,331	60.8	1,679	64.6
Special drawing rights	11,830	14,378	11,777	13,987	53	0.4	391	2.8
New Arrangements to Borrow	1,020	1,239	1,426	1,693	– 406	– 28.5	– 454	– 26.8
Total	16,370	19,896	15,392	18,280	978	6.4	1,616	8.8

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2 Claims on non-euro area residents denominated in foreign currency

This item comprises the claims on the International Monetary Fund (IMF) as well as balances with banks and security investments, loans and other foreign currency claims on non-euro area residents.

2.1 Receivables from the IMF

Sub-item 2.1 contains the claims on the IMF which are financed and held by the Bundesbank and which arise from the Federal Republic of Germany's membership of the IMF. The claims, which total 16,370 million special drawing rights (SDRs) (€19,896 million), are made up of the drawing rights within the reserve tranche, the allocated special drawing rights and loans under the New Arrangements to Borrow (NAB).

The drawing rights within the reserve tranche correspond to the amounts actually paid to the IMF in gold, special drawing rights, foreign currency and national currency under the German quota. The drawing rights held in the reserve tranche represent the difference between the German quota of SDR 26,634 million (€32,371 million) and the euro balances amounting to €28,091 million (SDR 23,113 million) at the IMF's disposal at the end of the year. In 2018, these rose on balance by SDR 1,331 million to SDR 3,521 million (€4,279 million).

Special drawing rights – by means of which freely usable currencies as per the IMF definition can be obtained at any time – in the amount of SDR 12,059 million were allocated free of charge. A corresponding counterpart is shown as liability item 8 "Counterpart of special drawing rights allocated by the IMF". In 2018, the holdings of special drawing rights went up by SDR 53 million to SDR 11,830 million (€14,378 million).

The New Arrangements to Borrow are multilateral credit lines with the IMF, which serve as a backstop for use in the event of a systemic crisis. Following the increase in quotas, these lines of credit were deactivated in 2016. However, the IMF may continue to use NAB resources to finance any IMF programmes to which it had committed during the NAB activation period. The Bundesbank's NAB credit arrangement amounts to SDR 12.9 billion. At the end of the reporting year, this resulted in receivables from the IMF of SDR 1,020 million (€1,239 million). The additional bilateral credit line of €41.5 billion pledged by the Bundesbank to the IMF was not drawn upon, as adequate IMF liquidity was available. There were, therefore, no receivables arising from bilateral loans at the end of the year.

If all items on the assets side and the liabilities side of the balance sheet are taken into account, the net holdings of special draw-

Balances with banks and security investments, external loans and other external assets

Item	31.12.2018 € million	31.12.2017 € million	Year-on-year change € million	Year-on-year change %
Current account holdings and overnight deposits	5,132	1,753	3,380	192.8
Claims arising from reverse repurchase agreements	–	1,008	– 1,008	– 100.0
Fixed-term deposits and deposits redeemable at notice	5,895	3,794	2,101	55.4
Marketable securities				
Government bonds				
US dollar	16,803	20,970	– 4,167	– 19.9
Yen	350	287	63	22.0
Australian dollar	1,006	1,078	– 72	– 6.7
Supranational, sovereign and agency (SSA) bonds	2,459	2,183	277	12.7
Other	150	141	9	6,3
Total	31,796	31,215	582	1.9

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ing rights amounted to SDR 4,318 million, compared with SDR 3,337 million in the previous year. The valuation is based on the reference rate of SDR 1 = €1.2154 (2017: SDR 1 = €1.1876) calculated by the ECB at the end of the year for all central banks participating in the Eurosystem.

2.2 Balances with banks and security investments, external loans and other external assets

The balances with banks and security investments, loans and other foreign currency claims which are shown in sub-item 2.2 amounted to €31,796 million at the end of 2018, compared with €31,215 million in the previous year. These include, in particular, US dollar holdings in the amount of US$33,342 million (€29,119 million), representing a decline of US$984 million on the year. The sub-item also contains holdings in yen (¥203,278 million, equivalent to €1,615 million), Australian dollars (A$1,719 million, equivalent to €1,060 million) and, to a limited extent, other currencies. The holdings are interest-bearing. If all items on the assets side and the liabilities side of the balance sheet are taken into account, the net US dollar holdings valued at market prices amounted to US$33,442 million (2017: US$33,235 million), the net yen holdings to ¥203,364 million (2017: ¥203,299 million) and the net Australian dollar holdings to A$1,734 million (2017: A$1,683 million). The foreign currency holdings were valued at the respective end-of-year market rate. In the case of the US dollar holdings, this was €1 = US$1.1450 (2017: €1 = US$1.1993), for the holdings of yen €1 = ¥125.85 (2017: €1 = ¥135.01) and for the Australian dollar holdings €1 = A$1.6220 (2017: €1 = A$1.5346).

3 Claims on euro area residents denominated in foreign currency

This item contains US$1,882 million (€1,644 million) of US dollar claims on credit institutions resulting from refinancing operations in the context of the standing swap agreement with the Federal Reserve Bank (2017: €7,168 million). In order to carry out these operations, based on the swap agreement, the ECB receives US dollars from the Federal Reserve Bank in return for euro; the ECB then allocates these to the national central banks, which pass them on to euro area credit institutions. The TARGET2 liabilities resulting from the swap transactions between the ECB and the Bundesbank lower the TARGET2 settlement balance shown in asset sub-item 9.4 "Other claims within the Eurosystem (net)".

4 Claims on non-euro area residents denominated in euro

Claims on non-euro area counterparties arising from bilateral repo transactions amounting to €1,943 million (2017: €4,396 million) are shown in this item. These claims resulted from repos and simultaneous reverse repos, in which securities in the PSPP portfolio were lent against Federal securities on a cash-neutral basis; the transactions had a maximum term of seven days. The corresponding liabilities are shown under liability item 5 "Liabilities to non-euro area residents denominated in euro".

5 Lending to euro area credit institutions related to monetary policy operations denominated in euro

The volume and structure of liquidity-providing monetary policy operations carried out by the Bundesbank as part of the Eurosystem are shown in this item (main and longer-term refinancing operations and the marginal lending facility). At the end of the reporting year, the Eurosystem's corresponding outstanding volume of monetary policy operations amounted to €734,381 million (2017: €764,310 million), of which the Bundesbank accounted for €90,432 million (2017: €94,320 million). Pursuant to Article 32.4 of the Statute of the ESCB, risks from these operations, provided they materialise, are shared among the Eurosystem national central banks in proportion to the prevailing shares in the capital of the ECB. Losses arise only if the counterparty involved in a monetary policy operation defaults and the collateral it has provided proves insufficient upon realisation. The national central banks may accept certain types of collateral excluded from risk sharing on their own responsibility. The Bundesbank does not accept such collateral.

Main refinancing operations are regular weekly transactions with a standard one-week maturity, the purpose of which is to provide liquidity. In the reporting year, main refinancing operations continued to be conducted as fixed-rate tenders with full allotment. At the end of the year, the main refinancing operations amounted to €1,890 million, which was €842 million more than in the previous year. On a daily average, the outstanding volume of main refinancing operations came to €730 million (2017: €559 million).

In the year under review, the regular longer-term refinancing operations with maturities of three months were carried out as fixed-rate tenders with full allotment at the average main refinancing rate. As at 31 December 2018, utilisation of these totalled €407 million (2017: €384 million). Out of the targeted longer-term refinancing operations (TLTROs) completed in the previous years, the first series of operations (TLTRO-I) matured at the end of September 2018 (2017 volume: €3,963 million). The second series of TLTROs (TLTRO-II) from 2016 and 2017 decreased to €87,241 million from €88,925 million in the previous year due to early repayments. Depending on each counterparty's eligible lending activities, the TLTRO-II, which have a maturity of four years, are remunerated at an individual rate that lies between the main refinancing rate and the deposit facility rate applicable at the time the transactions were conducted. On a daily average, the volume of longer-term refinancing operations amounted to a total of €91,430 million (2017: €87,346 million).

The marginal lending facility is a standing facility which counterparties may use to obtain overnight liquidity at a predetermined interest rate. At the end of 2018, recourse to this facility amounted to €894 million (2017: no holdings). Average daily use came to €13 million (2017: €25 million).

6 Other claims on euro area credit institutions denominated in euro

This item, amounting to €120 million (2017: €464 million), consists, in particular, of fixed-term deposits totalling €100 million that are held at credit institutions and arise from funds received in connection with central bank services (see liability item 5 "Liabilities to non-euro area residents denominated in euro").

7 Securities of euro area residents denominated in euro

This item contains the holdings of securities denominated in euro resulting from purchases made within the framework of the Eurosystem purchase programmes announced by the ECB Governing Council, which are shown under sub-item 7.1 "Securities held for monetary policy purposes". These holdings are carried at amortised cost, irrespective of whether the securities are held to maturity. In 2018, net purchases were made under the CBPP3, PSPP and the corporate sector purchase programme (CSPP) announced by the ECB Governing Council on 4 September 2014, 22 January 2015 and 10 March 2016, respectively. By contrast, bonds purchased under the terminated programmes CBPP, SMP and CBPP2 matured.

At the end of the year, the Eurosystem national central banks' SMP holdings amounted to €67,654 million (2017: €82,490 million), their CBPP3 holdings to €240,656 million (2017: €220,955 million) and their CSPP holdings to €178,050 million (2017: €131,593 million). The Eurosystem national central banks' PSPP holdings of securities issued by supranational institutions stood at €224,507 million (2017: €203,932 million), although the Bundesbank itself did not acquire any holdings. Pursuant to Article 32.4 of the Statute of the ESCB, all risks from the SMP, CBPP3, CSPP and the above-mentioned PSPP holdings, provided they materialise, are shared among the Eurosystem national central banks in proportion to the prevailing shares in the capital of the ECB, as is the case with the income received. Risks and income from the covered bonds purchased under the Eurosystem programmes CBPP and CBPP2, by contrast, remain with the individual national central banks holding them. The same applies to the government bonds purchased under the PSPP (including regional government bonds and bonds issued by eligible agencies located in the euro area). The Bundesbank purchases only German bonds under the PSPP.

The Governing Council of the ECB decided that (with the exception of CSPP securities from one issuer) no impairment loss had incurred for securities contained in the SMP, CSPP and PSPP holdings and in the three CBPP portfolios as at 31 December 2018, as it is expected that all payment obligations relating to the bonds and debt securities contained in Eurosystem central banks' holdings will continue to be met as agreed. The Eurosystem provision for monetary policy operations adopted by the ECB Governing Council for the required impairment of the aforementioned CSPP securities is included in liability item 12 "Provisions".

8 Claims on the Federal Government

This item shows the equalisation claims on the Federal Government and the non-interest-bearing debt register claim in respect of Berlin; both date back to the currency reform of 1948. They form the balance sheet counterpart of the amounts paid out at that time in cash per capita and per enterprise and of the initial provision of credit institutions and public corporations with central bank money. Equalisation claims yield interest at a rate of 1% per annum. In conjunction with Article 123 of the Treaty on the Functioning of the European Union (the Lisbon Treaty), it has been stipulated that the equalisation claims and the debt register claim are to be redeemed in ten annual instalments, starting in 2024.

Securities held for monetary policy purposes

Item	31.12.2018 Balance sheet value € million	31.12.2018 Market value € million	31.12.2017 Balance sheet value € million	31.12.2017 Market value € million	Year-on-year change Balance sheet value € million	Balance sheet value %	Market value € million	Market value %
SMP portfolio								
Greece	1,533	1,604	1,722	1,873	– 188	– 10.9	– 269	– 14.4
Ireland	999	1,058	1,377	1,517	– 377	– 27.4	– 459	– 30.2
Portugal	817	865	1,315	1,417	– 498	– 37.8	– 552	– 39.0
Italy	8,686	9,261	10,222	11,341	– 1,536	– 15.0	– 2,080	– 18.3
Spain	2,554	2,782	3,390	3,768	– 837	– 24.7	– 986	– 26.2
Total	14,590	15,570	18,026	19,916	– 3,436	– 19.1	– 4,345	– 21.8
CBPP portfolio	1,409	1,464	1,833	1,953	– 424	– 23.1	– 488	– 25.0
CBPP2 portfolio	1,328	1,413	1,384	1,503	– 56	– 4.0	– 89	– 5.9
CBPP3 portfolio	62,806	63,127	57,293	57,596	5,513	9.6	5,531	9.6
PSPP portfolio	448,697	453,765	401,606	400,156	47,091	11.7	53,609	13.4
CSPP portfolio	43,000	42,542	31,983	31,995	11,016	34.4	10,547	33.0
Total	571,829	577,882	512,125	513,119	59,704	11.7	64,764	12.6

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9 Intra-Eurosystem claims

The Bundesbank's claims on the ECB and on the national central banks participating in the Eurosystem are combined in this item.

Sub-item 9.1 shows the Bundesbank's participating interest in the ECB. Pursuant to Article 28 of the Statute of the ESCB, the ESCB national central banks are the sole subscribers to the capital of the ECB. As at 31 December 2018, the Bundesbank's participating interest in the ECB was unchanged at €1,948 million.

Sub-item 9.2 contains the Bundesbank's euro-denominated claims equivalent to the transfer of foreign reserves to the ECB. At the beginning of 1999, the central banks participating in the Eurosystem transferred foreign reserve assets (15% in gold and 85% in foreign currency) to the ECB in accordance with Article 30 of the Statute of the ESCB. Adjustments to the key for subscribing to the ECB's capital also result in adjustments to the Bundesbank's claims arising from the transfer of foreign reserves to the ECB. As at 31 December 2018, these claims amounted to €10,430 million, unchanged from the previous year. As the transferred gold does not earn any interest, the claims are remunerated at 85% of the prevailing main refinancing rate.

Sub-item 9.3 "Net claims related to the allocation of euro banknotes within the Eurosystem" shows the claims which arise from applying the euro banknote allocation key. Like at the end of the previous year, the Bundesbank had no claims at the end of 2018 and instead recorded liabilities, which are shown in liability sub-item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem".

A daily net balance vis-à-vis the ECB is derived from settlement balances between the central banks of the ESCB which result from cross-border payments as recorded in the Eurosystem's TARGET2 high-value payment system. The German banking system received extensive central bank money via TARGET2 in 2018. At the end of the year, the Bundesbank's net claim on the ECB thus rose by €59,249 million to €966,190 million and is shown under sub-item 9.4 "Other claims within the Eurosystem (net)". The net balances (with the exception of non-interest-bearing intra-Eurosystem balances resulting from the swap transactions between the ECB and the Bundesbank – see asset item 3 "Claims on euro area residents denominated in foreign currency") are remunerated at the respective main refinancing rate. On a daily average, the interest-bearing net claim amounted to €902,812 million (2017: €827,311 million). This item also contains the liabilities of €171 million arising from the allocation of monetary income to the national central banks (see profit and loss item 5 "Net result of pooling of monetary income") and the €305 million claim on the ECB arising from the interim distribution of profit (see "General information on the annual accounts").

10 Items in course of settlement

This item contains the asset items arising from payments still being processed within the Bundesbank.

11 Other assets

The Bundesbank's holdings of euro coins are shown in sub-item 11.1 "Coins". New coins are received from the Federal mints at their nominal value for the account of the Federal Government, which holds the coin prerogative.

Sub-item 11.2 "Tangible and intangible fixed assets" amounted to €874 million, compared with €795 million in the previous year. It comprises land and buildings, furniture and equipment, and computer software.

Sub-item 11.3 "Other financial assets" amounted to €12,053 million, compared with €11,194 million in the previous year. It contains the Bundesbank's own funds portfolio as a counterpart to the capital, statutory reserves, provisions for general risks and long-term provisions for pensions and healthcare assistance. The own funds portfolio is invested not in government securities but exclusively in fixed-rate covered bonds denominated in euro, which are generally held to maturity and are,

Tangible and intangible fixed assets

€ million

Item	Purchase/ production costs 31.12.2017	Additions	Disposals	Accumulated depreciation	Book value 31.12.2018	Book value 31.12.2017	Depreciation in 2018
Land and buildings	2,238	64	– 148	– 1,530	624	605	– 41
Furniture and equipment	846	110	– 51	– 660	245	185	– 49
Computer software	139	3	– 0	– 138	5	4	– 3
Total	3,223	178	– 199	– 2,328	874	795	– 92

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therefore, valued at amortised cost. The duration is based on commonly used indices. As at 31 December 2018, the value of the own funds portfolio at amortised cost amounted to €12,002 million, of which German Pfandbriefe accounted for €7,850 million, French covered bonds for €2,579 million, Finnish covered bonds for €681 million, Dutch covered bonds for €647 million and Belgian covered bonds for €246 million. The total market value of the own funds portfolio stood at €12,248 million.

This item also includes €51 million (2017: €52 million) in participating interests held by the Bundesbank. The Bundesbank's participating interest in the BIS, Basel, was unchanged at €50 million at the end of the year; it holds 50,100 shares, with 25% of their par value being paid-in capital. The participating interest in the cooperative society S.W.I.F.T., La Hulpe (Belgium), amounted to €1 million (2017: €2 million).

Sub-item 11.4 "Off-balance-sheet instruments revaluation differences" essentially comprises €7 million (2017: €92 million) as a result of the valuation of the US dollar forward liabilities to the ECB arising from the euro/US dollar swap agreement with the ECB (see asset item 3 "Claims on euro area residents denominated in foreign currency").

Sub-item 11.5 "Accruals and prepaid expenses" contains the accrued and collected income calculated as at 31 December 2018. This chiefly consists of (accrued) coupon interest due in the new financial year from securities which were acquired or transacted in the financial year just ended.

Liabilities

1 Banknotes in circulation

The total value of euro banknotes issued by the central banks in the Eurosystem is distributed among these banks on the last business day of each month in accordance with the key for allocating euro banknotes (see "General information on the annual accounts"). According to the banknote allocation key applied as at 31 December 2018, the Bundesbank has a 23.5% share of the value of all the euro banknotes in circulation. During the year under review, the total value of banknotes in circulation within the Eurosystem rose from €1,170.7 billion to €1,231.1 billion, or by 5.2%. Taking into account the allocation key, the Bundesbank had euro banknotes in circulation worth €289,587 million at the end of the year, compared with €275,376 million a year previously. The value of the euro banknotes actually issued by the Bundesbank increased in 2018 by 8.8% from

€634,681 million to €690,682 million. As this was more than the allocated amount, the difference of €401,094 million (2017: €359,306 million) is shown in liability sub-item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem".

2 Liabilities to euro area credit institutions related to monetary policy operations denominated in euro

Sub-item 2.1 "Current accounts" contains the deposits of credit institutions, amounting to €421,415 million (2017: €392,785 million), which are also used to meet the minimum reserve requirement and to settle payments. The main criterion for including these deposits in this sub-item is that the relevant counterparties appear in the list of institutions which are subject to the Eurosystem's minimum reserve regulations. The balances held to fulfil the minimum reserve requirement amounted to €34,932 million on an annual average. These balances are remunerated at the average main refinancing rate in the respective maintenance period. In the year under review, any deposits exceeding this amount were subject to negative interest equivalent to the deposit facility rate. On a daily average, the current account deposits increased from €400,302 million in 2017 to €452,716 million in 2018.

Sub-item 2.2 "Deposit facility", amounting to €151,385 million (2017: €217,039 million), contains overnight deposits at the deposit facility rate (a negative interest rate applied in the year under review). On a daily average, the deposit facility amounted to €185,762 million, compared with €170,944 million in 2017.

Sub-item 2.5 "Deposits related to margin calls" contains cash collateral of €6 million deposited by credit institutions in order to increase underlying assets (2017: €2 million).

3 Other liabilities to euro area credit institutions denominated in euro

This item contains liabilities to euro area credit institutions arising from bilateral repo transactions. In these repo transactions, securities in the PSPP portfolio are lent against cash as collateral, or in the case of simultaneous reverse repos, against Federal securities on a cash-neutral basis; the transactions have a maximum term of seven days. At the end of the year, securities lending against cash as collateral gave rise to liabilities in the amount of €4,150 million (2017: €2,551 million). In addition, this item contained liabilities in the amount of €150 million (2017: €127 million) arising from account balances pledged for deposit protection pursuant to the Deposit Guarantee Act (*Einlagensicherungsgesetz*) in conjunction with the Regulation on the Financing of the Compensation Scheme (*Entschädigungseinrichtungs-Finanzierungsverordnung*).

4 Liabilities to other euro area residents denominated in euro

Sub-item 4.1 "General government deposits" encompasses the balances of the Federal Government, its special funds, the state governments and other public depositors. The deposits of other public depositors constitute balances held by social security funds and local authorities. On 31 December 2018, general government deposits amounted to €65,590 million in all (2017: €66,970 million). On a daily average, the volume amounted to €64,815 million (2017: €44,258 million).

Sub-item 4.2 "Other liabilities" amounted to €57,950 million, compared with €51,815 million a year earlier. It mainly comprises deposits of financial intermediaries and individuals. The increase as at the reporting date is primarily due to higher deposits of the European Stability Mechanism (ESM). On a daily average, the sub-item amounted to €57,379 million (2017: €70,069 million).

5 Liabilities to non-euro area residents denominated in euro

This balance sheet item, amounting to €280,798 million (2017: €199,813 million), contains the balances of non-euro area central banks, monetary authorities, international organisations and commercial banks held, inter alia, to settle payments. These include fixed-term deposits of central banks accepted as part of the Bundesbank's central bank services, which are then invested in the money market (see asset item 6 "Other claims on euro-area credit institutions denominated in euro"). As at 31 December 2018, deposits of €213,902 million were attributable to non-euro area central banks and monetary authorities, of which €64,985 million was attributable to central banks within the European Union. On a daily average, the volume amounted to €111,761 million (2017: €75,159 million). The liabilities to non-euro area counterparties arising from the bilateral repo transactions are also recorded. In these repo transactions, securities in the PSPP portfolio are lent against cash as collateral, or in the case of simultaneous reverse repos, against Federal securities on a cash-neutral basis; the transactions have a maximum term of seven days. As at the end of the year, securities lending against cash as collateral gave rise to liabilities in the amount of €5,354 million (2017: €6,538 million), and securities lending against Federal securities resulted in liabilities of €1,943 million (2017: €4,396 million); the claims associated with the latter are reported in asset item 4 "Claims on non-euro area residents denominated in euro".

6 Liabilities to euro area residents denominated in foreign currency

This item contains US dollar deposits of banks resident in the euro area and of the Federal Government.

7 Liabilities to non-euro area residents denominated in foreign currency

The foreign currency-denominated liabilities to banks outside the euro area are recorded in this item. These are liabilities in US dollars which have arisen from securities repurchase agreements (repos) and which amounted to €1,008 million in 2017. This item contained no holdings as at 31 December 2018.

8 Counterpart of special drawing rights allocated by the IMF

The counterpart of the special drawing rights (SDRs) allocated by the IMF free of charge corresponds to the allocations of SDRs to the Federal Republic of Germany from 1970 to 1972, from 1979 to 1981 and in 2009, which together totalled SDR 12,059 million (see asset sub-item 2.1 "Receivables from the IMF").

9 Intra-Eurosystem liabilities

The Bundesbank's liabilities to the ECB and to the other central banks participating in the Eurosystem are combined in this item.

Sub-item 9.1 contains "Liabilities related to the issuance of ECB debt certificates". The ECB issued no debt certificates in 2018.

Sub-item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem" contains the liabilities arising from the application of the euro banknote allocation key (see liability item 1 "Banknotes in circulation"). As at the end of the year, these liabilities amounted to €401,094 million in total (2017: €359,306 million). The 8% share of the total value (€1,231.1 billion) of euro banknotes in circulation attributable to the ECB resulted in a liability of €25,182 million for the Bundesbank (according to its capital share of 25.6%). In addition, the difference between the Bundesbank's actual banknote issuance of €690,682 million and its notional share (again according to the capital share) in the allocation of the remaining 92% of euro banknotes in circulation to the balance sheets of the national central banks resulted in a liability of €375,913 million. The main reason for the total increase of €41,789 million in the year under review was the Bundesbank's still disproportionately high share of banknote issuance, which is largely due to net outflows of banknotes to other countries through tourism, to give one example.

The net liabilities arising from other assets and liabilities within the Eurosystem would be shown in sub-item 9.3 "Other liabilities within the Eurosystem (net)". As at the end of 2018, the Bundesbank had a net claim, which is shown on the assets side under sub-item 9.4 "Other claims within the Eurosystem (net)" and outlined in the explanatory notes above.

10 Items in course of settlement

This item contains the liability items arising from payments still being processed within the Bundesbank.

11 Other liabilities

As at the end of 2018, as in the previous year, no holdings were reported under sub-item 11.1 "Off-balance-sheet instruments revaluation differences". These holdings are shown in asset sub-item 11.4.

Sub-item 11.2 "Accruals and income collected in advance" contains the accrued and collected income calculated as at 31 December 2018. This consists mainly of (accrued) interest expenses which are due in future financial years but were incurred in 2018 in connection with the negative remuneration of credit institutions' refinancing (TLTRO-II).

Sub-item 11.3 "Sundry" mainly comprises the liabilities arising from Deutsche Mark banknotes still in circulation. Deutsche Mark banknotes are no longer legal tender. However, the Bundesbank has publicly undertaken to redeem Deutsche Mark banknotes that are still in circulation for an indefinite period. The Deutsche Mark banknotes still in circulation belong to the series BBk I/Ia and BBk III/IIIa. In accordance with accounting principles, the liabilities arising from Deutsche Mark banknotes still in circulation will continue to be reported until it is virtually certain that claims are no longer to be expected. In keeping with this, the reported liabilities arising from Deutsche Mark banknotes in circulation now comprise only notes of the BBk III/IIIa series in the amount of €1,806 million (2017: €1,827 million). In addition, there are still banknotes in circulation belonging to the BBk I/Ia series, which has already been written off, amounting to €1,198 million. Deposits of Deutsche Mark banknotes in 2018 totalled €28 million, of which €22 million consisted of the BBk III/IIIa series banknotes and €6 million of the BBk I/Ia series banknotes (see profit and loss item 11 "Other expenses").

12 Provisions

The provisions for general risks are created pursuant to the regulations governing the Bundesbank's annual accounts laid down in Section 26(2) of the Bundesbank Act. They are established to hedge against general risks associated with domestic and foreign business. The level of funds to be allocated to the provisions for general risks is reviewed annually using value-at-risk and expected shortfall calculations, amongst others. These calculations consider the holdings of risk-bearing assets, their risk content, foreseeable changes to the risk situation, expected financial conditions in the coming year, and the statutory reserves (€2.5 billion). The Bundesbank's risks, which are determined using a model, relate, in particular, to exchange rate risk, default risk of the asset purchase programmes and credit risk arising from refinancing loans. Interest rate risk has also been taken into account since 2016, and in the 2018 financial statements the final tranche of an increase in general risk provisions, spread over three years, was allocated. In 2018 there was also need for higher risk provisions with regard to default risk, particularly for the CSPP. Taking into account all of the aforementioned factors, the existing risk provisions were topped up by €1,475 million owing to the current risk assessment. The provisions for general risks thus amounted to €17,900 million as at 31 December 2018. The risk analysis does not take account of the risks arising from the Bundesbank's TARGET2 claim on the ECB and from the issuance of euro banknotes. The Bundesbank could hypothetically be affected (in the case of the TARGET2 claim, only indirectly as an ECB shareholder) by the risk to which the Eurosystem would be exposed if a euro area country were to leave the single currency area and its central bank failed to settle its TARGET2 liability to the ECB or its banknote liabilities to the ECB (8% share) and the national central banks. It considers this scenario to be unlikely to materialise, however, which means that the credit risks arising from Eurosystem operations to provide liquidity are ultimately the key factor.

In accordance with the Eurosystem's accounting principles, the ECB Governing Council decided to establish a provision of €161 million for the required impairment of an issuer's CSPP securities. In accordance with Article 32.4 of the Statute of the ESCB, the provision for monetary policy operations is set aside by all the national central banks of the Eurosystem in proportion to their subscribed capital key (the Bundesbank's share in this provision: €41 million). Furthermore, in the reporting year, a realised loss from the sale of a CSPP security taken into account in the Eurosystem's monetary income

Provisions

Provisions for	31.12.2018	31.12.2017	Year-on-year change	
	€ million	€ million	€ million	%
General risks	17,900	16,425	1,475	9.0
Monetary policy operations	41	18	24	133.9
Direct pension commitments	5,501	4,965	535	10.8
Indirect pension commitments (supplementary pension funds for public sector employees)	556	513	42	8.3
Healthcare subsidy commitments to civil servants	1,460	1,392	68	4.8
Partial retirement scheme	12	13	-0	-2.5
Staff restructuring schemes	54	74	-20	-26.8
Other	74	85	-11	-12.7
Total	25,598	23,485	2,113	9.0

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was fully offset by the release of provisions set aside in the previous year (see profit and loss item 5 "Net result of pooling of monetary income").

The provisions for post-employment benefit obligations (direct pension commitments and indirect pension commitments as a result of the Bundesbank's obligation to act as guarantor for pension payments out of the supplementary pension funds for public sector employees) as well as for healthcare subsidy commitments to civil servants are valued on the basis of an actuarial expert opinion based on current mortality tables (Heubeck 2018 G mortality tables) according to the entry age normal method (*Teilwertverfahren*) (for employees) and according to the present value method (*Barwertverfahren*) (for pensioners and ex-civil servants with portable pension entitlements), with a discount rate of 3.19% used for post-employment benefit obligations and of 2.45% for healthcare subsidy commitments to civil servants in the reporting year (2017: 3.62% and 2.87%, respectively). For the financial year 2018, as in 2017, it is estimated that there was a wage trend of 2.5%, a career trend of 0.5% as well as a pension trend of 2.5% for civil servants and of 1% for public sector employees. The cost trend for healthcare subsidy commitments to civil servants amounted to 3.25%, compared with 3.5% in the previous year. The discount rate used for post-employment benefit obligations is, in each case, a matched-maturity average market interest rate for the past ten years or, for healthcare subsidy commitments to civil servants, for the past seven years pursuant to the Regulation on the Discounting of Provisions (*Rückstellungsabzinsungsverordnung*). Pursuant to Section 253(6) of the Commercial Code, the difference arising from the application of a ten-year period, as opposed to seven years, for calculating the average market interest rate for post-employment benefit obligations is subject to a restriction on distribution. In 2017, the ten-year rate (3.62%) and the seven-year rate (2.87%) resulted in an interest margin of 75 basis points, representing a difference of €664 million. The provision was increased accordingly by €100 million. In the reporting year, the interest margin remained virtually unchanged at 74 basis points (3.19% vs. 2.45%). Due to the higher obligations and a larger change in present value due to discounting at a lower interest rate, there is nevertheless a higher difference of €746 million; the book profit of €82 million as compared with the previous year will be transferred to reserves.

The provisions for the partial retirement scheme and for payment commitments arising from staff restructuring schemes that had already been carried out as at the balance sheet date are calculated using a discount rate of 0.87% (2017: 1.33%) based on an actuarial expert opinion that uses current mortality tables pursuant to the present value method, or pursuant to the entry age normal method in the case of the outstanding settlement amount for the partial retirement scheme. As in 2017, a wage trend of 2.5% is taken into consideration. The discount rate is based on a matched-maturity average market rate for the past seven years pursuant to the Regulation on the Discounting of Provisions.

The other provisions are created for remaining holiday entitlement, overtime worked and positive balances of flexible working hours and long-term working hours accounts as well as for other uncertain liabilities.

Expenses in the amount of €719 million from marking up the provisions (including the effects of changing the discount rate) are contained in profit and loss sub-item 1.2 "Interest expense". Profit and loss item 7 "Staff costs" shows net utilisation of €38 million, with a total allocated amount of €277 million standing against a total utilisation of €314 million. Other changes in the provision levels give rise, on balance, to utilisation-related relief of €18 million in profit and loss item 11 "Other expenses" and to utilisation-related relief of €15 million in profit and loss item 8 "Administrative expenses". The reversal of provisions resulted in income of €34 million in profit and loss item 6 "Other income".

13 Revaluation accounts

This item contains the disclosed hidden reserves from the initial valuation at the time of the changeover to market valuation as at 1 January 1999 (revaluation items "old") and the unrealised gains arising from market valuation as at 31 December 2018 (revaluation items "new").

Revaluation-items "old"

A revaluation item "old" now remains only for gold. This item represents the difference between the market value of gold as at 1 January 1999 and the lower book value of gold prior to that date. On the balance sheet as at 31 December 1998, the book value for gold was 1 ozf = DM143.8065 (€73.5271), while the market value as at 1 January 1999 was 1 ozf = €246.368. Although the valuation gains arising from the initial valuation of the gold holdings are not eligible for distribution, they will be released under certain circumstances. Besides a release in the case of valuation losses on the gold position, a proportionate release will also take place in the event of net reductions if the end-of-year gold holdings are below their lowest end-of-year level since 1999.

The reduction of 3,910 kg, or 0.1 million ozf, in the gold holdings resulted in the release of €22 million in the year under review. This amount is included in profit and loss sub-item 2.1 "Realised gains/losses arising from financial operations".

Revaluation-items "new"

In the case of gold holdings, the net positions in each foreign currency and the securities portfolios in each category of security (securities identification number), the positive difference between their market value on 31 December 2018 and their value in terms of the average amortised acquisition cost from 1 January 1999 is shown in the revaluation items "new".

As regards gold, the acquisition cost is 1 ozf = €246.369. As at the end of 2018, the market value of the gold position exceeded its acquisition value, leading to a revaluation item of €94,754 million (2017: €90,625 million). In the case of the net foreign exchange items in US dollars, Japanese yen and SDRs, the market values at year-end were also above their acquisition values (€1 = US$1.3617, €1 = ¥144.59, and €1 = SDR 0.8354, respectively), resulting in revaluation items. At the end of the year, the market value of the net foreign exchange item in Australian dollars was below the respective acquisition value (€1 = A$1.5361), meaning that a valuation loss was incurred (see profit and loss sub-item 2.2 "Write-downs on financial assets and positions").

Revaluation accounts

Item	Revaluation items "old" € million	Revaluation items "new" € million	Total as at 31.12.2018 € million	Total as at 31.12.2017 € million	Year-on-year change € million	%
Gold	18,726	94,754	113,479	109,372	4,107	3.8
US dollar	–	4,636	4,636	3,551	1,084	30.5
SDRs	–	79	79	–	79	–
Japanese yen	–	209	209	101	109	108.0
Australian dollar	–	–	–	–	–	–
Securities in foreign currency	–	96	96	56	40	72.6
Total	18,726	99,774	118,499	113,079	5,420	4.8

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The valuation gains from foreign currency-denominated securities shown on the balance sheet result predominantly from US Treasury notes (€83 million). However, for a portion of the US Treasury notes, the relevant acquisition values were higher than their corresponding market values on the balance sheet date, resulting in valuation losses (see profit and loss subitem 2.2 "Write-downs on financial assets and positions"). In principle, securities denominated in euro are carried at amortised cost.

14 Capital and reserves

In accordance with Section 2 of the Bundesbank Act, the Bank's capital, amounting to €2.5 billion, is owned by the Federal Republic of Germany. As in the previous year, the statutory reserves pursuant to the Bundesbank Act are at the fixed upper limit of €2.5 billion laid down in Section 27 number 1 of the Bundesbank Act. The difference arising from the discounting of post-employment benefit obligations, which is subject to a restriction on distribution pursuant to Section 253(6) of the Commercial Code (see "General information on the annual accounts", liability item 12 "Provisions" and profit and loss item 12 "Allocation to/withdrawal from reserves owing to the restriction on distribution pursuant to Section 253(6) of the Commercial Code (*Handelsgesetzbuch*)"), rose by €82 million. This book profit has been transferred to (other) reserves, which now total €746 million (2017: €664 million).

15 Distributable profit

The profit and loss account for the year 2018 closed with a profit for the year of €2,516 million, of which €82 million (2017: €100 million) has been transferred to reserves on account of the restriction on distribution pursuant to Section 253(6) of the Commercial Code (see "General information on the annual accounts", liability item 12 "Provisions" and profit and loss item 12 "Allocation to/withdrawal from reserves owing to the restriction on distribution pursuant to Section 253(6) of the German Commercial Code (*Handelsgesetzbuch*)"). Pursuant to Section 27 of the Bundesbank Act, the remaining distributable profit of €2,433 million will be transferred in full to the Federal Government as the statutory reserves were at their maximum level of €2.5 billion at the end of the year.

Notes on the profit and loss account

1 Net interest income

This item shows interest income less interest expense. Net interest income was higher than in the previous year, rising by €748 million to €4,920 million. One of the key causes of this was balance sheet growth, in particular. The (negative interest-bearing) deposits of credit institutions and of other domestic and foreign depositors increased significantly on account of the current purchase programmes (CBPP3, PSPP and CSPP) and liquidity flowing in from abroad via TARGET2. Income growth was held back primarily because maturities reduced the stock of securities held for monetary policy purposes in the terminated purchase programmes (SMP and CBPP/CBPP2), particularly since the current purchase programmes do not make any substantial contribution to net interest income owing to their low remuneration.

1.1 Interest income

Interest income in foreign currency rose from €583 million in 2017 to €837 million in 2018 owing to higher yields. Interest income in euro increased by €732 million year-on-year to €5,324 million. Interest income from negative interest rates on credit institutions' deposits climbed by €274 million owing to the annual average increase in excess reserves of €67 billion. During the reporting year, as in the previous year, no income arose from the TARGET2 claim on the ECB (despite an increase in the TARGET2 claim of around €76 billion on an annual average) as a consequence of the lowering of the main refinancing rate to 0% as from March 2016. Income from securities held for monetary policy purposes relating to the terminated purchase programmes (SMP and CBPP/CBPP2) declined by €247 million to a total of €978 million on account of the annual average decrease in holdings of €5 billion. In the current programmes (CBPP3, PSPP and CSPP), purchases are made for the most part above par because of the low market yields. The large difference between the acquisition value and the redemption value is accounted for by allocating it over the residual maturity as a negative portion of interest income (alongside coupon rates); on balance, therefore, there is only low remuneration. Owing to an increase in the average rate of interest to 0.31% (2017: 0.26%) and the annual average increase in holdings of €8 billion, interest income in the CBPP3 portfolio rose from €139 million in 2017 to €187 million. For the PSPP portfolio, despite an increase in average market yields during the reporting year, purchases of assets with yields below the deposit facility rate pursuant to a decision by the ECB Governing Council in January 2017, amongst other factors, led to renewed negative remuneration of -€217 million (2017: -€345 million) for fixed income securities, whereas the higher inflation adjustment resulted in positive remuneration of €181 million (2017: €88 million) for inflation-linked bonds, producing net interest income of -€35 million on balance. In the CSPP portfolio, on the other hand, securities remunerated at positive rates (€200 million) outweighed those remunerated at negative rates (-€8 million), resulting in interest income of €192 million on balance. Owing to an annual average increase in holdings of €16 billion and a rise in the average rate of interest to 0.50% (2017: 0.31%), interest income climbed by €121 million. Given virtually unchanged holdings and an average interest rate of 1.15% (2017: 1.37%), the Bundesbank's own funds portfolio saw its interest income contract by €23 million. Interest income arising from the negative remuneration of euro balances held by domestic and foreign depositors rose by €343 million because of increased average holdings. The bilateral repo transactions executed since September 2016 (see liability item 3 "Other liabilities to euro area credit institutions denominated in euro" and liability item 5 "Liabilities to non-euro area residents denominated in euro") resulted in interest income of €73 million (2017: €79 million).

1.2 Interest expense

There was a year-on-year increase of €239 million to €1,241 million in interest expense. Mon-

Net interest income

Item	2018	2017	Year-on-year change	
	€ million	€ million	€ million	%
Interest income in foreign currency				
IMF	171	102	69	67.2
Reverse repo transactions	61	26	35	135.9
Securities	550	397	154	38.7
Other	56	59	– 3	– 5.2
Total	837	583	254	43.6
Interest income in euro				
Deposits of credit institutions (negative interest)	2,448	2,174	274	12.6
TARGET2 claim on the ECB	–	–	–	.
SMP portfolio	884	1,091	– 206	– 18.9
CBPP and CBPP2 portfolio	93	134	– 41	– 30.4
CBPP3 portfolio	187	139	49	35.0
PSPP portfolio	– 35	– 258	223	86.4
CSPP portfolio	192	72	121	168.5
Claims arising from the transfer of foreign reserves to the ECB	–	–	–	.
Own funds portfolio (financial assets)	128	151	– 23	– 15.2
Euro balances of domestic and foreign depositors (negative interest)	1,305	963	343	35.6
Repo transactions (negative interest)	73	79	– 6	– 8.1
Other	47	47	– 0	– 0.5
Total	5,324	4,591	732	16.0
Total interest income	6,161	5,174	987	19.1
Interest expense in foreign currency				
IMF	135	77	58	74.8
Repo transactions	12	10	2	21.2
Other	7	6	1	16.3
Total	154	93	61	65.3
Interest expense in euro				
Refinancing operations (negative interest)	330	328	2	0.6
Liabilities arising from the allocation of euro banknotes	–	–	–	.
Claims arising from central bank services (negative interest)	15	20	– 5	– 24.7
Marking up of staff provisions	719	547	172	31.5
Reverse repo transactions (negative interest)	22	12	9	73.5
Other	0	0	– 0	– 39.6
Total	1,087	909	178	19.6
Total interest expense	1,241	1,002	239	23.8
Net interest income	4,920	4,172	748	17.9

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etary policy refinancing operations gave rise to an interest expense of €330 million from interest accrued for TLTRO-II operations at an average rate of -0.36%. Owing to the lowering of the main refinancing rate to 0% as from March 2016, there was, as in the previous year, no interest expense for intra-Eurosystem balances arising from the allocation of euro banknotes, despite the fact that liabilities were around €36 billion higher on an annual average (see "General information on the annual accounts"). Expenses arising from the marking up of staff provisions went up by €172 million owing to changes in the discount rates (see liability item 12 "Provisions"). The bilateral repo transactions executed since September 2016 (see asset item 4 "Claims on non-euro area residents denominated in euro") resulted in an interest expense of €22 million (2017: €12 million).

2 Net result of financial operations, write-downs and risk provisions

The realised net income from foreign currency transactions reported in sub-item 2.1 mainly concerns transactions involving US dollars (€261 million) and special drawing rights (€6 million). Realised losses on sales of securities primarily relate to US Treasury notes (€187 million; 2017: €77 million in realised gains).

Write-downs in sub-item 2.2 chiefly result from valuation losses on US Treasury notes and on currency holdings in Australian dollars.

Sub-item 2.3 "Transfer to/from provisions for general risks, foreign exchange risks and price risks" contains the increase of €1,475 million in the provision for general risks (see liability item 12 "Provisions").

3 Net income from fees and commissions

Net income from fees and commissions came to €50 million compared with €41 million in the previous year.

4 Income from participating interests

This item contains the Bundesbank's profit from its participating interests in the ECB and the BIS. The total income of €393 million (2017: €329 million) includes, in particular, the Bundesbank's share of the ECB's profit distribution for the financial years 2017 and 2018. The share of the ECB's interim distribution of profit for the financial year 2018 is €305 million (2017: €253 million for the financial year 2017); a further €73 million came from the (remaining) profit distribution for the financial year 2017 which took place in February 2018 (2017: €58 million for the financial year 2016).

5 Net result of pooling of monetary income

This item comprises expenditure of €194 million overall in 2018. Risk provisioning for Eurosystem monetary policy operations resulted in expenditure of €24 million on balance. Expenditure from the pooling of monetary income amounted on balance to €171 million (2017: €389 million).

Net result of financial operations, write-downs and risk provisions

Item	2018 € million	2017 € million	Year-on-year change € million	Year-on-year change %
Realised gains/losses				
Gold	127	151	– 25	– 16.3
Foreign currency	268	304	– 36	– 12.0
Securities	– 186	81	– 267	– 328.7
Total	208	537	– 328	– 61.2
Write-downs				
Foreign currency	– 59	– 68	9	13.4
Securities	– 61	– 147	86	58.3
Total	– 120	– 215	95	44.1
Transfer to/from provisions for general risks, foreign exchange risks and price risks	– 1,475	– 1,075	– 400	– 37.2
Net result	– 1,387	– 754	– 633	– 84.0

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Net income from fees and commissions

Item	2018	2017	Year-on-year change	
	€ million	€ million	€ million	%
Income				
Cashless payments	22	24	− 2	− 7.9
Cash payments	7	8	− 0	− 5.1
Securities business and security deposit business	38	29	9	29.6
Other	23	13	10	73.7
Total	91	74	16	21.8
Expense				
Securities business and security deposit business	33	26	7	26.9
Other	8	8	0	1.7
Total	41	34	7	21.1
Net income from fees and commissions	50	41	9	22.4

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The monetary income of the Eurosystem national central banks is pooled in accordance with a decision taken by the Governing Council of the ECB.[5] Since 2003, the amount of monetary income allocated to each national central bank has been measured on the basis of the actual income which arises from the earmarked assets that each holds as a counterpart to its liability base.

The liability base contains, in particular, the following items: liability item 1 "Banknotes in circulation", liability item 2 "Liabilities to euro area credit institutions related to monetary policy operations denominated in euro", liability sub-item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem" and the TARGET2 net liability contained in liability sub-item 9.3 "Other liabilities within the Eurosystem (net)". All interest paid on these items or contained in them owing to the negative interest rates decreases or increases the amount of monetary income to be transferred by the national central bank concerned.

A national central bank's earmarked assets consist mainly of the following items: asset item 5 "Lending to euro area credit institutions related to monetary policy operations denominated in euro", asset sub-item 7.1 "Securities held for monetary policy purposes", asset sub-item 9.2 "Claims equivalent to the transfer of foreign reserves to the ECB", asset sub-item 9.3 "Net claims related to the allocation of euro banknotes within the Eurosystem", the TARGET2 net claim contained in asset sub-item 9.4 "Other claims within the Eurosystem (net)" and a limited amount of the national central banks' gold holdings corresponding to their share in the fully paid-up capital of the ECB. It is assumed that no income is generated from the gold and that the covered bonds purchased under the CBPP and CBPP2 as well as the government bonds (including regional government bonds and bonds issued by eligible agencies located in the euro area) purchased under the PSPP generate income commensurate with the applicable main refinancing rate, as the ECB Governing Council has ruled out the possibility of pooling the risk and returns arising from these instruments among the national central banks.

If the value of a national central bank's earmarked assets is above or below the value of its liability base, the difference is offset by applying to the value of the difference the applicable interest rate for the main refinancing instrument.

5 Decision of the European Central Bank of 3 November 2016 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (ECB/2016/36).

At the end of each financial year, the total monetary income transferred by all national central banks is distributed among the national central banks in proportion to their respective shares in the fully paid-up capital of the ECB. The transfer and allocation can cause redistribution effects among the national central banks under two conditions in practice. First, earmarked assets or liabilities as part of the liability base must have an interest rate that is different from the interest rate of the main refinancing instrument (such as, for instance, the excess reserves remunerated at the deposit facility rate or TLTRO-II operations remunerated at individual rates). Second, the quota share of these earmarked assets or liabilities on the balance sheet of the respective national central bank must be higher or lower than its share in the ECB's capital. For example, the Bundesbank's share of the Eurosystem's total stock of excess reserves, at an average of around 32%, is well above the Bundesbank's capital share of 25.6%, which leads to disproportionately high interest income (see profit and loss sub-item 1.1 "Interest income"), which is monetary income paid into the common pool. With regard to the TLTRO-II, the Bundesbank's share, at around 12%, is considerably lower than the Bundesbank's capital share, resulting in a relatively low interest expense (see profit and loss sub-item 1.2 "Interest expense").

On the whole, the pooling of monetary income resulted in a net expense of €171 million for the Bundesbank (2017: €389 million). This balance represents the difference between the €3,381 million (2017: €3,146 million) in monetary income paid by the Bundesbank into the common pool and the Bundesbank's claim of €3,211 million (2017: €2,758 million) – corresponding to the Bundesbank's share of the ECB's paid-up capital – on the common pool.

In accordance with Article 32.4 of the Statute of the ESCB, the Governing Council of the ECB identified a need to recognise an impairment on one issuer's CSPP securities. In line with its capital key share of 25.6%, the Bundesbank created a provision of €41 million. The provision set aside in the previous year for a CSPP security (Bundesbank's share: €18 million) was reversed following the sale of the security (in order to offset pro rata the realised loss pooled by another national central bank) in 2018 (see liability item 12 "Provisions").

6 Other income

Other income amounted to €191 million, compared with €118 million in 2017. Of this, €86 million (2017: €45 million) was attributable to the contributions of the Eurosystem national central banks to the costs of developing and running Eurosystem services, €34 million (2017: €27 million) to the reversal of provisions (see liability item 12 "Provisions"), €29 million to proceeds from the sale of land and buildings (2017: €3 million) and €21 million to rental income (2017: €20 million).

7 Staff costs

Staff costs fell from €866 million to €849 million year on year. Expenditure relating to staff provisions (see liability item 12 "Provisions") was, on balance, €45 million lower owing to reduced transfers. Excluding this effect, staff costs rose by 4.3%. This was attributable to the general pay rises for salaried staff and civil servants as well as higher staff numbers.

The remuneration received by each member of the Executive Board is published in the Annual Report in accordance with item 9 of the "Code of Conduct for the members of the Executive Board of the Deutsche Bundesbank". For 2018, the President of the Bundesbank received a pensionable salary of €381,473.34, a special non-pensionable remuneration of €76,693.78 and a standard expenses allowance of €5,112.96, amounting to a total of €463,280.08. The Vice-President of the Bundesbank received a pensionable salary of €305,178.68, a special non-pensionable remuneration of €61,355.03 and a standard expenses allowance of €3,067.80, amounting to a total of €369,601.51 for 2018. Two other members of the Executive Board each received a pensionable salary of €228,884.16, a special non-pensionable remuneration of €46,016.27 and a

Staff costs

Item	2018 € million	2017 € million	Year-on-year change € million	 %
Salaries and wages	591	563	27	4.9
Social security contributions	85	84	1	1.0
Expenditure on retirement pensions	173	219	– 46	– 21.0
Total	849	866	– 18	– 2.0

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standard expenses allowance of €2,556.48, amounting to a total of €277,456.91 for the year 2018. There were changes in the composition of the Executive Board in 2018. For the period from 1 January 2018 until their departure on 30 April 2018, two Executive Board members each received a pensionable salary of €75,552.80, a special non-pensionable remuneration of €15,338.76 and a standard expenses allowance of €852.16, amounting to a total of €91,743.72 each. Their two successors (in office since 1 September 2018) each received a pensionable salary of €76,665.68, a special non-pensionable remuneration of €15,338.76 and a standard expenses allowance of €852.16, amounting to a total of €92,856.60 each in 2018.

Total remuneration payments to serving and former members of the Executive Board, former members of the Bundesbank's Directorate and of the Executive Boards of the Land Central Banks, including their surviving dependants, amounted to €10,795,249.78 in 2018.

8 Administrative expenses

Administrative expenses increased from €416 million in 2017 to €434 million. This item shows not only operating expenditure but also, in particular, expenditure of €128 million on computer hardware and software (2017: €114 million) and of €89 million on office buildings (2017: €92 million) as well as expenditure of €76 million on Eurosystem services (2017: €38 million).

9 Depreciation of tangible and intangible fixed assets

The depreciation of land and buildings, of furniture and equipment and of computer software amounted to €92 million, compared with €85 million in 2017 (see asset sub-item 11.2 "Tangible and intangible fixed assets").

10 Banknote production services

Expenditure on banknote production services declined by €63 million in 2018 to €47 million due to a sharp drop in delivery quantities in the reporting year.

11 Other expenses

Other expenses amounted to €36 million (2017: €21 million) and contained, in particular, expenditure on residential buildings amounting to €21 million as well as expenditure on the encashment of the BBk I/Ia series Deutsche Mark banknotes, which are no longer shown on the balance sheet, in the amount of €6 million (see liability sub-item 11.3 "Sundry").

In 2018, the Bundesbank's donations totalled €1,016,194.97: €634,885.26 for specific projects, €167,922.71 for events, €80,167.00 for scholarships and prize money, €78,220.00 for basic financial assistance and €37,500.00 for institutional financial assistance.

12 Allocation to/withdrawal from reserves owing to the restriction on distribution pursuant to Section 253(6) of the German Commercial Code (Handelsgesetzbuch)

Pursuant to Section 253(6) of the German Commercial Code, the difference of €746 million (2017: €664 million) arising from the application of a ten-year period rather than a seven-year period for calculating the average market interest rate at which to discount post-employment benefit obligations is subject to a restriction on distribution (see "General information on the annual accounts" and liability item 14 "Capital and reserves"); the book profit of €82 million (2017: €100 million) will be transferred to reserves.

Annex

The Deutsche Bundesbank: key figures

Staff[1]	2017	2018
Core staff (full-time equivalents)	9,965	10,105
– Contraction since 31 December 2001[2]	4,835 (= 32.7%)	4,695 (= 31.7%)

Locations/core staff (full-time equivalents)[1]	2017	2018
Central Office	1 / 4,880	1 / 4,980
Regional Offices	9 / 2,658	9 / 2,695
Branches	35 / 2,426	35 / 2,429

Annual accounts[1]	2017	2018
Distributable profit	€1,902 million	€2,433 million
Net interest income	€4,172 million	€4,920 million
Balance sheet total	€1,727,629 million	€1,841,781 million
Foreign reserve assets (total)	€166.8 billion	€173.1 billion
– Foreign currency	€31.2 billion	€31.8 billion
– Receivables from the IMF	€18.3 billion	€19.9 billion
– Gold	(3,374 t) €117.3 billion	(3,370 t) €121.4 billion
Allocation across the various storage locations		
Frankfurt	(1,710 t) €59.5 billion	(1,710 t) €61.6 billion
New York	(1,236 t) €43.0 billion	(1,236 t) €44.6 billion
London	(427 t) €14.9 billion	(423 t) €15.3 billion

ECB capital key[1]	2017	2018
Share of subscribed capital	17.9973%	17.9973%
Share of paid-up capital	25.5674%	25.5674%
Amount of the participating interest in the ECB	€1.95 billion	€1.95 billion
Foreign reserve assets transferred to the ECB	€10.43 billion	€10.43 billion

Money market transactions	2017	2018
Open market operations in the euro area[3]		
– Main refinancing operations	€13.40 billion	€3.60 billion
– Longer-term refinancing operations[4]	€716.04 billion	€745.66 billion
of which counterparties of the Bundesbank	€87.35 billion	€91.43 billion
– Banks participating in the main refinancing operations (average) / of which via the Bundesbank	43 / 16	35 / 16
Standing facilities[3]		
– Marginal lending facility in the euro area	€0.25 billion	€0.10 billion
– Deposit facility in the euro area	€587.13 billion	€659.42 billion
Asset purchase programmes (Bundesbank's share)[1]		
CBPP3 portfolio	€57.3 billion	€62.8 billion
PSPP portfolio	€401.6 billion	€448.7 billion
CSPP portfolio	€32.0 billion	€43.0 billion

1 On 31 December. **2** Core staff (full-time equivalents) on 31 December 2001 (year before the structural reform began): 14,800. **3** Daily average of the individual amounts outstanding. **4** Including targeted longer-term refinancing operations (TLTROs).

Cash payments	2017	2018
Volume of euro banknotes in circulation (Eurosystem)[1]	€1,170.7 billion	€1,231.1 billion
Volume of coins in circulation (Eurosystem)[1]	€28.0 billion	€29.0 billion
Returned DM banknotes and coins	DM85.9 million	DM93.4 million
Unreturned DM banknotes and coins	DM12.63 billion	DM12.54 billion

Incidence of counterfeit money in Germany	2017	2018
Euro banknotes (number)	73,000	58,000
Euro coins (number)	32,500	33,100

Cashless payments	2017	2018
Payments via the Bundesbank (number of transactions)	4,461.3 million	4,851.6 million
of which via RPS	4,382.1 million	4,766.4 million
of which via TARGET2-BBk	76.4 million	82.3 million
– payment transactions in T2 and TIPS[5]	44.0 million	46.7 million
– settlement of securities transactions in T2S	32.4 million	35.6 million
Payments via the Bundesbank (value)	€179.0 trillion	€189.5 trillion
of which via RPS	€3.2 trillion	€3.3 trillion
of which via TARGET2-BBk	€174.1 trillion	€184.5 trillion
– payment transactions in T2 and TIPS[5]	€160.9 trillion	€167.6 trillion
– settlement of securities transactions in T2S	€13.2 trillion	€16.9 trillion
Share of TARGET2-BBk transactions in EU-wide TARGET2 system (number of payment transactions)	~ 50%	~ 53%

Banking supervision	2017	2018
Number of institutions to be supervised	3,179	3,126
On-site inspections	203	202

Cooperation with foreign central banks	2017	2018
Training and advisory events	214	210
– Number of participants (total)	3,290	2,830
– Number of participating countries (total)	99	95

Selected economic publications (editions/circulation)	2017	2018
Annual Report	1 / 8,300	1 / 7,700
Financial Stability Review	1 / 8,300	1 / 8,000
Monthly Report	12 / 7,500	12 / 7,500
Statistical Supplements	52 / 1,170	52 / 1,170
Research Centre Discussion Papers	39 / 300	57 / 300
Publications in academic journals	66	82

External communication/public relations	2017	2018
Visitors to the Money Museum	50,559	53,329
Written answers to queries	11,802	12,027
Press releases	323	321
Visits to the website (www.bundesbank.de)	5,985,933	6,138,755
Training sessions on counterfeit prevention	2,000	2,500
– Number of participants	42,000	50,000

5 Since 30 November 2018.

Branches of the Deutsche Bundesbank on 31 December 2018

Locality number	Bank location	Locality number	Bank location
720	Augsburg	860	Leipzig
		545	Ludwigshafen
100	Berlin		
480	Bielefeld	810	Magdeburg
430	Bochum	550	Mainz
		700	Munich
870	Chemnitz		
370	Cologne	150	Neubrandenburg
		760	Nuremberg
440	Dortmund		
300	Düsseldorf	280	Oldenburg
		265	Osnabrück
820	Erfurt		
360	Essen	750	Regensburg
		640	Reutlingen
500	Frankfurt/Main	130	Rostock
680	Freiburg		
		590	Saarbrücken
260	Göttingen	600	Stuttgart
450	Hagen	630	Ulm
200	Hamburg		
250	Hanover	694	Villingen-Schwenningen
660	Karlsruhe	790	Würzburg
570	Koblenz		

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Staff of the Deutsche Bundesbank on 31 December 2018*

Item	Staff numbers[1]				Year-on-year changes			
	Total	Regional offices	Branches	Central Office	Total	Regional offices	Branches	Central Office
Civil servants	5,914	1,548	1,050	3,316	73	− 12	− 31	116
Salaried staff	5,690	1,509	1,611	2,570	104	29	43	32
Total	11,604	3,057	2,661	5,886	177	17	12	148
of which: trainees	637	106	15	516	23	− 21	15	29
Remainder: core staff	10,967	2,951	2,646	5,370	154	38	− 3	119
Memo item: core staff pro rata (full-time equivalents)	10,105.2	2,695.4	2,429.4	4,980.4	140.4	36.9	3.3	100.2

	End-2018	End-2017
* Not included:		
Members of staff on secondment	129	146
Members of staff on unpaid leave	244	243
Members of staff in the second phase of the partial retirement scheme	126	239
1 Of which: part-time employees	2,888	2,754
Of which: staff with temporary contracts	227	193

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Offices held by members of the Executive Board of the Deutsche Bundesbank

Pursuant to the Code of Conduct for members of the Executive Board of the Deutsche Bundesbank, the Annual Report shall disclose details of offices held by Board members on supervisory boards or similar inspection bodies of business enterprises.[1]

The Board members hold the offices indicated below.

- Dr Jens Weidmann, President:
  Chairman of the Board of Directors, BIS;
  Member of the Financial Stability Board (FSB);[2]
  Vice-President of Deutsches Aktieninstitut[2]

- Professor Claudia Buch, Vice-President:
  Member of the Board of Trustees, Monetary Stability Foundation

- Dr Andreas Dombret, Board member until 30 April 2018:
  Member of the Board of Directors, BIS

- Carl-Ludwig Thiele, Board member until 30 April 2018:
  Member of the Board of Trustees, Monetary Stability Foundation

- Professor Joachim Wuermeling:
  Alternate, Board of Directors, BIS

1 Membership of other official bodies is not listed.
2 Ex officio.