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Wilhelm-Epstein-Strasse 14
60431 Frankfurt am Main
Germany

Postal address
Postfach 10 06 02
60006 Frankfurt am Main
Germany

Tel +49 69 9566 0

Fax +49 69 9566 3077

http://www.bundesbank.de

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Contents

Commentaries ... 5

Economic conditions ... 5
Securities markets ... 8
Balance of payments ... 9

The impact of an interest rate normalisation on the private non-financial sector in the euro area from a balance sheet perspective ... 13

The interest rate exposure of euro area households ... 20

Price competitiveness in individual euro area countries: developments, drivers and the influence of labour market reforms ... 31

Real effective exchange rates, price competitiveness indicators and concepts for their assessment ... 33
Estimates of the impact of labour market regulation on price competitiveness ... 45

Financial cycles in the euro area ... 51

Frequency analysis and bandpass filters ... 56
Analysing the wavelet power spectra of credit aggregates, house prices and real gross domestic product in Germany ... 61

IFRS 9 from the perspective of banking supervision ... 75

Current regulatory treatment of accounting loss allowances ... 85
IFRS 9 transitional arrangements in the European Capital Requirements Regulation (CRR) ... 88

Statistical Section 1*

Key economic data for the euro area 5*
Overall monetary survey in the euro area 8*
Consolidated financial statement of the Eurosystem 16*
Banks 20*
Minimum reserves 42*
Interest rates 43*
Insurance corporations and pension funds 48*
Capital market 50*
Financial accounts 54*
Public finances in Germany 58*
Economic conditions in Germany 66*
External sector 75*

Overview of publications by the Deutsche Bundesbank 85*

Abbreviations and symbols

e Estimated
p Provisional
pe Partly estimated
r Revised
… Data available at a later date
. Data unknown, not to be published or not meaningful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.

Commentaries

Economic conditions

Underlying trends

Only slight growth expected for German economy in the fourth quarter of 2018

The German economy is likely to have grown again in the final quarter of 2018, albeit only modestly. Growth probably did not return to the robust pace of the first half of 2018 following the setback in the third quarter as had initially been expected. This is primarily attributable to disappointing developments in industry. Output in the automotive industry is probably returning to normal only very gradually after the introduction of a new emissions test procedure (Worldwide harmonized Light vehicles Test Procedure: WLTP) caused extensive production stoppages during the third quarter. Economic indicators do suggest that the manufacture of motor vehicles might be stepped up again soon, with orders received, in particular, having experienced a significant recovery. Furthermore, towards the end of the period under review, the number of new motor vehicle registrations in Germany was roughly back up to the second quarter level again. Irrespective of this, however, data provided by the German Association of the Automotive Industry (VDA) show that the seasonally adjusted number of passenger cars produced in December was only marginally higher than the November figure and still considerably below the second quarter's level. Furthermore, in other manufacturing sectors, output experienced a broad-based and steep decline in November. A significant drop in industrial output can therefore now also be expected for the fourth quarter as a whole. By contrast, positive stimuli will probably have been provided by private consumption given the continuing excellent labour market situation and substantial wage growth. This is suggested by the strong increase in retail sales in November.

According to provisional figures released by the Federal Statistical Office, real gross domestic product increased by 1.5% in 2018 (also 1.5% after calendar adjustment). Growth in aggregate output thus weakened noticeably as compared with the robust acceleration of 2.2% (as much as 2.5% after calendar adjustment) in the previous year. On the output side, this was mainly attributable to lower growth in manufacturing. Another factor were the automotive industry's production stoppages in the third quarter, which were responsible for the decline in economic output in the third quarter. On the demand side, much more moderate growth in German exports, in particular, had an impact.

Preliminary results show GDP growth at 1.5% in full-year 2018

Industry

Major damper for industrial output in November

Industrial output saw a steep decline in November 2018, falling by 1¾% on the month in seasonally adjusted terms. On an average of October and November, it was significantly down on the third quarter (-1¼%). The downward movement affected a wide range of sectors in the period under review. Even the automotive sector, which had already been under heavy strain during the third quarter on account of the WLTP crisis, experienced another contraction of output (-¾%). The weak level of production in this industrial sector is thus likely to drag on longer than initially expected, as is also suggested by the VDA data already available for December. According to these data, the seasonally adjusted number of manufactured passenger cars was slightly higher than in previous months, but still distinctly below the level in the first half of 2018. On an average of October and November, there was a marked decline of ½% in the production of capital goods overall compared with the third quarter. Producers of intermediate goods suffered an even larger drop in production (-1%). The 5% reduction in output in the consumer goods industry stood out, in particular. This was due to an exceptional development in the pharmaceutical industry, however, where production was cut sig-

Economic conditions in Germany*

Seasonally adjusted

Period	Total	of which: Domestic	of which: Foreign	Main construction
	Orders received (volume); 2015 = 100			
	Industry			
2018 Q1	109.0	104.7	112.4	123.8
Q2	107.5	103.1	110.8	117.1
Q3	106.4	103.9	108.3	117.8
Sep.	107.2	105.1	108.8	120.0
Oct.	107.4	101.1	112.1	121.2
Nov.	106.3	103.5	108.5	…
	Output; 2015 = 100			
	Industry			
	Total	of which: Intermediate goods	of which: Capital goods	Construction
2018 Q1	106.9	106.6	107.1	109.6
Q2	107.4	106.3	107.7	112.4
Q3	105.6	105.3	104.7	108.0
Sep.	105.7	104.9	105.1	110.5
Oct.	105.1	104.8	105.2	109.2
Nov.	103.2	103.8	103.3	107.3
	Foreign trade; € billion			Memo item: Current account balance in € billion
	Exports	Imports	Balance	
2018 Q1	327.86	265.99	61.87	70.98
Q2	331.21	271.62	59.59	68.70
Q3	330.65	277.83	52.82	57.07
Sep.	109.99	92.30	17.69	19.41
Oct.	110.96	93.06	17.90	19.63
Nov.	110.55	91.56	18.99	18.67
	Labour market			
	Employment	Vacancies[1]	Unemployment	Unemployment rate
	Number in thousands			%
2018 Q2	44,783	793	2,358	5.2
Q3	44,879	805	2,322	5.1
Q4	…	802	2,276	5.0
Oct.	44,933	803	2,291	5.1
Nov.	44,967	802	2,275	5.0
Dec.	…	801	2,261	5.0
	Prices; 2015 = 100			
	Import prices	Producer prices of industrial products	Construction prices[2]	Harmonised consumer prices
2018 Q2	102.4	103.2	109.4	103.7
Q3	103.6	104.2	111.0	104.3
Q4	…	…	112.0	104.9
Oct.	105.0	105.0	.	104.9
Nov.	103.8	105.2	.	105.0
Dec.	…	…	.	104.7

* For explanatory notes, see Statistical Section, XI, and Statistical Supplement, Seasonally adjusted business statistics. **1** Excluding government-assisted forms of employment and seasonal jobs. **2** Not seasonally adjusted.

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nificantly (-21¼%) following a prolonged steep rise.[1] Excluding pharmaceutical products, the manufacture of consumer goods stagnated.

Marked decline in industrial new orders

New orders received by German industry fell significantly in November and were down by 1% on the previous month in seasonally adjusted terms. Looking at October and November together, however, they were up distinctly by ½% on the previous quarter. In terms of geographic origin, the increase in orders was attributable mainly to orders from abroad, with orders from both the euro area and from non-euro area countries recording similarly steep growth (+2% in each case). The fairly volatile inflow of other transport equipment orders was the main factor behind the buoyant demand from the euro area, however. Excluding this factor, German manufacturers reported markedly fewer additional orders from the euro area (-1%). Overall, the volume of new orders from within Germany dropped perceptibly (-1½%). Broken down by industry, only the capital goods sector experienced a significant increase in new orders (+3%). However, this was solely due to the automotive sector, which saw catch-up effects (+7%) following the WLTP-related downturn. By contrast, the inflow of orders in this sector stagnated excluding the automotive industry. Furthermore, new orders for intermediate goods and consumer goods were down significantly on the previous quarter (by 2¾% and 2% respectively).

Industrial turnover and goods exports down in November

A sharp decline in nominal industrial turnover was recorded in November 2018. After seasonal adjustment, the month-on-month decrease of 2¼% was even slightly stronger than that of industrial output and on an average of October and November, turnover was still significantly down on the previous quarter (-¾%). A look at the regional breakdown shows that only domestic sales figures were positive, thanks to brisk turnover in the mechanical

1 It is not inconceivable that data for the previous quarters may be revised and the decline in October and November will then also be less pronounced.

engineering and automotive sectors. By contrast, German enterprises' sales fell significantly in the euro area and there was an even stronger decline in non-euro area countries. This development was again driven mainly by the mechanical engineering and automotive sectors, although the trend went in the opposite direction as compared to Germany. Turnover in intermediate and capital goods was down distinctly on the whole, while sales of consumer goods were only slightly lower. In line with this, nominal goods exports in November 2018 declined slightly on the month in seasonally adjusted terms (-¼%). Looking at October and November in aggregate, however, they exceeded the average of the third quarter (+½%), and there was also a slight increase even in price-adjusted terms (+¼%). After seasonal adjustment, nominal imports of goods in November recorded a steep decrease on the month (-1½%). On an average of October and November, they were slightly down on the third quarter (-¼%). After adjustment for price effects, however, the contraction was significantly stronger (-1%). This was attributable to the sharp increase in prices for energy imports during this period.

Construction industry

Steep decline in construction output in November

Construction output fell steeply in November 2018, contracting by 1¾% on the previous month in seasonally adjusted terms.[2] On an average of October and November, there was nonetheless a slight increase of ¼% on the previous quarter. Output in the finishing trades rose significantly (+¾%), whilst activity in the main construction sector was down slightly on the third quarter (-¼%). Irrespective of the rather subdued growth dynamics of late, the construction sector in Germany continues to boom. New orders received by the main construction sector in October 2018 – data are available up to this date – increased strongly compared with the average of the third quarter in seasonally adjusted terms. Moreover, according to the ifo Institute, the utilisation of construction equipment remained at an exceptionally high level in the fourth quarter of 2018.

Labour market

Solid employment growth continues throughout reporting period

The labour market is still in excellent condition. The Federal Statistical Office did adjust the employment level slightly down for September and October. Employment growth was still solid, however, and continued to increase at a similar rate in November. The total number of persons in work in the reporting month rose by a seasonally adjusted 34,000 compared with October 2018. Employment was up by 483,000 persons or 1.1% on the previous month although the year-on-year figure declined recently. Employment subject to social security contributions continued to show strong growth, even outpacing total employment. By contrast, as throughout 2018, there was a decline in both the number of self-employed persons and of persons working exclusively in low-paid part-time jobs. Overall, the indicators for labour demand remained at the expansionary level reached. The greater labour market tightness is reflected, amongst other things, in the further increase in the average time it takes to fill vacancies.

Further decline in unemployment

Unemployment continued to decline markedly at the end of 2018. In December, 2.26 million persons were registered as unemployed with the Federal Employment Agency, 14,000 fewer than in November in seasonally adjusted terms. The decrease was entirely attributable to a drop in the number of unemployed persons receiving the basic welfare allowance. The unemployment rate remained at the low level of 5.0%. The number of unemployed persons was down by 175,000 on the year. On an annual

2 It should be noted, however, that the reported construction output was subject to heavy revision. This is attributable to a significant revision of output data for finishing trades, which affected every month since July 2018. However, this is related to a change in the weighting base used for deflating. The revised numbers are therefore not comparable with the data for earlier periods until their weighting base, too, has been adjusted.

average in 2018, 2.34 million persons were registered as unemployed, 193,000 fewer than the annual average in 2017. The unemployment barometer of the Institute for Employment Research (IAB) was down, but unemployment is nonetheless likely to drop further in the next three months.

Prices

Clear decline in crude oil prices in December but slight recovery of late

Crude oil prices declined again significantly in December on the back of high worldwide production and concerns about global oil demand. They were 14% lower than in November and as a result were down on the year for the first time since mid-2017. Crude oil prices recovered slightly in the first half of January. As this report went to press, a barrel of Brent crude oil cost US$60. The premium on crude oil futures was US$¼ for deliveries 6 months ahead, with no significant discount for 12-month deliveries.

Import prices clearly lower, producer prices slightly higher

Import prices were down distinctly in November due to a steep decline in energy prices. By contrast, prices of other goods were unchanged. Domestic industrial producer prices were nonetheless up moderately, both including and excluding energy, with higher transport costs due to low water levels on the Rhine and other rivers probably also playing their part. The year-on-year change for imports fell to 3.1% and for producer prices remained unchanged at 3.3%.

Consumer prices down significantly at end of year due to cheaper energy

After seasonal adjustment, consumer prices (HICP) were down by a significant 0.3% in December. Energy became significantly cheaper but lower crude oil prices would have suggested an even stronger decline. Food prices were also somewhat lower. By contrast, prices of industrial goods excluding energy rose slightly. There was a somewhat stronger increase in the cost of services, mainly due to package holidays. Rents continued to rise moderately. Annual headline HICP inflation decreased from +2.2% to +1.7% (CPI was likewise down to +1.7% from +2.3%). Excluding energy and food, however, it rose from +1.2% to +1.4%. At +1.9% on average in 2018, the headline rate was slightly higher than in the previous year (+1.7%) due to the sustained steep increase in energy prices but also of food.[3]

Securities markets

Bond market

Net issuance in the German bond market

In November 2018, issuance in the German bond market stood at €95.5 billion in gross terms (previous month: €111.1 billion). After deducting redemptions, which were lower than in the previous month, and taking account of changes in issuers' holdings of their own debt securities, the outstanding volume of domestic bonds grew by €13.3 billion. Foreign debt securities worth €5.5 billion net were sold in the German market. The funds raised from sales of domestic and foreign debt securities in the German market therefore amounted to €18.7 billion.

Rise in public sector capital market debt

The public sector issued bonds totalling €7.1 billion net in the reporting month. On balance, these were placed solely by central government, which issued mainly Treasury discount paper ("Bubills": €3.7 billion), Federal notes ("Bobls": €2.3 billion) and two-year Federal Treasury notes ("Schätze": €2.0 billion). Meanwhile, there were net redemptions of federal state bonds totalling €0.8 billion on balance.

Net issuance by credit institutions

The outstanding volume of debt securities issued by domestic credit institutions grew by €6.8 billion in November, following an increase of €10.7 billion in the preceding month. Ultimately, the main instruments issued were other bank debt securities (€4.5 billion), but there was also smaller-scale issuance of debt securities of specialised credit institutions and mortgage Pfandbriefe (€1.4 billion and €1.3 billion respectively).

3 The CPI rate was also up to +1.9%, after +1.8%.

Fall in enterprises' capital market debt

German enterprises scaled back their capital market debt by €0.7 billion net in the reporting month. On balance, liabilities were redeemed mainly by non-financial corporations, while insurance corporations were the chief net issuers of bonds.

Purchases of debt securities

Among the various investor groups, the main buyers in November were foreign investors on balance; they added German bonds worth €7.9 billion net to their portfolios. The Bundesbank acquired debt securities in the net amount of €3.9 billion, for the most part under the Eurosystem's asset purchase programmes. Domestic non-banks increased their holdings of bonds by €3.8 billion, favouring foreign securities. German credit institutions purchased debt securities with a net value of €3.2 billion, striking a more or less even balance between domestic and foreign securities.

Sales and purchases of debt securities

€ billion

Item	2017	2018	
	November	October	November
Sales			
Domestic debt securities[1]	22.1	7.8	13.3
of which:			
Bank debt securities	0.9	10.7	6.8
Public debt securities	14.8	– 7.4	7.1
Foreign debt securities[2]	6.5	– 4.8	5.5
Purchases			
Residents	25.7	– 2.5	10.9
Credit institutions[3]	3.4	– 8.2	3.2
Deutsche Bundesbank	13.4	3.7	3.9
Other sectors[4]	9.0	2.0	3.8
of which:			
Domestic debt securities	4.7	5.8	1.2
Non-residents[2]	2.9	5.5	7.9
Total sales/purchases	28.5	3.0	18.7

1 Net sales at market values plus/minus changes in issuers' holdings of their own debt securities. **2** Transaction values. **3** Book values, statistically adjusted. **4** Residual.
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Equity market

Little net issuance in the German equity market

In the reporting month, domestic enterprises placed €0.2 billion worth of new shares in the German equity market (October: €1.2 billion). By contrast, the outstanding volume of foreign equities in the German market dropped by €3.4 billion in the same period. On balance, foreign investors were the sole purchasers of equities (€2.4 billion), while both domestic non-banks and credit institutions trimmed their share portfolios by €4.0 billion and €1.5 billion respectively in net terms.

Mutual funds

German mutual funds record high inflows

In November, domestic mutual funds sold shares totalling €11.1 billion net in the German market (previous month: €6.7 billion). In net terms, fresh funds were injected chiefly into specialised funds reserved for institutional investors (€9.4 billion). Among the asset classes, mixed securities-based funds attracted the most inflows (€3.6 billion), though they were also recorded by funds of funds (€2.0 billion), open-end real estate funds (€1.9 billion) as well as equity funds and bond-based funds (€1.8 billion each). Foreign mutual funds placed shares worth €0.6 billion in the German market in the reporting month. On balance, domestic non-banks were the sole purchasers, adding a net €13.2 billion worth of mutual fund shares to their portfolios. Domestic credit institutions and foreign investors sold mutual fund shares worth €1.3 billion and €0.1 billion net respectively.

Balance of payments

Increase in current account surplus

Germany's current account recorded a surplus of €21.4 billion in November 2018. The result was €2.6 billion up on the level of the previous month. This was attributable to the increase in the balance of invisible current transactions, which comprise services as well as primary and secondary income.

Major items of the balance of payments

€ billion

Item	2017 Nov.	2018 Oct.	2018 Nov.p
I. Current account	+ 26.4	+ 18.9	+ 21.4
1. Goods[1]	+ 25.3	+ 20.1	+ 20.0
Exports (f.o.b.)	115.6	117.2	114.2
Imports (f.o.b.)	90.2	97.1	94.2
Memo item:			
Foreign trade[2]	+ 23.8	+ 18.9	+ 20.5
Exports (f.o.b.)	116.3	117.4	116.3
Imports (c.i.f.)	92.4	98.4	95.7
2. Services[3]	– 0.5	– 3.6	– 0.3
Receipts	23.2	24.1	24.8
Expenditure	23.7	27.8	25.1
3. Primary income	+ 6.9	+ 6.8	+ 7.4
Receipts	15.6	15.9	16.7
Expenditure	8.8	9.0	9.3
4. Secondary income	– 5.3	– 4.4	– 5.6
II. Capital account	– 0.5	– 0.8	– 0.7
III. Financial account (increase: +)	+ 29.6	+ 9.2	+ 23.2
1. Direct investment	– 5.0	+ 7.2	– 15.0
Domestic investment abroad	+ 7.3	+ 7.4	+ 3.1
Foreign investment in the reporting country	+ 12.3	+ 0.2	+ 18.1
2. Portfolio investment	+ 12.3	– 13.8	– 2.9
Domestic investment in foreign securities	+ 9.6	– 7.3	+ 6.5
Shares[4]	+ 1.2	– 0.6	+ 0.4
Investment fund shares[5]	+ 1.9	– 1.9	+ 0.6
Long-term debt securities[6]	+ 6.5	– 3.5	+ 7.2
Short-term debt securities[7]	– 0.0	– 1.3	– 1.7
Foreign investment in domestic securities	– 2.7	+ 6.5	+ 9.4
Shares[4]	– 0.8	+ 2.0	+ 1.7
Investment fund shares	– 4.8	– 1.0	– 0.1
Long-term debt securities[6]	+ 4.9	+ 1.3	+ 7.1
Short-term debt securities[7]	– 2.1	+ 4.2	+ 0.8
3. Financial derivatives[8]	+ 2.5	– 1.5	+ 10.2
4. Other investment[9]	+ 20.0	+ 16.7	+ 31.0
Monetary financial institutions[10]	– 17.3	+ 27.9	+ 17.4
of which: Short-term	– 14.4	+ 27.6	+ 19.2
Enterprises and households[11]	+ 3.4	+ 3.9	+ 10.0
General government	+ 2.5	– 3.5	+ 0.2
Bundesbank	+ 31.5	– 11.6	+ 3.4
5. Reserve assets	– 0.3	+ 0.7	– 0.1
IV. Errors and omissions[12]	+ 3.7	– 8.8	+ 2.4

1 Excluding freight and insurance costs of foreign trade. **2** Special trade according to the official foreign trade statistics (source: Federal Statistical Office). **3** Including freight and insurance costs of foreign trade. **4** Including participation certificates. **5** Including reinvestment of earnings. **6** Long-term: original maturity of more than one year or unlimited. **7** Short-term: original maturity of up to one year. **8** Balance of transactions arising from options and financial futures contracts as well as employee stock options. **9** Includes, in particular, loans and trade credits as well as currency and deposits. **10** Excluding the Bundesbank. **11** Includes the following sectors: financial corporations (excluding monetary financial institutions) as well as non-financial corporations, households and non-profit institutions serving households. **12** Statistical errors and omissions resulting from the difference between the balance on the financial account and the balances on the current account and the capital account.

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Goods account surplus virtually unchanged

At €20.0 billion in the reporting month, the surplus in the goods account was virtually at the previous month's level (€20.1 billion). Goods imports in foreign trade fell more sharply than goods exports, but there was also a significant decline in supplementary trade items on the export side.

Rise in balance of invisible current transactions

A surplus of €1.4 billion in invisible current transactions was recorded in November, following a deficit of €1.2 billion in October. The main reason for the turnaround was that the decrease in the services account deficit was stronger than the increase in the secondary income deficit. The deficit in the services account shrank by €3.4 billion to €0.3 billion, which was chiefly down to the usual seasonal decrease in travel expenditure. Moreover, net receipts in primary income rose by €0.5 billion to €7.4 billion. Income grew at a somewhat faster pace than expenditure, with investment income playing a particular role. In contrast to this, the deficit in secondary income widened by €1.3 billion to €5.6 billion, mainly due to higher payments from sectors outside general government to non-residents.

Inflows in portfolio investment

Cross-border portfolio investment in Germany continued to be shaped by slightly subsiding global economic growth and political uncertainties in November. All in all, there were net capital imports totalling €2.9 billion (October: net capital imports of €13.8 billion). Portfolio investment by foreign investors in Germany resulted in net inflows of capital (€9.4 billion). This was due mainly to purchases of debt securities (€7.9 billion), particularly bonds. Foreign investors also added German shares to their portfolios (€1.7 billion), but parted with investment fund shares (€0.1 billion). Resident investors acquired foreign securities worth €6.5 billion net, purchasing debt securities (€5.5 billion), investment fund shares (€0.6 billion) and shares (€0.4 billion).

Direct investment sees capital imports

Direct investment generated net capital imports of €15.0 billion in November (October: net capital exports of €7.2 billion). Foreign

enterprises strongly increased their direct investment in Germany (€18.1 billion), mainly in the form of intra-group lending (€13.4 billion). Loans from foreign affiliates to their German parent companies played a significant role in this. Foreign owners also boosted the equity capital they provided to German branches by €4.8 billion. Domestic enterprises' foreign direct investment resulted in net outflows (€3.1 billion). This was chiefly due to the additional provision of equity capital (€5.7 billion), with reinvested earnings playing a key role. In the same period, German parent companies scaled back their lending to foreign affiliates by €2.6 billion. This related to financial credit only.

Outflows in other investment

Other statistically recorded investment – which comprises loans and trade credits (where these do not constitute direct investment), bank deposits and other investments – registered net capital exports of €31.0 billion in November, up from €16.7 billion one month previously. The banking system as a whole saw outflows of €20.8 billion. Monetary financial institutions (excluding the Bundesbank) accounted for the largest share of this, at €17.4 billion. The Bundesbank also recorded net capital exports (€3.4 billion). TARGET2 claims increased by €13.6 billion, but non-resident business partners' deposits with the Bundesbank also rose at the same time. On balance, non-banks likewise recorded net capital exports. These were attributable primarily to enterprises and households (€10.0 billion), while transactions by general government resulted in outflows of €0.2 billion.

Reserve assets

The Bundesbank's reserve assets dipped slightly – at transaction values – by €0.1 billion in November.

The impact of an interest rate normalisation on the private non-financial sector in the euro area from a balance sheet perspective

In the wake of the global financial and economic crisis and of the European debt crisis, some sizeable balance sheet constraints became apparent in the private non-financial sector. Households and non-financial corporations responded to these by scaling back their debt and curbing their expenditure. The standard and non-standard monetary policy measures taken by the Eurosystem pushed down interest rates, helping to significantly reduce the interest burden on the private non-financial sector and ease balance sheet restrictions. This article explores whether and to what extent the balance sheet indicators of the euro area's private non-financial sector – measured on the basis of net interest income and debt service – could deteriorate again if interest rates were to return to normal, and whether this might result in any significant negative repercussions for the real economy.

The research suggests that, all in all, balance sheet indicators are only likely to deteriorate moderately as a result of an interest rate normalisation. This is mainly because debt levels in a number of sectors and countries have been pared back significantly over the last few years and, in contrast to the last interest rate tightening phase (2005-08), are not expected to rise again markedly over the next few years. At the same time, compared with previous phases of interest rate increases and decreases, a considerably more gradual rise in interest rates is anticipated.

Empirical analyses suggest that a rise in debt service ratios, in particular, could be accompanied by a persistent decline in household consumption and investment by non-financial corporations. Given that the changes to the balance sheet indicators derived from the simulations are rather modest and that interest rates will probably return to normal in a favourable economic environment, this should not, in itself, have any major impact on the real economy.

Introduction

Recent crises have highlighted relevance of balance sheet indicators

The global financial and economic crisis and the European debt crisis highlighted the relevance of the private non-financial sector's balance sheet indicators to real economic growth in the euro area. Reduced earnings as a result of the crises and a revaluation of assets led to sizeable balance sheet constraints in some cases. Households and non-financial corporations responded by scaling back their debt and curbing their consumption and investment.[1] However, the lower interest rates stemming from the Eurosystem's expansionary monetary policy significantly reduced the interest burden on the private non-financial sector in the euro area. This eased balance sheet constraints and ultimately supported growth in consumption and investment.

Potential impact of interest rate normalisation on net interest income and debt service

This article explores whether and to what extent balance sheet indicators in the private non-financial sector – measured here on the basis of net interest income and debt service – could deteriorate again if interest rates were to return to normal. Because changes in the euro area aggregate mask sometimes significant differences between countries, we examine the four large Member States (Germany, France, Italy and Spain) individually in addition to the euro area as a whole. The main findings can be summarised as follows.

- Overall, an interest rate normalisation is not likely to cause any serious deterioration in the private non-financial sector's balance sheet indicators.
- This is first and foremost due to the progress made in deleveraging in individual sectors and countries since the height of the European debt crisis and the anticipation of a very gradual normalisation of interest rates.
- Potential balance sheet constraints resulting from an interest rate normalisation are unlikely to be accompanied by a considerable slowdown in the real economy.

The following section explains in detail how these results were obtained. First, the role of balance sheet indicators in monetary policy transmission is discussed. Stylised empirical correlations are then drawn between the balance sheet indicators and real economic variables for the euro area. The article also provides an overview of developments in the balance sheet indicators during the period of monetary policy easing. Finally, scenario analyses showing the potential path of the balance sheet indicators under various interest rate normalisation scenarios are presented and then used to derive possible macroeconomic implications.

The role of interest income and wealth effects in monetary policy transmission

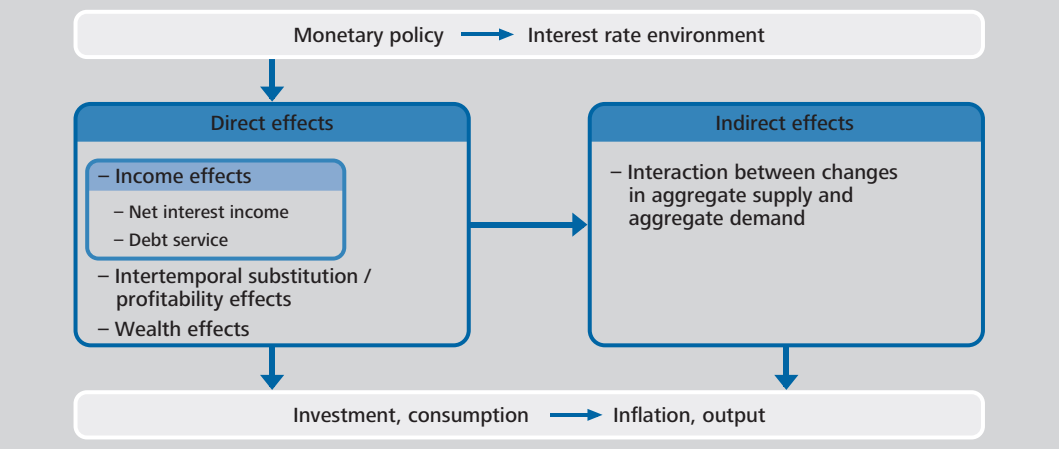
Conceptual considerations

Monetary policy influences the real economy via direct and indirect effects

Theoretical studies on monetary policy transmission examine how a monetary policy-induced change in interest rates affects the consumption and investment decisions of the private non-financial sector. These studies distinguish between direct and indirect effects – direct effects encompass the immediate response of consumption and investment to a changing interest rate environment, while indirect effects have an impact via the interaction between changes in supply and demand in the different sub-markets of the economy. One example of an indirect effect of this kind would be a reduction in wage income caused by an increase in unemployment, which in turn dampens consumer spending.[2] Direct effects typically focus on substitution and profitability aspects. The idea is that changes in interest

1 See Deutsche Bundesbank, Private debt – status quo, need for adjustment and policy implications, Monthly Report, January 2014, pp. 53-65; and Deutsche Bundesbank, Recent developments in the indebtedness of the private non-financial sector in selected euro area countries, Monthly Report, January 2017, pp. 41-58.
2 For more information, see G. Kaplan and G. Violante (2018), Microeconomic heterogeneity and macroeconomic shocks, Journal of Economic Perspectives, 32(3), pp. 167-194.

Direct and indirect effects of an interest rate normalisation



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rates influence the relative attractiveness of current consumption and the profitability of investments. In addition to this, direct effects via changes in interest and investment income also emerge as a key factor in the transmission of monetary policy (see the chart above). These have become a focal point of the theoretical debate, especially in the wake of the global financial and economic crisis.[3]

Focus on (financial) income effects

The following section focuses exclusively on the direct effects caused by a change in income associated with financial assets and liabilities. These income effects are measured at the macroeconomic level, mostly on the basis of net interest income and debt service. Net interest income is the difference between interest earnings and interest payments. As well as interest payments, debt service also includes the redemption payments associated with debt.

Income effects influenced by structure of financial balance sheets

The direction and magnitude of these income effects depend on the structure of the financial balance sheets of the agents involved. With regard to net interest income, it is interest rate-sensitive assets and liabilities in the private sector portfolio that are particularly important.[4] In the case of net borrowers, which non-financial corporations usually are, net interest income goes down in an environment of rising interest rates if interest payments increase more sharply than interest earnings over matching interest rate fixation periods. This reduces the amount of internal funds available to non-financial corporations, which in itself tends to weaken investment activity.[5] The argument is similar for households with relatively high levels of debt. Here, too, a rising interest rate leads to higher interest payments and a drop in disposable income. This is particularly pronounced for loans

3 See A. Mian and A. Sufi (2010), Household Leverage and the Recession of 2007-09, IMF Economic Review 58 (1), pp. 74-117; and A. Mian, K. Rao and A. Sufi (2013), Household Balance Sheets, Consumption, and the Economic Slump, The Quarterly Journal of Economics 128 (4), pp. 1687-1726. Furthermore, changes in asset prices are considered to be direct effects of monetary policy transmission. Because empirical studies for the euro area show that wealth effects induced by asset price fluctuations have only a limited impact on consumer spending decisions, no further consideration is given to them here. For more information, see C. Guerrieri and C. Mendicino (2018), Wealth effects in the euro area, ECB Working Paper No 2157; and G. de Bondt, A. Gieseck and Z. Zekaite (2018), Income and wealth effects: a thick modelling approach for euro area private consumption, mimeo.

4 See A. Auclert (2019), Monetary policy and the redistribution channel, American Economic Review, forthcoming. In this context, the author refers to "unhedged interest rate exposure".

5 For more information, see J. Lewellen and K. Lewellen (2016), Investment and Cash Flow: New Evidence, Journal of Financial and Quantitative Analysis 51 (4), pp. 1135-1164; P. Bolton, H. Chen and N. Wand (2011), A unified theory of Tobin's q, corporate investment, financing and risk management, The Journal of Finance, 66 (5), pp. 1545-1578; and O. Lamont (1997), Cash Flow and Investment: Evidence from Internal Capital Markets, The Journal of Finance, 52 (1), pp. 83-109.

with floating rates. By contrast, net interest income increases for households with large stocks of interest-bearing assets and debt levels that are low or that characteristically consist of fixed rate loans.

Debt service also includes redemption payments

While net interest income takes into account both assets and liabilities, debt service focuses on the interest-bearing liabilities of the private non-financial sector. Interest payments, which together with redemption payments equate to the debt service, are particularly heavily influenced by the interest rate level and therefore the monetary policy stance.[6] A higher debt service implies that a growing proportion of disposable income will have to be used to service interest and redemption payments, limiting the scope for consumption and investment spending.

Sensitivity of real economic variables depends on financial frictions

In turn, the sensitivity of consumption and investment behaviour in response to changes in net interest income or debt service depends largely on financial frictions at the household and corporate level. These include liquidity and financing constraints, in particular. High payment obligations in relation to the stock of liquid assets mean that agents respond much more strongly to temporary income fluctuations via their current consumption and their investment, as they do not have sufficient liquid assets to use as a buffer.[7]

Income effect particularly strong where illiquid assets are financed through borrowing

Based on these considerations, direct income effects are particularly likely to have a significant impact in cases where economic agents finance illiquid assets through borrowing, including, for instance, purchases of real estate by households or fixed assets by companies. Whether loan contracts have a variable rate of interest also has a bearing.[8] A rising interest rate level will then translate significantly faster into a higher current interest burden, eating into the resources available for consumption and investment. If the new interest rate environment also entails a general reduction in asset prices and thus the value of the assets underlying the debt contracts as collateral, economic agents' levels of indebtedness may also increase to a burdensome or even unsustainable level. A debt overhang of this kind further decreases willingness to spend owing to the need for deleveraging.[9]

Stylised empirical results for the euro area

Empirical estimations of importance of balance sheet indicators for real economy …

To illustrate the previous conceptual considerations, stylised empirical relationships between the two key balance sheet indicators – net interest income and the debt service ratio – as well as real economic indicators are identified below. Here, we use impulse-response func-

6 See B. Hofmann and G. Peersman (2017), Is there a debt service channel of monetary transmission?, BIS Quarterly Review, December 2017. For information about the transmission of changes in the debt service ratio to the real economy, see M. Drehmann, M. Juselius and A. Korinek (2018), Going With the Flows: New Borrowing, Debt Service and the Transmission of Credit Booms, NBER Working Paper No 24549.

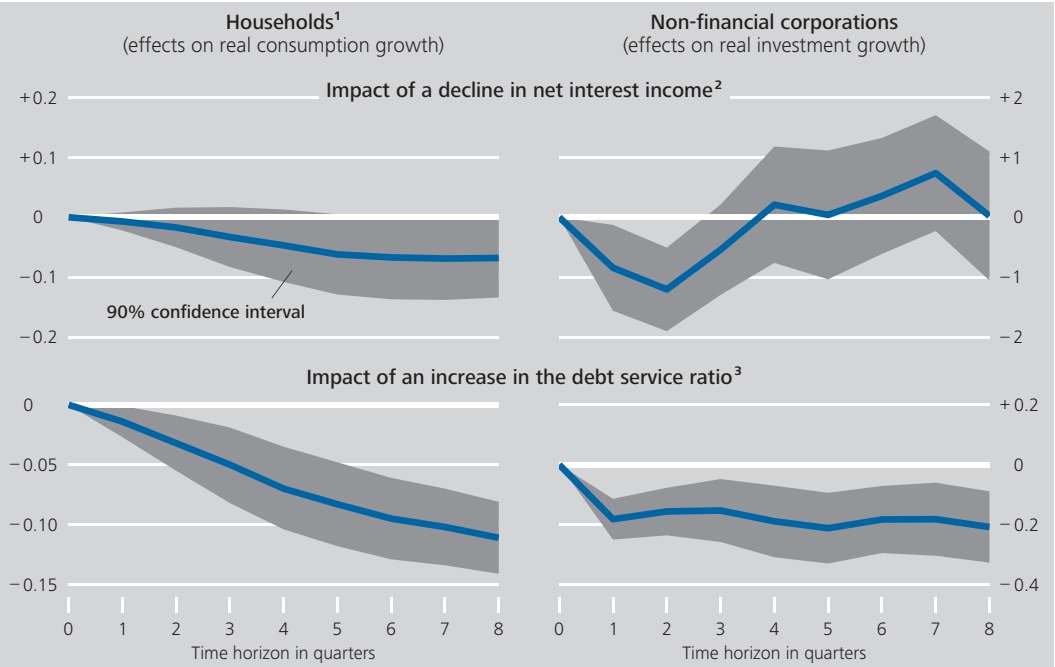
7 In this context, households are also referred to as "hand-to-mouth" consumers. On the one hand, these can be households with low net wealth and few liquid assets. On the other, it includes households with high net assets, but those of a particularly illiquid kind such as real estate. For more information, see G. Kaplan, L. Violante and J. Weidner (2014), The wealthy hand-to-mouth, Brookings Papers on Economic Activity, 48 (1), pp. 77-138. For information about the role of precautionary saving in this context, see also C. Caroll (2001), A theory of the consumption function with and without liquidity constraints, Journal of Economic Perspectives, 15 (3), pp. 23-45.

8 For more information, see J. Cloyne, C. Ferreira and P. Surico, Monetary policy when households have debt: new evidence on the transmission mechanism, The Review of Economic Studies, forthcoming; M. di Maggio, A. Kermani, B.J. Keys, T. Piskorski, R. Ramcharan, A. Seru and V. Yao (2017), Interest rate pass-through: mortgage rates, household consumption and voluntary deleveraging, American Economic Review, 107 (11), pp. 3550-3588; M. Flodén, M. Kilström, J. Sigurdsson and R. Vestman (2017), Household debt and monetary policy: revealing the cash-flow channel, Swedish House of Finance Research Paper, No 16-8; and A. Hedlund, F. Karhan, K. Mitman and S. Ozkan (2017), Monetary policy, heterogeneity, and the housing channel, Society for Economic Dynamics 2017 Meeting Papers, No 1610.

9 See S. Alpanda and S. Zubairy, Household debt overhang and transmission of monetary policy, Journal of Money, Credit and Banking, forthcoming. The weak economic growth by international standards seen in the euro area after the financial crisis was probably due, at least in part, to this pronounced tendency to repay debt using current income. For more information, see Deutsche Bundesbank (2017), Recent developments in the indebtedness of the private non-financial sector in selected euro-area countries, op. cit.

Stylised macroeconomic effects of a deterioration in balance sheet indicators*

Percentage points



Sources: BIS, ECB and Bundesbank calculations. * The impulse-response functions were estimated using local projections as in Jorda (2005) based on a panel dataset (Germany, France, Italy and Spain), taking into account time-constant but country varying effects. **1** Including non-profit institutions serving households. **2** Net interest income equals the difference between interest earnings and interest payments. For ease of comparison and to adjust for price effects, net interest income is expressed as a percentage of GDP. **3** The debt service ratio represents the sum of interest and redemption payments as a percentage of disposable income.

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tions for a panel of the four major euro area Member States – Germany, France, Italy and Spain – to show how macroeconomic variables might respond to a deterioration in these balance sheet indicators. More specifically, it is assumed that net interest income declines and the debt service ratio increases.[10] Real investment growth for non-financial corporations and real consumption growth for households are used as real economic indicators and thus dependent variables. The impulse-response functions are calculated using an estimation model based on local projections.[11] These show how the macroeconomic variables evolve over time following a one-time deterioration of the balance sheet indicators amounting to one standard deviation. The chart above presents the results of the empirical analysis.

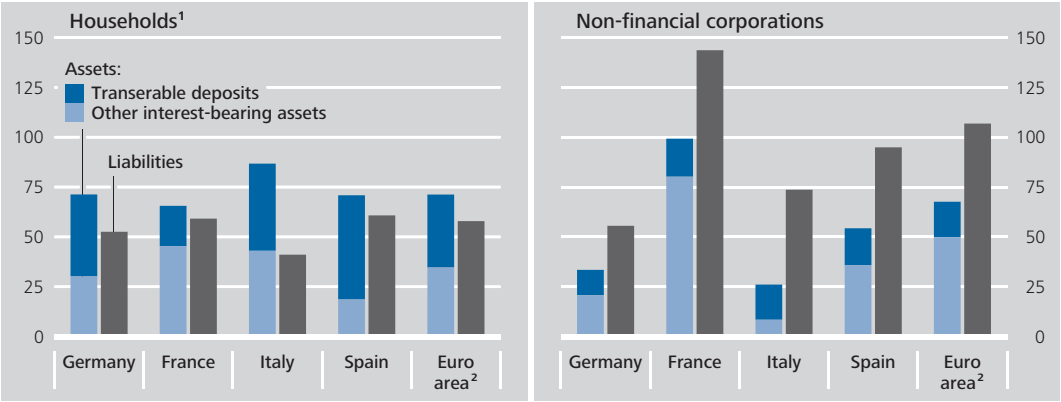
In principle, the stylised findings generated using this method support the theoretical considerations and show that a deterioration in the two indicators may be linked to negative ef-

10 For ease of comparison and to adjust for price effects, net interest income is expressed as a percentage of gross domestic product (GDP).

11 See O. Jorda (2005), Estimation and inference of impulse responses by local projections, American Economic Review, 95(1), pp. 161-182. A series of equations is estimated in which the dependent variable is continuously shifted further into the future. The parameter estimated in this way for each point in time for the relevant explanatory variable – net interest income or the debt service ratio – then corresponds to the local projection of consumption or investment for the corresponding point in time, assuming that the variable to be considered deteriorates by one unit. Specifically, the following correlations are estimated separately for consumption growth (for the household sector) and investment growth (for the non-financial corporations sector): $y_{i,t+h} = \alpha_{i,h} + \beta_h \, indicator_{i,t-1} + \gamma_h \, X_{i,t-1} + \varepsilon_{i,t+h}$. Here, y describes the dependent variable (real investment or consumption growth in country i at time $t+h$), $indicator$ either the net interest income or the debt service ratio of the non-financial corporations or households in country i at time $t-1$ and X corresponding country-specific macroeconomic control variables including real GDP growth, the inflation rate, growth in real house prices and a short-term shadow interest rate as well as lagged values for the dependent variable. The estimation period runs from Q4 1999 to Q1 2016. This enables us to produce projections for up to eight quarters. At the same time, it ensures that the projections are based on the same data base, regardless of their horizons. Because the error terms are, given their construction, autocorrelated, Newey-West standard errors are computed.

Interest-bearing assets and liabilities of the private non-financial sector in the euro area*

As a percentage of GDP, Q2 2018



Sources: ECB and Bundesbank calculations. * Interest-bearing assets and liabilities include deposits, debt securities and loans. **1** Including non-profit institutions serving households. **2** The share of transferable deposits for the euro area corresponds to the weighted country average of Germany, France, Italy and Spain.

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… show, in line with the theory, that a deterioration in balance sheet indicators is accompanied by a decline in consumption and investment

fects on the real economy. These materialise in the context of net interest income, mostly in the form of a clear, but only short-term, decline in investment growth by non-financial corporations. The response of household consumption is also negative, but tends to be statistically insignificant. Furthermore, an increase in debt service ratios, in particular, appears to be linked to perceptible and sustained negative effects. This is true for both non-financial corporations and households. The main reason for the high level of persistence is probably that, as experience has shown, the primary response to an increase in the debt service ratio is an extended period of deleveraging, hampering economic growth in the long term.[12] On the whole, the results suggest that balance sheet constraints, linked to negative feedback effects for the real economy, could first and foremost appear in the form of a higher debt service ratio.

The balance sheet position of the private non-financial sector in the euro area

The analysis above has shown that changes in balance sheet indicators such as net interest income and debt service can have an impact on the real economy. Stylised information on the private non-financial sector's balance sheet situation can be obtained using data from the financial accounts and national accounts. As well as the euro area as a whole, the four large Member States of Germany, France, Italy and Spain are also considered in the following analyses.

Balance sheet indicators measured using data from the financial accounts

The chart above shows that, in absolute terms, the interest-bearing assets of households significantly exceed the corresponding liabilities in all the countries analysed.[13] This means that households' net financial assets as relevant to interest income, i.e. the difference between interest-bearing assets and liabilities, are posi-

Interest-bearing net financial assets: negative for non-financial corporations, positive for households

12 For information about persistence in debt dynamics, see M. Drehmann, M. Juselius and A. Korinek (2018), op. cit.; and R. Adalid and M. Falgiarda (2018), How repayments manipulate our perceptions about loan dynamics after a boom, ECB Working Paper, No 2211.

13 According to the European System of Accounts 2010 (ESA 2010), deposits, debt securities, loans and other accounts receivable/payable are interest-bearing. Since the latter are subject to a certain degree of statistical uncertainty, they are excluded from the following analysis. Here, the definition of the debt instruments used to calculate the debt service ratios also includes loans and debt securities. Deposits are not relevant because they do not play a role in the external financing of the private non-financial sector. In addition to this, there are non-interest-bearing assets and liabilities such as shares and other equity, as well as claims on insurance corporations. Although a guaranteed interest rate is often agreed for the latter, they are considered a non-interest-bearing form of investment under ESA 2010. In the national accounts, the income they generate is recorded as other investment income rather than as interest.

tive. Across the countries, interest-bearing net financial assets are particularly high in Italy. Interest-bearing assets are therefore likely to benefit disproportionately from a rise in the interest rate level. The situation is different for non-financial corporations, which have significantly more interest-bearing liabilities. Again, Italy stands out here with a large difference between the two figures. Thus, net financial assets as relevant to interest income are negative in all the countries analysed, meaning that a return to normal interest rates would probably have a larger impact on liabilities. Interest-bearing assets account for just over 30% and 40% of the total financial assets (including non-interest-bearing assets) of non-financial corporations and households respectively. The liabilities of households are almost exclusively interest-bearing, whereas those of non-financial corporations are predominantly non-interest-bearing.

Clear heterogeneity at individual household level

The situation described at the aggregate sectoral level may conceal heterogeneous developments within the sectors. For instance, at the individual household level in the euro area, it is evident that, in the event of an interest rate normalisation, households with lower net wealth or income are especially likely to experience a heavier interest payment burden owing to the composition of their portfolios (see the box on pp. 20 ff.).

Transmission of changes in the general interest rate environment depends on maturities …

As well as the interaction between interest-bearing assets and liabilities, other aspects also influence how changes in the general interest rate environment affect net interest income and debt service. The maturities of deposits and debt instruments as well as the fixed-term interest rates for loans are particularly important in this context. They determine interest rate levels and how quickly changes in interest rates are transferred to the various financial instruments. A glance at the balance sheets of the private non-financial sector in the countries analysed shows that the maturities of interest-bearing assets generally tend to be shorter, while those for interest-bearing liabilities tend to be comparatively long. Taking into account the maturity structure, a return to normal interest rates would probably therefore tend to be transmitted more quickly to assets than to liabilities.

… and interest rate fixation periods

There is an important difference between households and non-financial corporations in terms of the interest rate fixation periods for bank loans. For floating rate loans, interest payments are usually linked to a short-term market benchmark that adapts rapidly to changes in the monetary policy stance.[14] With longer interest rate fixation periods, however, changes in the interest rate level will not be felt until an expiring loan agreement is replaced by a new one. This may delay the effect on borrowers' interest payment obligations. Because a larger share of floating rate loans is granted to non-financial corporations than to households in the euro area as a whole, generally speaking, an interest rate hike would probably tend to become evident more quickly on the liabilities side for non-financial corporations. At the same time, at the country level, the repercussions would probably be felt more promptly overall in Italy and Spain, which have a larger share of floating rate loans, than in Germany or France.[15]

Developments in net interest income

Changes in net interest income can be broken down into interest rate and portfolio effects

Net interest income is the difference between the interest income generated by the interest-bearing assets and the interest payments related to the interest-bearing liabilities. Changes in this variable can be broken down into a pure interest rate effect and a portfolio effect.[16] The

14 Here, floating rate loans comprise loans with an original or residual maturity of less than 12 months as well as loans with an interest rate adjustment date of up to 12 months.
15 For information on the structure of lending rates for non-financial corporations, see Eurosystem Working Group (2013), Corporate Finance and Economic Activity in the Euro Area, Occasional Paper 151, p. 37. For households, see ECB (2009), Housing Finance in the Euro Area, Structural Issues Report, p. 26.
16 See also ECB (2017), Lower interest rates and sectoral changes in interest income, Economic Bulletin, Issue 5, pp. 31-35.

The interest rate exposure of euro area households

A change in the policy interest rate, to the extent it is passed through to deposit and lending rates, has a direct effect on the amount of interest received or paid by households. And since interest-bearing assets and liabilities are distributed differently across households, these households can be affected very differently by an interest rate change. The composition of households' portfolios in terms of interest-bearing assets and maturity structure determines the extent to which households' interest income flows are affected by interest rate changes in a given time interval.

A recent study by Tzamourani (2019) estimates the interest rate exposure of euro area households.[1] The metric used is the unhedged interest rate exposure *(URE)*, i.e. the difference between maturing assets and liabilities, as defined by Auclert (2019).[2] It is a welfare metric, which captures the extent to which households respond to changes in real interest rates and reflects the direct gains and losses in their net interest income after such a change.

Using survey data, the URE for one year can be defined for each household i as

$$URE_i = Y_i - C_i + A_i - L_i,$$

where Y_i stands for household income, C_i for consumption, A_i for maturing assets and L_i for maturing liabilities in that year.

The URE is thus the resource flow available for investment, or the amount to be financed, over the year, and so in effect represents the amount that is exposed to interest rate changes. Households with a positive URE, with typically many investments in short-term instruments, such as deposits, would initially benefit from an increase in interest rates (assuming constant inflation). On the other hand, households with a negative URE, with typically adjustable-rate mortgages (ARMs) and smaller investments in deposits, would lose from an interest rate increase.

The study uses the Eurosystem's Household Finance and Consumption Survey (HFCS), which provides representative and detailed data on assets, debt, income and consumption of euro area households.[3] Based on these data, Tzamourani estimates in her study the URE for the euro area as a whole and for the individual euro area countries. Based on the HFCS data,[4]

- Y_i is net household income from all sources.
- C_i is the sum of non-durables expenditures, plus rent, plus durables expenditures.
- A_i is the sum of all sight deposits, 80% of saving deposits, all mutual fund shares invested in money market instruments, the country-specific percentage of bonds assumed to be maturing, plus 90% of managed accounts.[5]

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1 See P. Tzamourani (2019), The interest rate exposure of euro area households, Deutsche Bundesbank Discussion Paper No 01/2019.
2 See A. Auclert (2019), Monetary policy and the redistribution channel, American Economic Review, forthcoming.
3 The data source for the study is the second (and latest) available wave of the household survey. The following reference periods were used: 2014 for Germany, end 2014/beginning 2015 for France, 2015 for Italy and end 2011/beginning 2012 for Spain.
4 Other data sources are used to impute some information that is not available in the HFCS, such as net income for certain euro area countries.
5 The assumptions and basic principles behind these definitions are explained in Tzamourani (2019).

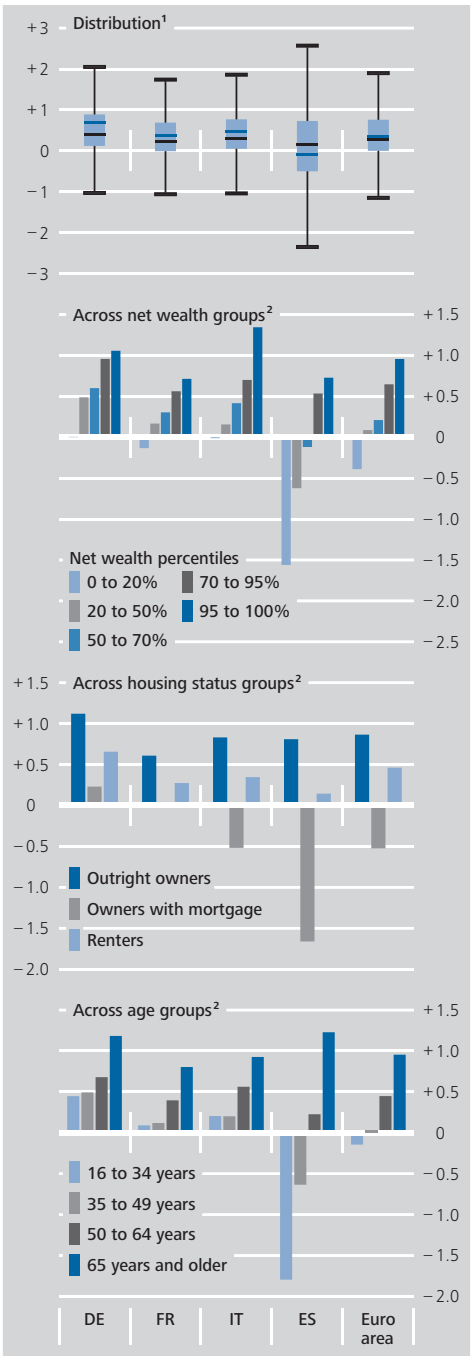
– L_i is the sum of all ARMs, all non-mortgage credit plus the fraction of fixed-rate mortgages maturing in the year after the survey plus all loan payments. These are all measured annually.

– To compare results across individual countries and groups of households, the URE is scaled with the average gross income of the country or group it refers to.[6]

The top diagram in the adjacent chart shows, using boxplots, the distribution of UREs across the euro area and in the four largest euro area economies, i.e. Germany, France, Italy and Spain. The study finds that the median household (black line) in the euro area and in the individual countries considered has a positive interest rate exposure. Assuming an equal pass-through of policy rate changes to deposit and loan rates, and all other things being equal, the median household would gain from a rise in interest rates. The chart also shows that the means of the distribution (blue lines) across countries display greater heterogeneity. Whereas households in France, Germany and Italy have a positive URE on average, households in Spain have a negative URE. This heterogeneity is driven mainly by the differences in the structure of households' liabilities, and particularly by the differences in the prevalence of ARMs (see the table on p. 22).[7]

Unhedged interest rate exposure

relative to gross income



Source: Tzamourani (2019), based on the Household Finance and Consumption Survey, 2014. **1** The boxplots represent the distribution of unhedged interest rate exposure (URE) at the household level for the four selected countries and the euro area. The blue line indicates the mean, the black line within the box indicates the median, and the upper and lower boundaries of the box indicate the quartiles. The lines outside the box extend in each case to the maximum data point, which is less than one and a half times the interquartile range (the size of the box) away from the box. For ease of comparison, the UREs have been standardised using the country-specific gross income. **2** The UREs depicted represent the mean of each group and have been standardised using the gross income of the group they refer to.

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6 Thus, the calculated measure when comparing countries, for example, gives the interest rate exposure of households as a share of the respective country's average gross income. Multiplying this figure by a policy interest rate change in percentage points, and assuming an equal pass-through for loan and deposit rates, one obtains the net increase or reduction in households' interest income as a percentage of the average gross income of the country in question as a result of the change in the policy interest rate.

7 Tzamourani (2019), op. cit., provides further evidence of the heterogeneity across the euro area countries.

Indebtedness and portfolio composition of households in the euro area and selected euro area countries

Country/country group	Percentage of households with debt	Percentage of households with mortgage	Households with ARM as a percentage of all households with mortgage	Households with ARM as a percentage of all households	Deposits as a percentage of total wealth
Germany	45.1	20.4	14.5	3.0	29.4
France	47.2	24.3	12.0	2.6	16.9
Italy	21.2	10.1	53.9	5.4	13.0
Spain	49.3	35.0	80.3	28.1	11.0
Euro area	42.4	23.3	46.8	10.6	19.6

Source: Tzamourani (2019), op. cit., based on the Household Finance and Consumption Survey, 2014.
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The countries with a distinctly positive mean URE, such as Germany and France, have a low prevalence of ARMs, whereas in countries with a highly negative mean URE, such as Spain, the percentage of households holding an ARM is higher. In Italy, the prevalence of ARMs among mortgagors is not as low as in Germany or France. However, since the percentage of households with a mortgage is very small, the percentage of Italian households with an ARM is also very low, leading to a positive mean URE. Another factor which plays a role in shaping the heterogeneity in the interest rate exposure of households across countries is the difference in the ratio of deposits to total wealth, as deposits are more exposed to changes in interest rates than other wealth components.

As further shown in the study, there is also considerable national heterogeneity across wealth, income, age and housing status, leading to different UREs in the various countries.

The diagram second from the top on p. 21 depicts the mean interest rate exposure for net wealth groups in the euro area and the selected four euro area countries.[8] On the whole, low net wealth households have a negative URE, as they are more heavily indebted. The URE increases, on average, across net wealth groups, as households in higher wealth groups are less indebted and have accumulated more assets.

In the euro area, as well as in France and Italy, it is only the households in the lowest 20% of the net wealth distribution that have, on average, a negative URE. In Spain, on the other hand, where households are more indebted and mortgages are predominantly ARMs, the households in the middle net wealth groups also have, on average, a negative URE. These households would be hurt by an increase in interest rates, all other things being equal.

Since the holdings and the amount of ARMs are, given their construction, important determinants of the URE, there is substantial heterogeneity in interest rate exposure between households with different housing status. The diagram second from the bottom on p. 21 depicts the mean interest rate exposure for outright homeowners, homeowners with a mortgage and renters in the euro area and in the four selected euro area countries. Predictably, homeowners with a mortgage have, on average, a negative URE, whereas outright homeowners have, on average, a positive URE. Germany and

8 The depicted UREs are standardised by the gross income of the group in question.

France are exceptions in this respect, as the percentage of households with ARMs among mortgagors is very low in these countries.

There is also heterogeneity in interest rate exposure across age groups (see the bottom diagram on p. 21). As households grow older, they accumulate more and more assets, including interest-bearing deposits, and pay off their debt. In the euro area as whole, the youngest age group (16-34 years, as determined by the age of the household reference person) has on average a negative interest rate exposure. By contrast, in France, Germany and Italy, the youngest age groups have, on average, a positive URE, though it is close to zero in France. In Spain, the average interest rate exposure for the two youngest groups is negative.

interest rate effect comprises changes in interest earnings and payments, assuming that stocks of assets and liabilities remain constant. The portfolio effect, on the other hand, ignores changes in interest rates and results from shifts in the structure of assets and liabilities.[17] The upper chart on p. 24 shows the cumulative change in net interest income, including the interest rate and portfolio effect, from the third quarter of 2008 to the current end. The starting point for this analysis is the beginning of the monetary policy easing phase in the euro area.

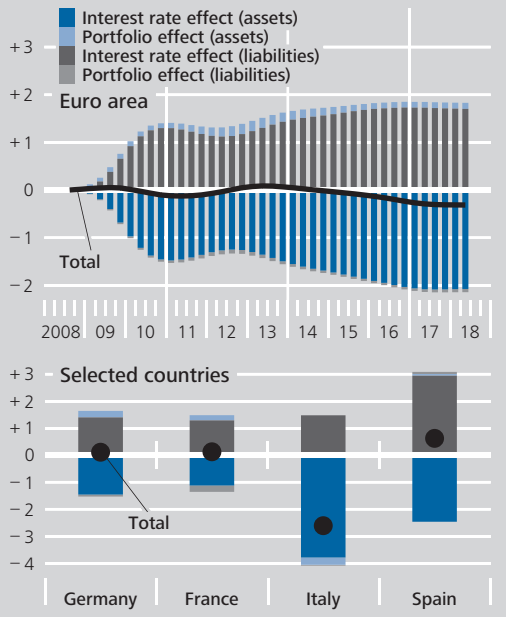
Barely any change in net interest income of euro area households during period of low interest rates …

At the aggregate level, euro area households' net interest income largely moved sideways. This is because the fall in interest income was almost completely offset by interest payments, which underwent a similar decline. The difference between the interest rate effect on the assets side and the liabilities side was therefore close to zero. Only in recent years has net interest income slipped slightly below its 2008 level, mainly as a result of the recent sharp decline in interest earnings. At the country level, households show a certain degree of heterogeneity: while developments in Germany and France were broadly in line with those in the euro area as a whole, the diminishing interest rate level had a particularly strong impact in Spain in the form of lower financing costs and an overall

17 The breakdown into interest rate and portfolio effects requires sectoral information on the average maturity and interest rate fixation period of the interest-bearing financial instruments. This information is included indirectly in the sector-specific implicit average interest rates, which can be calculated using information from the financial accounts and the national accounts. More specifically, the implied average interest rate is calculated via the ratio of interest payments and interest earnings to the nominal value of the corresponding interest-bearing financial instruments. To calculate the interest rate effect, the stocks of the relevant financial instruments at the beginning of monetary policy easing (Q3 2008) are multiplied by the corresponding implied average interest rate. Any changes to the net interest income over and above this then represent the portfolio effect. In this context, the information about interest payments and interest earnings reflects the situation after the allocation of financial intermediation services indirectly measured (FISIM) to the relevant sector. Since the figures shown in the financial accounts are usually based on market values, nominal values are proxied using cumulative transactions since 1999.

Contributions to changes in the net interest income of households*

Cumulative changes in percentage points, Q3 2008 to Q2 2018



Sources: ECB and Bundesbank calculations. * Including non-profit institutions serving households. Net interest income equals the difference between interest earnings and interest payments. For ease of comparison and to adjust for price effects, net interest income is expressed as a percentage of GDP.

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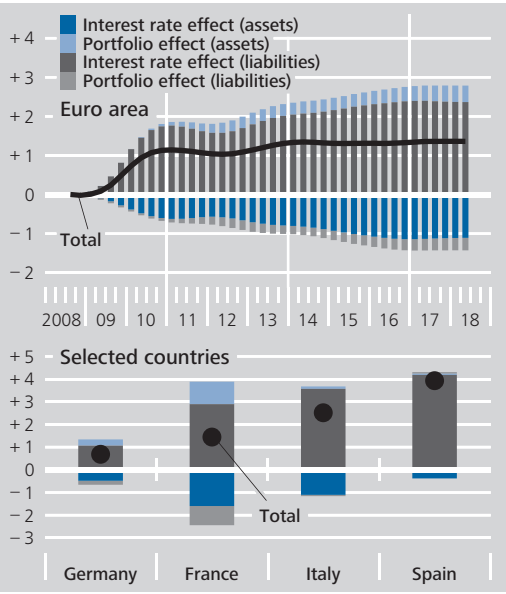
Contributions to changes in the net interest income of non-financial corporations*

Cumulative changes in percentage points, Q3 2008 to Q2 2018



Sources: ECB and Bundesbank calculations. * Net interest income equals the difference between interest earnings and interest payments. For ease of comparison and to adjust for price effects, net interest income is expressed as a percentage of GDP.

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increase in net interest income. This was mainly due to the relatively high share of floating rate loans and the relatively low volume of interest-bearing net financial assets. In Italy, by contrast, the share of debt securities in the portfolio of households at the start of the monetary policy easing phase was far higher than in the other Member States. As a result of this, the decline in interest earnings, which formed part of an interest rate effect on the assets side, reduced net interest income very sharply here. Unlike the interest rate effect, portfolio effects did not play a significant role.

… in contrast to significant rise for non-financial corporations

Unlike households, non-financial corporations in the euro area as a whole and in each of the countries analysed have experienced an increase in net interest income since the beginning of the monetary policy easing phase (see the lower chart). This was primarily driven by the decline in interest payments, and thus the interest rate effect on the liabilities side. In some countries, the portfolio effect was slightly more pronounced for non-financial corporations than for households. In Germany, and especially in France, the accumulation of interest-bearing assets (including deposits, in particular) also contributed to a rise in net interest income. In addition to this, over the reporting period as a whole, non-financial corporations in France increased their liabilities more strongly than those in other countries. This was accompanied by higher interest payments and reduced net interest income per se.

Developments in debt service ratios

Debt service ratio includes both interest and redemption payments

Developments in the sectoral debt ratios likewise reflect both the balance sheet structure of the relevant sector and interest rate developments. The debt service ratio includes the interest and redemption payments to be made in relation to the outstanding debt instruments by the sector in a given period of time. In relation to the income available for debt service, it represents the share of income that is needed in

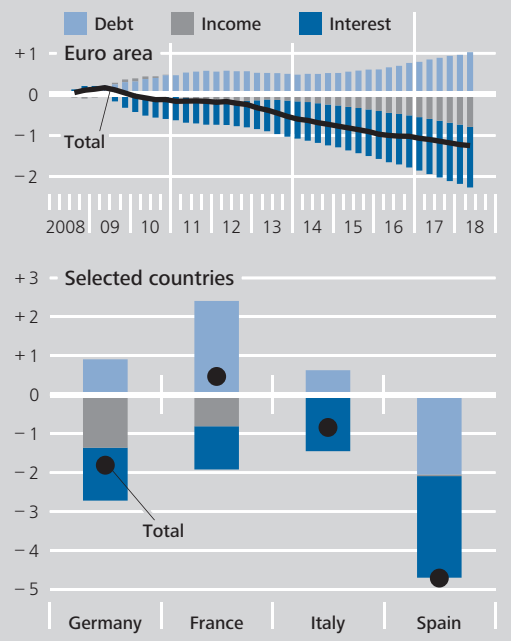
order to service a debt.[18] Developments in the debt service ratio are influenced by the average interest rate payable on the debt. In addition, levels of indebtedness and disposable income also play a role.[19] The adjacent chart shows cumulative developments in debt service ratios for households in the four large Member States and the euro area as a whole since the third quarter of 2008.[20] It also reveals the contributions of the three components mentioned above to changes to the debt service ratio.

Taken in isolation, monetary policy easing reduced debt service ratios of households …

The debt service ratio of households in the euro area as a whole has declined steadily since 2008. This was mainly the result of the falling interest rate level, which drove down ratios in Italy and Spain, in particular. The fact that the falling interest rate burden had a particularly strong impact in these two countries was due to the high share of floating rate credit liabilities, as was pretty much the case for net interest income. Moreover, while the household debt service ratio went down in Germany also as a result of increases in disposable income, in Spain, it was primarily the outcome of a reduc-

Contributions to changes in the debt service ratio of households*

Cumulative changes in percentage points, Q3 2008 to Q2 2018



Sources: ECB and Bundesbank calculations. * Including non-profit institutions serving households. The debt service ratio represents the sum of interest and redemption payments as a percentage of disposable income.

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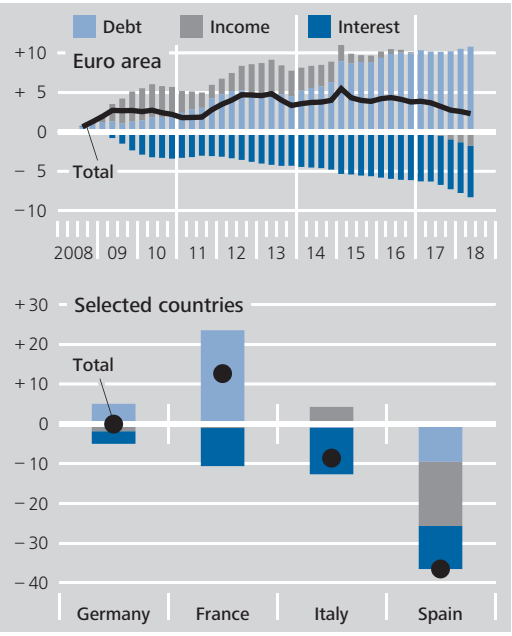
Contributions to changes in the debt service ratio of non-financial corporations*

Cumulative changes in percentage points, Q3 2008 to Q2 2018



Sources: ECB and Bundesbank calculations. * The debt service ratio represents the sum of interest and redemption payments as a percentage of disposable income.

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18 To capture all inflows available for making interest and redemption payments, the interest and dividend payments are added back into the gross disposable income in the calculations we use for our analysis. In addition, interest expenditure is taken into account before the allocation of FISIM here because these assumed charges are just as relevant to debt service as "pure" interest payments. The implicit average interest rate is then calculated in the same way as for net interest income. For a commonly used method of calculating the debt service ratio, see K. Dynan, K. Johnson and K. Pence, Recent Changes to a Measure of U.S. Household Debt Service, Federal Reserve Bulletin, October 2003, pp. 417-426. With regard to the definition of the individual variables, the calculations in our analysis follow the methodology of the Bank for International Settlements (BIS). See also M. Drehmann, A. Illes, M. Juselius and M. Santos, How much income is used for debt payments? A new database for debt service ratios, BIS Quarterly Review, September 2015, pp. 89-103.

19 As a general rule, the average maturity of debt also influences developments in the debt service ratio. Since their exact value is not known, in line with the BIS's approach, we assume the average debt maturity to be 18 years for households and 13 years for non-financial corporations. Because this variable is constant, it does not influence the change in the debt service ratio in its own right in this analysis.

20 For information about the importance and development of debt service ratios in the euro area, see also Deutsche Bundesbank (2017), Recent developments in the indebtedness of the private non-financial sector in selected euro-area countries, op. cit.

tion in outstanding debt. By contrast, the large amount of new debt in France contributed to a moderate rise in the debt service ratios of households.

… and non-financial corporations

At the country level, the debt service ratios for non-financial corporations also showed mixed developments (see the lower chart on p. 25). In the euro area as a whole, the ratio has risen slightly since mid-2008, mainly due to the build-up of debt in France, which significantly increased the ratio there, although, as in the other countries, the falling interest burden per se helped to push it down. By contrast, in Italy, and especially in Spain, the debt service ratio fell. In Italy, this mainly stemmed from the decline in the interest rate level. In Spain, a strong increase in disposable income as well as a reduction in debt also contributed to a further drop in the ratio. In Germany, however, it largely moved sideways.

Overall, the low interest rate level over the last few years has therefore helped to significantly improve the debt service ratios of both sectors and the net interest income of non-financial corporations. With regard to a return to normal interest rates, the question is therefore whether and to what extent these balance sheet indicators could deteriorate again in an environment in which interest rates start to rise.

The impact of an interest rate normalisation on balance sheet indicators of the private non-financial sector

Simulations on the effects of an interest rate normalisation on net interest income and debt service ratios …

In order to answer this question, scenario analyses are used to simulate the potential effects of an interest rate normalisation on net interest income and debt service ratios of the private non-financial sector in the euro area as a whole and in the four large Member States. The analyses are based on two steps. First, a vector autoregressive (VAR) model is used to estimate the correlations between the balance sheet indicators net interest income and debt service ratio, the interest rate level and common macroeconomic control variables. In a second step, three different paths for the future development of interest rates are factored into the model. The outcomes this delivers in terms of developments in net interest income and debt service ratios then equate to the possible future developments in the balance sheet indicators, conditioned on the interest rate path assumed in each case.

… based on an extended monetary policy VAR model …

To ensure consistency, the VAR model employed here is based on the specification used above for the local projections and comprises the variables that are generally used in macro models for monetary policy analysis: quarterly growth rates for real GDP, the GDP deflator and real house prices. Interest rate developments are measured based on a short-term shadow rate which reflects both the level of long-term interest rates and the slope of the yield curve.[21] This basic model is then extended to include either net interest income or debt service ratios and estimated individually for each of the four major Member States as well as for the euro area as a whole.[22]

… and three interest rate scenarios

Based on these estimates, possible developments in net interest income and debt service ratios are then simulated over the period from

21 The shadow rate comes from the Geiger and Schupp model (2018). For more information, see F. Geiger and F. Schupp (2018), With a little help from my friends, Deutsche Bundesbank Discussion Paper No 27/2018.

22 Account is taken of net interest income or debt service ratios of both sectors – households and non-financial corporations – simultaneously in order to capture potential interdependencies between these variables. This yields a total of ten models: five models for the basic model extended to include net interest income of both sectors and five models for the basic model extended to include debt service ratios of both sectors. In addition, all models incorporate a crisis dummy, a time trend and an interaction term between the crisis dummy and the time trend. The binary crisis dummy takes a value of zero for the period from the fourth quarter of 1999 to the second quarter of 2008 and a value of one for the period from the third quarter of 2008 to the second quarter of 2018. In combination with a linear time trend, this permits a check for a possible structural break as a result of the financial crisis. Based on information criteria, the optimum number of lags is determined to be two and is applied across all models. The estimation period stretches from the fourth quarter of 1999 to the second quarter of 2018.

the third quarter of 2018 to the fourth quarter of 2020. At this point, it should be noted that the simulations do not estimate the impact of an exogenous monetary policy shock – i.e. a monetary policy measure that is unexpected by market participants. Historical correlation patterns are, in fact, used to analyse potential developments in net interest income and debt service ratios under three different interest rate normalisation scenarios. The design of the simulations also ensures that possible changes to net interest income and debt service ratios are not driven by divergent macroeconomic developments. To this end, the macroeconomic projections with regard to GDP and the GDP deflator produced by Eurosystem staff are applied to all scenarios across the simulation period.[23] As regards developments in the (shadow) interest rate, the following three scenarios are considered:[24]

– "Baseline scenario": the interest rate path is in line with market participants' expectations.

– "No tightening": interest rates remain unchanged at the same level as in the fourth quarter of 2018.

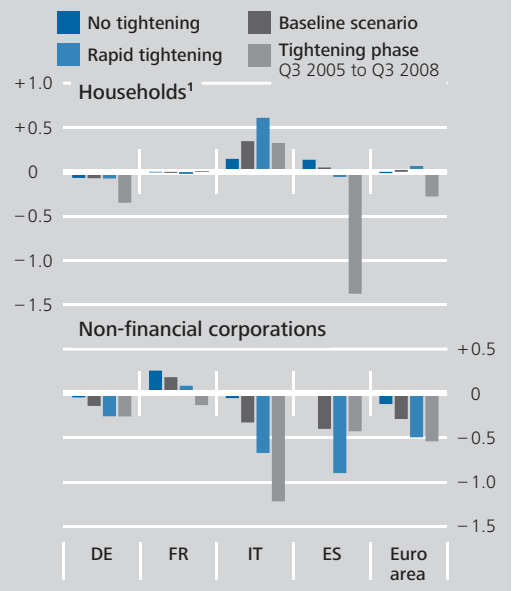
– "Rapid tightening": every quarter, interest rates rise 15 basis points faster than in the baseline scenario.

Interest rate scenarios cover different routes to economic recovery

In the baseline scenario, interest rates normalise in line with market participants' expectations as at the end of the fourth quarter of 2018 as derived from a term structure model.[25] In the "no tightening" scenario, the implicit assumption is that the real economy will continue to recover, but that this will require a higher degree of monetary policy support than market participants are currently pricing in. By contrast, the "rapid tightening" scenario assumes that developments in the economy as a whole mean that interest rates will have to be tightened significantly more rapidly than market participants currently expect. The chart above shows the cumulative change in net interest income throughout the simulation period. To make a comparison easier, the change during the last interest rate tightening cycle (third quarter of 2005 to third quarter of 2008) is depicted alongside the simulated development in the three scenarios.

Simulation of net interest income of the private non-financial sector*

Cumulative change in percentage points, Q3 2018 to Q4 2020



Sources: BIS, ECB and Bundesbank calculations. * Net interest income equals the difference between interest earnings and interest payments. For ease of comparison and to adjust for price effects, net interest income is expressed as a percentage of gross domestic product. 1 Including non-profit institutions serving households.
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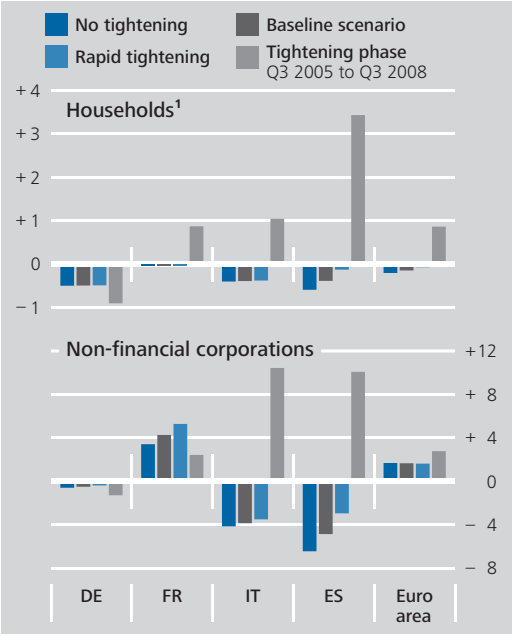
23 See ECB, A guide to the Eurosystem/ECB staff macroeconomic projection exercises, July 2016. The way in which the simulation is structured is therefore based on the assumption that even in the two alternative scenarios, the economic recovery will continue and rates will converge towards the inflation target. An alternative approach would be not to specify the pathways for real GDP and inflation. In this case, the "rapid tightening" scenario outlined below would lead to an overly hasty normalisation of monetary policy with a negative impact on the economic recovery. In the "no tightening" scenario, however, the monetary policy normalisation would be initiated too late. The negative and positive feedback effects on the real economy would thus result in a somewhat larger divergence of the simulated developments across the scenarios. However, the qualitative results are consistent with the outcomes discussed below.
24 As data are already available for the shadow rate for the third and fourth quarters of 2018, the actual data are used here.
25 For more information, see F. Geiger and F. Schupp (2018), op. cit.

Simulation of debt service ratio of the private non-financial sector*

Cumulative change in percentage points, Q3 2018 to Q4 2020



Sources: BIS, ECB and Bundesbank calculations. * The debt service ratio represents the sum of interest and redemption payments as a percentage of disposable income. 1 Including non-profit institutions serving households.

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Net interest income of households should hardly change, …

For households, net interest income at the euro area level, as well as in Germany, France and Spain, is virtually unchanged in all scenarios. Because households in Spain have a high proportion of floating rate liabilities, the variation across the individual scenarios is somewhat higher. Italian households could benefit significantly from an interest rate normalisation. Given that households in Italy have a relatively large stock of debt securities that are remunerated at market rates, there is a clear increase in net interest income, which also varies markedly across the scenarios. During the low interest rate period, Italian households suffered the largest losses.

… while that of non-financial corporations should decline perceptibly

Non-financial corporations in the euro area, by contrast, would see a drop in net interest income under the baseline scenario, though it should be significantly less pronounced than during the most recent tightening cycle. Under the "no tightening" scenario, the drop is considerably smaller, while it is markedly larger if interest rates are tightened rapidly. At the country level, non-financial corporations in Italy and Spain would see a sharp fall in net interest income. Conversely, this sector had, in both countries, also benefited most from falling interest rates during the low interest rate period. The high proportion of floating rate liabilities means that here, too, there is a clear variation across the scenarios. In Germany, net interest income decreases slightly regardless of the scenario under consideration, while the results for France suggest a small increase in all cases.

Households' debt service ratio slightly lower in euro area

The adjacent chart shows the results of the simulation for the debt service ratios. For households, the baseline scenario for the euro area as a whole indicates a small decrease in the debt service ratio. Developments in the two alternative scenarios differ only slightly. At the country level, debt service ratios also sink in all scenarios. Because households in Spain have a high proportion of floating rate liabilities, there are clear variations across the scenarios. In Germany and Italy, the large percentage of liabilities with long interest rate fixation periods means that the decline is comparable in quantitative terms in all scenarios. In France, virtually no change is expected, regardless of the scenario.

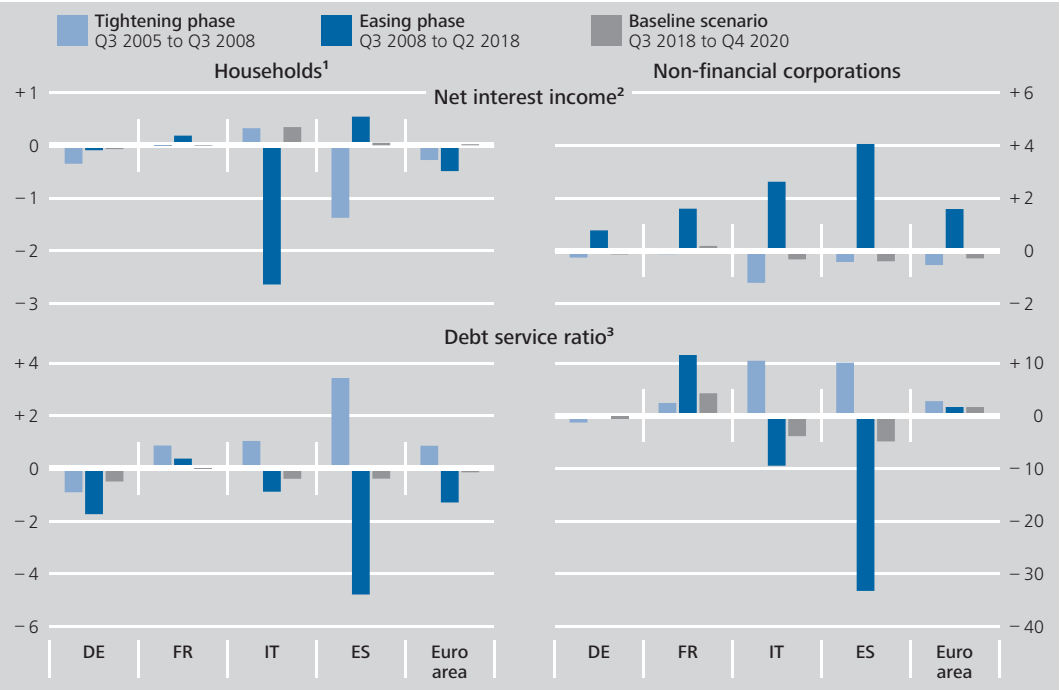
Differences vis-à-vis last tightening cycle are explained by different debt dynamics

The fact that developments are relatively moderate in all countries can be explained by the circumstance that, during the last tightening cycle, households (with the exception of those in Germany) raised debt levels in response to rising house prices and a favourable income situation (in some cases, significantly).[26] This led to rising redemption payments and a corresponding increase in debt service ratios. At present, however, it can be assumed that the deleveraging process that has taken place over the last few years will continue in the tighten-

26 For a detailed analysis of the debt situation in the euro area, see Deutsche Bundesbank (2017), Recent developments in the indebtedness of the private non-financial sector in selected euro-area countries, op cit.

Simulation results for the baseline scenario by historical standards

Cumulative change in percentage points



Sources: BIS, ECB and Bundesbank calculations. **1** Including non-profit institutions serving households. **2** Net interest income equals the difference between interest earnings and interest payments. For ease of comparison and to adjust for price effects, net interest income is expressed as a percentage of gross domestic product. **3** The debt service ratio represents the sum of interest and redemption payments as a percentage of disposable income.

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ing phase, or at least that debt levels will not rise significantly.[27]

Moderate increase among non-financial corporations in euro area

For non-financial corporations in the euro area as a whole, there is a moderate increase across all scenarios, which falls perceptibly short of the increase seen during the last tightening phase. At the country level, there is a marked rise especially among non-financial corporations in France. Among this group, the debt service ratio swells significantly in all scenarios, and rises more sharply than in the period from the third quarter of 2005 to the third quarter of 2008 even if constant interest rates are assumed. This is because there has been a clear increase in the level of indebtedness in recent years, and this trend was implicitly extrapolated in the simulations. If the rate at which new debt is acquired were to decelerate significantly once an interest rate normalisation was introduced, the changes could be expected to be perceptibly smaller. The simulations yield a small drop for non-financial corporations in Germany that is fairly similar across all scenarios given the high percentage of fixed rate liabilities.

Debt service ratios lower in Italy and Spain given altered debt dynamics

In Spain and Italy, simulations indicate a decrease in debt service ratios. The noticeable differences between the various interest rate scenarios in Spain are due to the high proportion of floating rate liabilities. There are also noticeable, albeit slightly smaller, differences between the three scenarios among non-financial corporations in Italy, which are also frequently financed with floating rate loans. The striking differences as compared with what happened during the previous tightening cycle can be explained by the circumstance that, back then, with the economy strong, non-financial corporations, too, took on considerable amounts of debt. This led to rising redemption payments and a corresponding in-

27 In the simulations, this is taken into account by extrapolating the existing deleveraging trend.

crease in debt service ratios. In the current situation, by contrast, the deleveraging process of recent years is likely to continue during the tightening cycle.[28]

Evaluation of results and concluding remarks

Interest rate normalisation is likely to have a limited impact on balance sheet indicators of private non-financial sector …

This article has focused on the question of how net interest income and debt service ratios of the private non-financial sector might develop as interest rates normalise. Overall, the results suggest that balance sheet indicators should deteriorate only slightly, with non-financial corporations tending to appear more vulnerable than households at the sectoral level. For example, the changes as calculated based on the simulations are generally low compared with the adjustments during the low interest rate period and the changes during the last interest rate tightening cycle (see the chart on p. 29).

… as debt levels have been reduced and interest rates should rise only slowly

This can be attributed primarily to two factors. First, indebtedness in some sectors and countries has come down significantly in recent years and should not pick up again significantly over the next few years, unlike during the last tightening cycle. Second, the interest rate level is likely to be altered only gradually, something that was different in the previous period of rising interest rates as well as with the easing during the low interest rate period. With changes likely to be small, the deterioration in the balance sheet indicators is unlikely to be accompanied by a significant weakening of the real economy.

Heterogeneities and impact on other sectors could exacerbate impact on the real economy

The aggregate results for households and non-financial corporations obtained here must be qualified in two ways. First, there could be significant differences between individual households and corporations within the two sectors. If an interest rate normalisation hits households and companies with a high level of debt and illiquid assets particularly hard, the potential negative effects on the real economy are likely to be stronger. Second, the analysis carried out here ignores the impact of an interest rate normalisation on an economy's other sectors – general government and financial institutions. If these were hurt by an increase in interest rates, this could also have negative financial and real economic implications.[29]

28 Again, this is technically implemented through a trend extrapolation.
29 For an in-depth analysis of general government's interest expenditure, see Deutsche Bundesbank, The development of government interest expenditure in Germany and other euro-area countries, Monthly Report, July 2017, pp. 33-67.

Price competitiveness in individual euro area countries: developments, drivers and the influence of labour market reforms

Price competitiveness in the euro area countries has changed significantly since the introduction of the euro. In general, competitiveness vis-à-vis a broad group of countries has improved on balance over the past decade. This is mainly due to the nominal effective depreciation of the euro. However, within the monetary union itself, exchange rate movements are inconsequential. Over the past ten years, Greece, Ireland and Spain, in particular, have gained in price competitiveness due to relatively low inflation. By contrast, Germany's price competitiveness compared with its trading partners in the common currency area slipped slightly in this period.

If relative price levels in individual euro area countries are analysed on the basis of absolute purchasing power parity theory, then, after a longer period of convergence, the differences between them became much more pronounced again starting in 2011. However, the price level typically also depends on the prosperity of the economy observed – as measured, for instance, by productivity level. Thus, if – in order to account for potential Balassa-Samuelson effects – the relative productivity levels of the individual countries are additionally taken into consideration, the dispersion of price competitiveness has barely moved. Price level developments in some countries appear to have contributed to reducing imbalanced competitive positions. This is especially true of Greece, where pressure to adjust the price level and implement structural reforms was high in this period due to the profound economic crisis.

This article contains a cross-country empirical analysis examining the extent to which reform measures have an actual impact on price competitiveness. Use is made, above all, of an employment protection indicator to model labour market reforms. The results suggest that relaxing employment protection legislation promotes competitiveness.

Development of price competitiveness in individual euro area countries

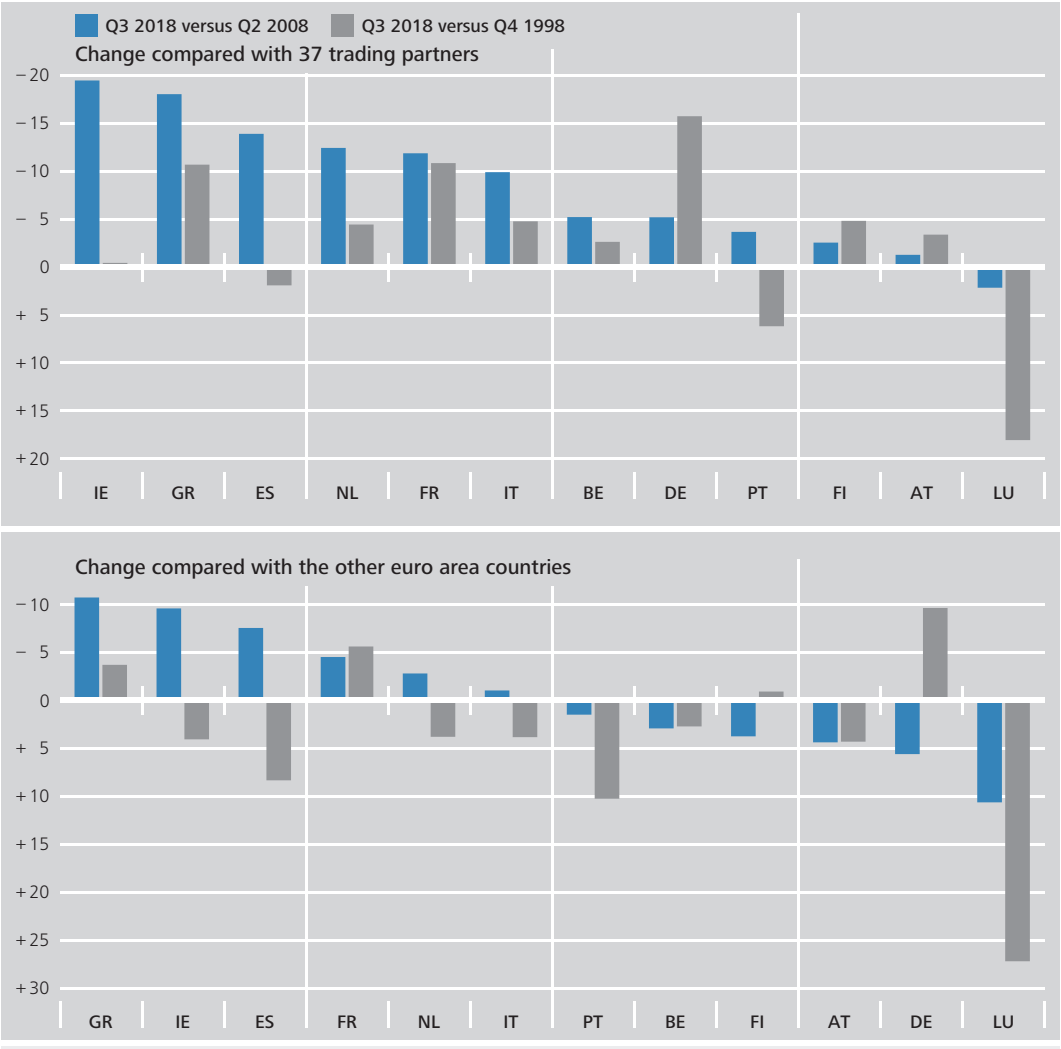
Euro depreciation from 2010 to 2015 propped up euro area price competitiveness

Since the outbreak of the global financial and economic crisis, the euro has depreciated against a number of currencies in several bursts, the most pronounced being in the period from 2010 to 2015. Despite its recovery in mid-2015, at the end of 2018 the euro was around 12% weaker in effective terms compared with the currencies of 19 major trading partners than the average of the second quarter of 2008. This is an appropriate point at which to make comparisons as it was then that the real estate crisis in the United States grew into a global financial crisis (hereinafter referred to as "the start of the crisis"). The euro's depreciation had a considerable impact on the price competitiveness of euro area suppliers. Real effective exchange rates, which take into account not only weighted nominal exchange rate movements vis-à-vis the currencies of major trading partners but also the relevant inflation rates, are often used as an indicator of price competitiveness.[1] As measured by the real effective euro exchange rate based on deflators

1 The indicators of price competitiveness referred to in this article are described in the box on pp. 33 ff.

Change in price competitiveness*

%[1]



Source: ECB. * Harmonised indicator of price competitiveness based on deflators of GDP. **1** Inverted scale: a negative value denotes an increase in price competitiveness.

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Real effective exchange rates, price competitiveness indicators and concepts for their assessment

The nominal effective exchange rate ($NEER$) is a trade-weighted average of a given currency's bilateral nominal exchange rates,

$$NEER_{t,i} = \prod_{j=1}^{N} (S_{t,j,i})^{w_{ij}},$$

where $S_{t,j,i}$ denotes the bilateral nominal exchange rate of the currency in country i against the currency in partner country j at time t and w_{ij} represents the trade weight of country j for country i. An increase in S is usually defined as a nominal appreciation of the domestic currency or the base country's currency. If, for example, the euro area is considered base country i, an increase in the euro's nominal effective exchange rate ($NEER_{t,euro}$) denotes nominal effective euro appreciation, i.e. nominal appreciation of the euro on a trade-weighted average.

Adjusting the calculation by the ratio of the domestic price level to the foreign price level (shown here as $P_{t,i}$ and $P_{t,j}$) yields the real effective exchange rate ($REER$):

$$REER_t = \prod_{j=1}^{N} (P_{t,i} S_{t,j,i} / P_{t,j})^{w_{ij}}.$$

While the nominal effective exchange rate is the exchange rate of the domestic currency vis-à-vis a trade-weighted average of foreign currencies, the real effective exchange rate represents the value of a fixed basket of goods in the domestic country relative to its average value abroad.

The real effective exchange rate is often used as an indicator of price competitiveness. Real appreciation, i.e. an increase in the $REER$, occurs in two instances: when the domestic currency appreciates against trading partners' currencies in nominal terms or when domestic price levels rise at a faster rate or fall at a slower rate than the average of trading partners' price levels. In both cases, the relative price of the basket of goods at home and abroad becomes more expensive. This means that the price competitiveness of domestic providers deteriorates when real appreciation occurs. The real exchange rates of individual euro area countries calculated by the European Central Bank and the Bundesbank following a common methodology are known as harmonised competitiveness indicators (HCIs).[1]

Applying this methodology, alternative real exchange rates can be calculated for a given base country – these differ primarily in terms of which and how many trading partners are taken into account in the calculation (N) and which deflator or price level is included (P_i and P_j).[2] First, this article makes reference to the nominal and real effective exchange rates of the euro against the currencies of 19 trading partners.[3] Here, the real effective exchange rate of the euro uses GDP deflators for P_i and P_j. These deflators were selected because analytical results suggest that real exports

1 See M. Schmitz, M. De Clercq, M. Fidora, B. Lauro and C. Pinheiro (2012), Revisiting the effective exchange rates of the euro, ECB Occasional Paper No 134. In particular, the methodology for calculating the trade weights w_{ij} is also explained here. The aforementioned methodology is used by the ECB and the Bundesbank to calculate not only the HCIs but also the effective exchange rates of the euro.
2 Price levels are often measured by means of indices. Unit labour cost indices may be used instead of price indices to calculate real effective exchange rates. For the sake of simplicity, these are also referred to as indicators of price competitiveness.
3 These effective exchange rates are also presented in Table XII. 12. of the Statistical Section of this Monthly Report, which also provides information on the composition of the group of countries.

of goods and services can be explained relatively reliably using indicators of price competitiveness based on broadly defined aggregates.[4]

Moving from the real effective exchange rate of the euro, which, by necessity, covers trading partners outside the euro area only, to an indicator of the price competitiveness for an individual euro area country, it is necessary to take account of trading partners within the euro area as well. For example, the indicator of price competitiveness vis-à-vis 37 trading partners covers the above-mentioned 19 trading partners outside the euro area and all 18 trading partners within it.

In some cases, it makes sense for euro area countries to consider an indicator of price competitiveness that is not influenced by nominal exchange rates. The indicator of price competitiveness calculated solely vis-à-vis the other 18 trading partners in the euro area bears this hallmark. Since, by definition, all euro area countries use the euro as their currency, the nominal exchange rate (for the period since euro adoption) can be expressed in the aforementioned equations as $S_{t,j,i} = 1$. Changes in the indicator are then determined exclusively by inflation rate differentials.

Econometric analyses tend to benefit from large sample sizes. If opting for a panel of price competitiveness indicators, these can be obtained by means of sets of indicators going far back into the past or by taking into account sets of indicators for a large number of countries. In the first case, this article uses indicators of price competitiveness for individual euro area countries vis-à-vis 19 industrial countries. The trading partners here are the 11 founding countries of the euro area, Greece and eight other traditional industrial countries (Canada, Denmark, Japan, Norway, Sweden, Switzerland, the United Kingdom and the United States).[5] These indicators are available for all of the countries specified on the basis of several broad deflator concepts, e.g. GDP deflators, deflators of total sales and unit labour costs in the total economy. There are particularly long time series available, stretching back to 1972, if using deflators of total sales. However, these are normally only used to analyse price competitiveness for the period from 1975 onwards due to the turbulence caused by the shift from the Bretton Woods system of fixed exchange rates to floating exchange rates.

Indicators of price competitiveness vis-à-vis 56 trading partners are available for all 19 euro area countries as well as for 38 other countries, but only on the basis of consumer price indices.[6] Given the broad coverage of trading partners, these indicators have the advantage of being particularly representative in this respect. However, the heterogeneity of the countries means that, when looking at price increases in developing countries and emerging market economies, it is not possible to clearly distinguish between catch-up processes and declining competitiveness.

Lastly, this article also makes mention of real effective exchange rates where the ratio $P_{t,i}/P_{t,j}$ is captured by relative price

4 See Deutsche Bundesbank, The impact of alternative indicators of price competitiveness on real exports of goods and services, Monthly Report, January 2016, pp. 13-29.
5 Unlike the aforementioned series, these series do not constitute harmonised competitiveness indicators, which are only available for shorter periods.
6 A list of the 38 countries mentioned can also be found in Table XII. 12. of the Statistical Section of this Monthly Report in the context of the effective exchange rates of the euro presented in the "EER-38" column. See also Schmitz et al. (2012), op. cit.

levels rather than price indices.[7] In a monetary union where nominal exchange rates play no role, it is therefore possible to speak of effective relative price levels for corresponding effective real exchange rates. Contrary to indicators based on price indices, these allow assertions to be made about the effective relative price level at a given point in time without the need for a reference period.

In order to assess whether the value of the price competitiveness indicator at a given point in time is favourable or rather unfavourable, this indicator value must be compared with an economically justified benchmark. To this end, three simple approaches are commonly used.[8] Relative purchasing power parity theory implies that the benchmark should be a long-term average for the indicator series over time. If the current real value of the currency is higher than the long-term average, this can be interpreted as unfavourable price competitiveness on the part of the country or currency area in question. This approach is particularly well suited for indicators of price competitiveness that are calculated using price or cost indices and cover countries at a similar level of development.

By contrast, the other two approaches cannot be applied to such index-based real effective exchange rates; instead, they require indicators to be calculated by means of relative price levels. Due to their superior comparability across different countries, however, these approaches are more suited to examining corresponding measures of dispersion. In the case of absolute purchasing power parity theory, the benchmark corresponds to a situation in which the price of a given basket of goods – calculated in a single currency – is the same at home and on a trade-weighted average of trading partners. While deviations from such a benchmark allow conclusions to be drawn about price level comparisons, they are, at best, suited as an approach to assessing price competitiveness over the very long term.

A more targeted measure of price competitiveness adjusts relative price levels beforehand for the relative productivity levels of the countries under review. This is achieved, for example, by regressing relative price levels on relative productivity levels, the estimated residuals of which are used in the equation for the real effective exchange rate.[9] If such a relative price level adjusted for relative productivity corresponds to the weighted average of a country's trading partners, this yields the benchmark in accordance with the productivity approach. In the present article, this measure is taken as the basis for calculating the dispersion of price competitiveness in the euro area.

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7 Apart from nominal exchange rates, relative price level calculations employ what are known as purchasing power parities, which are published, inter alia, by the World Bank (see the World Development Indicators database) and are ultimately based on data from the International Comparison Program.

8 See Deutsche Bundesbank, Macroeconomic approaches to assessing price competitiveness, Monthly Report, October 2013, pp. 31-45, or Deutsche Bundesbank, Purchasing power parity theory as a concept for evaluating price competitiveness, Monthly Report, June 2004, pp. 29-42.

9 See also, particularly with respect to the issue of how to deal with possible fixed effects in a corresponding panel estimate: C. Fischer and O. Hossfeld (2014), A consistent set of multilateral productivity approach-based indicators of price competitiveness – Results for Pacific Rim economies, Journal of International Money and Finance, Vol. 49, pp. 152-169.

of GDP against the currencies of 19 trading partners, price competitiveness in the euro area improved by 17½% between the second quarter of 2008 and the end of 2018.

Development of price competitiveness since Q2 2008 in Germany, …

When looking at the competitive positions of individual euro area countries, it is essential to consider the relative price movements within the monetary union, too. Indicators of competitiveness vis-à-vis 37 trading partners, for instance, include 19 partner countries outside the euro area and all trading partners within it.[2] As measured by the harmonised competitiveness indicator based on deflators of GDP, Germany's price competitiveness has improved by 5% on balance since the start of the crisis.[3] The nominal depreciation of the euro outlined above played a major part in this development. By contrast, within the euro area, individual countries' price competitiveness hinges solely on their relative price and cost developments; euro exchange rate movements have no direct impact. For instance, in the same period and compared with its euro area trading partners – rather than the broader group of countries – Germany's price competitiveness deteriorated by 5½%.

… in the other founding members of the monetary union and in Greece

If the analysis is extended to include other euro area countries, it is not just Germany, but also Luxembourg, Austria, Finland and Belgium, for instance, that have suffered a loss in price competitiveness since the second quarter of 2008 in comparison with the other countries belonging to the common currency area.[4] At the other end of the spectrum are, first and foremost, Greece, Ireland, Spain, France and the Netherlands, where price competitiveness within the euro area has improved since the outbreak of the global financial and economic crisis thanks to lower rates of inflation. Using the indicators vis-à-vis 37 euro area and non-euro area trading partners, all founding members of the monetary union – with the exception of Luxembourg – plus Greece have gained in price competitiveness since the start of the crisis due to the nominal effective depreciation of the euro outlined above. However, the gains for the latter five countries cited were particularly pronounced, reaching double digits; the results ranged between 19½% in Ireland and 12% in France.

Dispersion of price competitiveness in the euro area

Benchmark necessary for an assessment

Rates of change in the indicators of price competitiveness show, based on certain assumptions, whether a country has become more or less competitive over the period of observation. However, they do not provide any indication of how the competitive position is to be evaluated independent of changes over time. Price competitiveness can only be assessed in relation to a benchmark that is derived on the basis of economic considerations.[5] Without such a benchmark, it is impossible to assess whether shifts in price competitiveness show convergence or divergence. If a benchmark is constant, convergence may be brought about by member states of a monetary union aligning their prices and wages. One of the aims behind setting up the euro area was the hope that using a common currency would promote price level convergence.[6] By contrast, if the benchmark varies over time, it is possible that sustained changes in the indicator value represent an equilibrium process.

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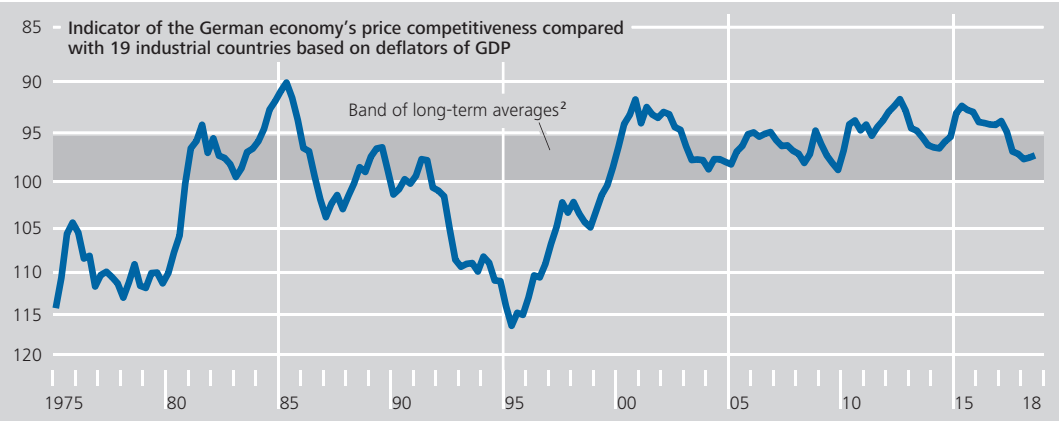
2 See Table XII.12. in the Statistical Section of this Monthly Report, which provides information about the composition of the group of countries.
3 Harmonised competitiveness indicators based on deflators of GDP are available up to the third quarter of 2018. The percentage changes cited here are therefore based on the period from the second quarter of 2008 to the third quarter of 2018. For information on harmonised competitiveness indicators, see ECB, The introduction of harmonised competitiveness indicators for euro area countries, Monthly Bulletin, February 2007, pp. 53-55.
4 The analysis here and in the remainder of the article focuses on the founding members of the monetary union and Greece.
5 For further information, see Deutsche Bundesbank, Macroeconomic approaches to assessing price competitiveness, Monthly Report, October 2013, pp. 31-45.
6 See, for example, European Commission (1990), One market, one money: an evaluation of the potential benefits and costs of forming an economic and monetary union, European Economy, Vol. 44, p. 19, or ECB, Price level convergence and competition in the euro area, Monthly Bulletin, August 2002, pp. 39-49.

German economy's price competitiveness

Average since 1975 = 100, log scale[1]



1 Inverted scale: a rise in the curve (fall in values) denotes an increase in competitiveness. **2** Comprises the averages that were derived successively across all periods starting with the period from Q1 1975 to Q3 2018 up to the period from Q1 2003 to Q3 2018.

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Relative purchasing power parity implies stationary competitiveness indicators

One possible benchmark for indicators of price competitiveness that are based on price or cost indices is their long-term average. Such a benchmark can be derived from relative purchasing power parity theory. According to this theory, inflation differentials between two currency areas are offset by opposing movements of the bilateral nominal exchange rate, ensuring that purchasing power parity at home and abroad remains constant over the long term. Within a monetary union, for instance, relative purchasing power parity theory implies that inflation differentials do not cause permanent shifts in price levels across member states but rather that these are reduced over time. Under these circumstances, the indicator of price competitiveness has to – technically speaking – be stationary as a time series to enable its expected value and thus the benchmark derived using relative purchasing power parity theory to be modelled over the long-term average.

Germany's price competitiveness compared to the long-term average …

Harmonised competitiveness indicators based on deflators of GDP are available for euro area countries as of the first quarter of 1995. As measured by its long-term average, which has been calculated over the period since this date, Germany's current level of price competitiveness vis-à-vis 37 trading partners may be seen as favourable. However, such an assessment may depend, inter alia, on the group of trading partners and the period used to derive the average. For the German economy, values for the indicators of price competitiveness have been recorded since the early 1970s – but solely vis-à-vis 19 industrial countries, not the 37 trading partners.[7] This smaller group of countries comprises 11 euro area trading partners plus Canada, Denmark, Japan, Norway, Sweden, Switzerland, the United Kingdom and the United States. As measured by the indicator of price competitiveness based on deflators of GDP vis-à-vis these 19 industrial countries, Germany's price competitiveness compared to the long-term average since 1975 currently tends to be classed as neutral. The difference here is mainly down to the smaller group of trading partners.

… and the period used to derive the average

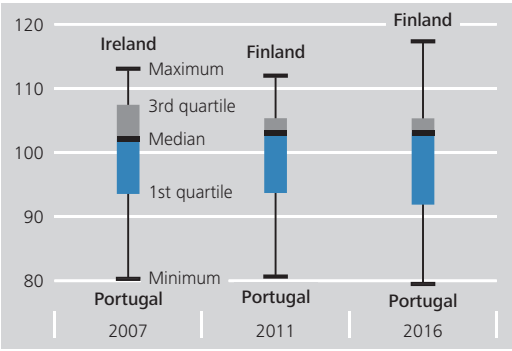
To determine the impact of the period used to derive the average on estimated competitiveness, the current indicator value is compared with an average calculated using a reference period that is shortened successively.[8] It tran-

… may depend on both the group of trading partners …

7 This group of Germany's 19 trading partners here, which comprises both euro area and non-euro area countries, is not to be confused with the euro area's group of 19 trading partners mentioned at the start of the article which, by definition, are all non-euro area countries. See the box on pp. 33 ff.

8 See Deutsche Bundesbank, Purchasing power parity theory as a concept for evaluating price competitiveness, Monthly Report, June 2004, pp. 29-42, in which a similar calculation was made and the maximum difference was much lower than here.

Dispersion of the effective relative price levels in the euro area*



* An effective relative price level of 100 implies that the price level in the country observed equals the weighted average of the price levels in the other 11 euro area countries included in the analysis.

Deutsche Bundesbank

spires that the long-term average for 1975 onwards yields a particularly favourable assessment of Germany's current competitiveness on account of the price and exchange rate pattern in the second half of the 1970s being unfavourable for Germany. If the values from the 1970s, and later also those from the 1990s, are no longer included in the reference period used for deriving the average as it is shortened, the average calculated shifts by a maximum of 5%; as a result, the German economy's current price competitiveness using an average over a shorter period could be up to 5 percentage points more unfavourable than in the former case. However, due to the fact that the deviation from the benchmark is still low, its position would still be considered neutral.[9]

Price competitiveness in other euro area countries based on long-term averages

Of the other states that have been part of the monetary union since at least 2001, the indicator vis-à-vis 37 trading partners based on deflators of GDP shows a competitive position that has been more favourable than the average since 1995 for Greece, France and the Netherlands, in particular. The assessment is somewhat less favourable if price competitiveness is compared with the smaller group of countries comprising the 18 other euro area countries. However, it should also be noted here that the assessment may change if a different reference period is used to calculate the average.

Absolute purchasing power parity implies price level convergence

Whereas relative purchasing power parity theory in a currency union is based on inflation rates converging, the mechanism of goods arbitrage when applying absolute purchasing power parity theory ensures that the price levels of trading partners expressed in a common currency converge. This concept involves the weighted average of the trading partner's price levels converted to the domestic currency being used as a benchmark for the domestic price level. The indicators of price competitiveness employed thus far – calculated using price or cost indices – cannot be used to ascertain any information about relative price levels. The aggregate relative price level of a country compared with the weighted average of the price levels of its trading partners – i.e. the effective relative price level – can be calculated from purchasing power parities such as those provided by Eurostat. These purchasing power parities state the local currency price of a given basket of goods in the country observed relative to a base region.

Dispersion of price levels in the monetary union up again as of 2011

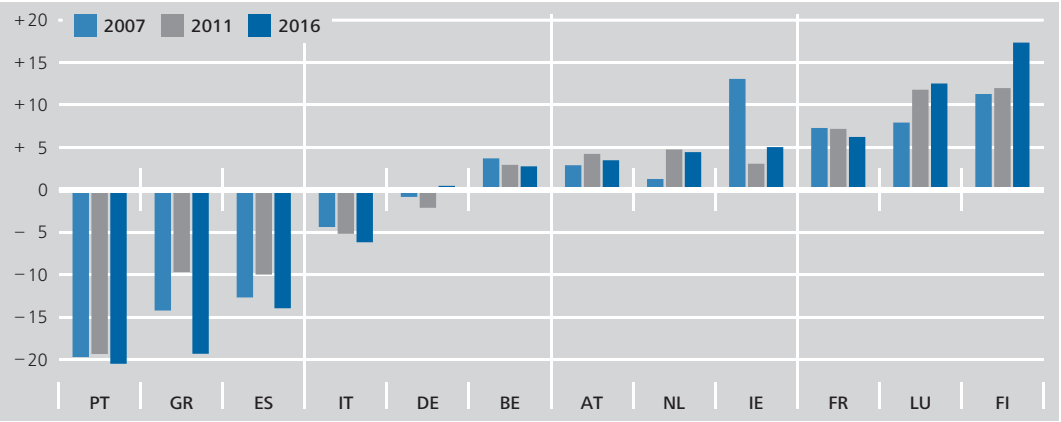
To determine whether the competitive positions in the euro area as measured by absolute purchasing power parity theory have converged over time, the coefficient of variation of the effective relative price levels across all countries can be used as a measure for the dispersion of these levels at a given point in time.[10] For the sake of simplicity, this measure is hereinafter referred to as "price level dispersion". A decline in this measure of dispersion implies that the effective relative price levels within the euro area are converging. It had already been

9 As purchasing power parity theory is a long-term concept, the period of observation should not be too short. All averages used therefore span at least the last 15 years. To estimate the price competitiveness of the German economy, the Bundesbank usually uses a somewhat broader indicator based on deflators of total sales rather than on deflators of GDP. Using this indicator, too, the finding that the German economy's competitive position is currently more or less neutral is confirmed. This continues to hold true when the period for ascertaining the average for this indicator is successively shortened from the relatively long period from 1975 onwards to a period of up to 15 years.

10 The coefficient of variation of the effective relative price levels is calculated as a standard deviation of the effective relative price levels in the 12 euro area countries included in the analysis from their mean.

Deviations from the absolute purchasing power parity theory*

%



* Percentage deviation of the price level in the country observed from the weighted average of the price levels in the other 11 euro area countries included in the analysis. A positive deviation denotes an above-average price level.

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shown in the March 2009 Monthly Report that, with regard to price level dispersion across the common currency area, considerable progress towards convergence had been made up to that point, especially at the start of the 1990s.[11] After the euro area was established, the trend towards price level convergence continued, initially even surviving beyond the outbreak of the financial crisis. However, in comparison with developments in the ten years prior to the start of monetary union, convergence was rather weak.[12] When the sovereign debt crisis in the euro area peaked at the turn of 2010-11, the convergence process underwent a turnaround. From 2011 to 2014, price level dispersion widened notably across the euro area countries included in the analysis, and since then has stayed put at an elevated level.

Development in individual countries up to the turnaround in 2011 …

In 2007, the price levels in some countries – despite the progress previously made towards convergence – were still way off the weighted average of the country's 11 euro area trading partners. For instance, in 2007, the price levels in Ireland and Finland were well above and the price levels in Portugal, Greece and Spain well below this benchmark; in some cases, the percentage deviation even reached double digits and ranged from -20% in Portugal to +13% in Ireland. Dispersion appears to have been particularly wide within the group of countries with comparatively low effective relative price levels. After the US real estate crisis grew into a global financial and economic crisis over the course of 2008, the effective relative price level in countries with low prices (Portugal, Greece and Spain) initially began to rise again up to 2011, whereas the comparatively high level of prices in Ireland – a country that was hit by the crisis early on – fell in relative terms. Overall, the price levels in these countries continued adjusting to those of their euro area trading partners; the process of price level convergence pressed ahead. By contrast, the price level in Finland, which was already comparatively high, went up even further vis-à-vis these trading partners. This was due to the fact that the aggregate wage level in Finland and, with it, unit labour costs continued to rise until 2013.[13]

… and thereafter

The process of price level convergence ended in 2011 when adjustment pressure in the real economy intensified in countries that were par-

11 See Deutsche Bundesbank, Price convergence in the euro area, Monthly Report, March 2009, pp. 33-47. The analysis conducted at that time covered developments up to 2007.

12 A temporary rise in dispersion between 1992 and 1995 is due to the EMS crisis and the crisis-related exchange rate adjustments between EMS country currencies.

13 See European Commission (2015), Macroeconomic Imbalances Country Report – Finland 2015, European Commission Occasional Paper, No 225, p. 3.

ticularly hard hit by the European sovereign debt crisis. In the wake of the crisis-related adjustments, the effective relative price level in Greece, Portugal and Spain fell. This meant that the price levels in the southern European periphery countries, which were already relatively low, became even further removed from those of their European trading partners. This was especially true of Greece, where the economic crisis deepened during this time, putting greater pressure on its price level. By contrast, in Ireland, the relative price level rose again somewhat. These developments, too, contributed to a rise in price level dispersion starting in 2011.

Alternative approach to measuring price competitiveness includes relative productivity growth

The aggregate purchasing power parities underlying the calculation of effective relative price levels also include the prices of non-tradable goods which, as a rule, do not face international competition. An alternative approach to measuring price competitiveness takes into account the fact that price adjustments in the non-tradable sector can cause the benchmark to shift. According to the Balassa-Samuelson model, productivity growth in the tradable sector can lead to wage rises in both this sector and the non-tradable sector.[14] While this pushes up prices in the non-tradable sector, thereby increasing headline inflation, and causes the currency to appreciate in real terms, it does not have an impact on price competitiveness. When determining the benchmark by applying such a productivity approach, then, the greater the equilibrium, relative price level in a country, which implies a neutral competitive position, compared to its trading partners, the higher the productivity level in this country compared to its trading partners.[15,16] That is why very productive economies usually have a relatively high price level without this necessarily implying low competitiveness.

Productivity approach takes into account Balassa-Samuelson effects

The productivity approach takes into account potential Balassa-Samuelson effects by regressing effective relative price levels on relative productivity levels in a panel regression and uniting the residuals to form an indicator of price competitiveness adjusted for relative productivity developments. In order to evaluate whether the competitive positions of the euro area countries included in the analysis have drifted apart in the past few years based on this approach, too, the determined competitive positions can also be used here to derive the coefficient of variation at a given point in time. If this measure of dispersion were to fall over time, this development would be interpreted as a convergence of price competitiveness in the euro area, in line with the considerations outlined above.

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14 For a detailed description and derivation of the Balassa-Samuelson effect, see Deutsche Bundesbank, Fundamental determinants of real exchange rate movements in the central and east European accession countries, Monthly Report, October 2002, pp. 47-59. See also B. Balassa (1964), The purchasing-power parity doctrine: a reappraisal, Journal of Political Economy, Vol. 72, pp. 584-596; and P.A. Samuelson (1964), Theoretical notes on trade problems, Review of Economics and Statistics, Vol. 46, pp. 145-154.

15 For technical details on productivity approach calculations, see C. Fischer and O. Hossfeld (2014), A consistent set of multilateral productivity approach-based indicators of price competitiveness – Results for Pacific Rim economies, Journal of International Money and Finance, Vol. 49, pp. 152-169. The time series on productivity provided by the Conference Board are published as "Labor productivity per hour worked in 2017 US$ (converted to 2016 price level with updated 2011 PPPs)".

16 In the model framework established by Balassa (1964), op. cit., and Samuelson (1964), op. cit., the fact that changes in the real exchange rate stemming from variations in productivity are not accompanied by a shift in price competitiveness is partly to do with the comparatively static nature of the model. As these variations in productivity do shift the equilibrium real exchange rate in the model, price competitiveness in the new equilibrium is the same as in the old one. However, the domestic wage level increases on the way towards the new equilibrium. A rise in productivity thus means a welfare gain. In a dynamic approach (which is not modelled), it could be said that productivity growth temporarily raises price competitiveness for as long as it takes for wage growth to "consume" competition growth. In principle, the impact of variations in labour market regulation on price competitiveness could be interpreted in a similar way; deregulation would then only improve price competitiveness temporarily. However, this depends on the specific design of the model. A further aspect concerns the role that non-tradable goods, which are often actually services, play in price competitiveness. As they are not tradable, they do not face international competition, which means that changes in prices of non-tradable goods do not affect price competitiveness. However, if – in a departure from the assumptions in the model – non-tradable goods (such as state services in the form of available infrastructure, for instance) are included as input factors in the production of tradable goods, it can be assumed that changes in prices of non-tradable goods would affect price competitiveness. The present analysis therefore also demonstrates that the interpretation of shifts in the real exchange rate, too, is determined by the – often simplified – assumptions in the theoretical models.

Dispersion of price competitiveness is lower than dispersion of effective relative price levels when productivity approach is used

The dispersion of competitive positions in the euro area calculated this way is lower than that of the effective relative price levels described above. This is due to the fact that Greece, Portugal and Spain have low effective relative price levels coupled with comparatively low productivity levels, which fundamentally justifies their low price levels. For this reason, their competitive positions deviate from the euro area average to a substantially smaller degree when the productivity approach is used than when absolute purchasing power parity theory is applied. It is a similar situation for Luxembourg, where productivity levels are relatively high, justifying a comparatively high price level.

Development of price competitiveness dispersion since 2007

In spite of what was already a rather low dispersion of competitive positions in the euro area back in 2007 calculated using the productivity approach, there was evidence of a further slight convergence here until 2010. The dispersion of these competitive positions has since increased, as has that of effective relative price levels, on balance, but only to a comparatively modest extent.[17]

Contributions made by Greece and Spain up to 2011 …

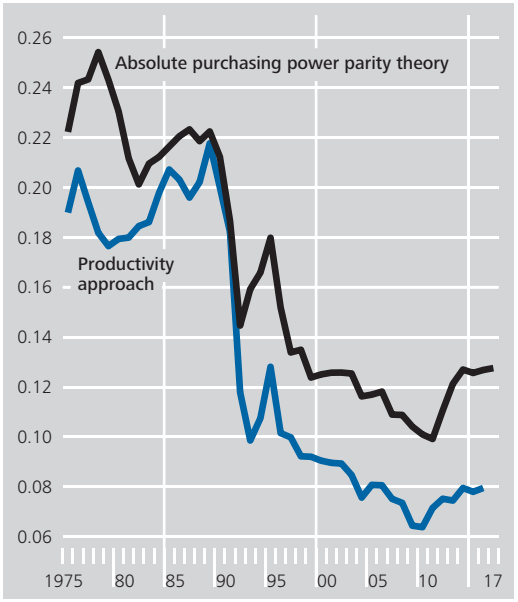
Applying the productivity approach, Greece's and Spain's competitive positions were neutral in 2007. Up to 2011, the relative price level in Greece rose disproportionately to productivity growth, leading to a deterioration in the country's price competitiveness. Taken in isolation, this would have resulted in a broader dispersion of competitiveness. In contrast to the Greek situation, price competitiveness in Spain, for example, changed relatively little prior to 2011. The slight rise in the relative price level here was evidently largely consistent with the development of the relative productivity level.

… and thereafter

The fall in relative prices in the wake of the sovereign debt crisis in Greece contributed significantly to the improvement in the Greek economy's unfavourable competitive position. Due to the fact that this caused Greece's competitive position to move closer to the average of the country's euro area trading partners once more, this development was again at odds with the trend of generally increasing dispersion in the euro area. The situation in Spain, by contrast, was in keeping with the slight divergence in competitiveness. The country's competitive position has improved since 2011; in

Dispersion of competitiveness in 12 euro area countries*

Coefficient of variation, annual data



* Measured by the coefficient of variation, which is calculated as a standard deviation of the respective measure of competitiveness from the mean. The standard deviation and the mean are derived at a given point in time from the competitiveness of the countries Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

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17 This result is in line with the findings of a recently published study which uses a slightly different calculation method, but identifies a very similar pattern of price level dispersion within the euro area over time. See M. Hoeberichts and A. Stokman (2018), Why price-level dispersion went up in Europe after the financial crisis, The World Economy, Vol. 41, pp. 913-925. The study additionally examines possible determining factors behind the increasing dispersion of price levels since 2011 that it also identified. Evidently, a cointegration relationship exists between price level and income level dispersion in the euro area. This finding indicates that the increasing dispersion of euro area income levels has been one major cause of the rise in price level dispersion in the current decade. Hoeberichts and Stokman (2018), op. cit., see income level dispersion as a proxy variable for the costs of non-tradable intermediate goods. This explanation is ultimately very similar to the productivity approach referred to in this article. As the rise in price level dispersion has, since 2011, been only very weakly reflected in increased dispersion in a measure of competitiveness that adjusts relative price levels for the impact of relative productivity levels, it can be stated on the strength of these results that productivity and income levels go some way towards explaining the increasing price level dispersion.

Competitive positions within the euro area according to the productivity approach*

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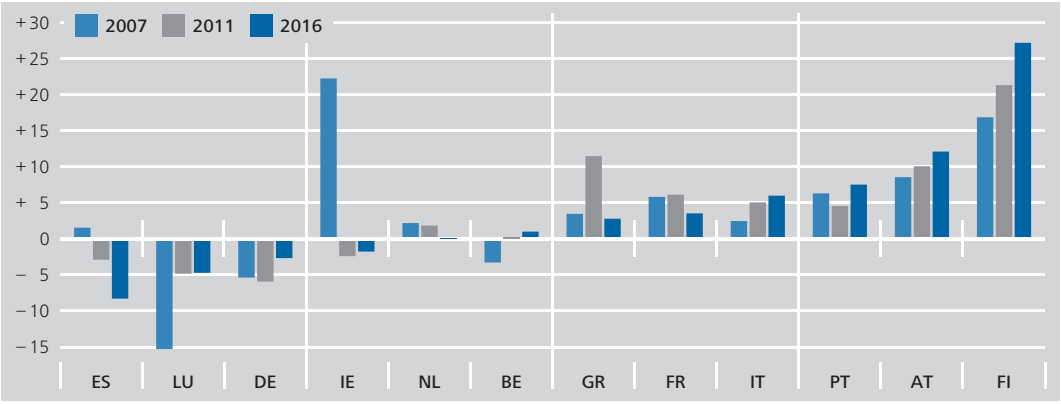

* Percentage deviation of a given country's price competitiveness from the equilibrium value, which is estimated relative to the other 18 euro area counties using the productivity approach. A positive value represents a real overvaluation and thus an unfavourable competitive position.

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2016, it was no longer classed as neutral, but rather as favourable.

Competitive disadvantage reduced in Ireland, …

Judged by the productivity approach, Ireland and Finland were in unfavourable competitive positions in 2007. Ireland, which was hit by the financial crisis at an early stage, saw substantial improvement in its price competitiveness up to 2011, contributing to the identified convergence of competitive positions in the euro area. Competitive gains in the Irish economy were largely attributable to an exceptionally strong productivity surge. Ireland's productivity per hour worked, for instance, which was used to determine competitiveness, rose by over 20% between 2007 and 2011. This is by far the highest figure recorded across the advanced economies of Europe and North America during this period, and stems partly from the decline in hours worked at that time. However, the transfer of patents from multinational companies to Irish branches also contributes greatly to the high level of Irish GDP growth recorded in the national accounts, generally speaking. Here, value added from licences, which in some cases is likely to have been generated primarily in third countries, is classed as part of Irish GDP. The productivity gains and increased competitiveness of the Irish economy are thus probably overstated.[18]

… but further increased in Finland

The competitive position of the Finnish economy, already deemed unfavourable in 2007 according to the productivity approach, has – based on these calculations – since deteriorated further vis-à-vis that of the other euro area countries included in the analysis. This is linked not only to Finland's increasing relative price level, but also to the decline in its relative productivity following a drop in output in the electrical engineering industry and decreased output in the paper and wood-processing industries.[19] These factors have resulted in an increasing dispersion of competitive positions within the euro area.

18 For information on how the activities of multinational enterprise groups affected Irish GDP and the (presumably) associated distortion of derived indicators, see Deutsche Bundesbank, Activities of multinational enterprise groups and national economic statistics, Monthly Report, October 2018, pp. 65-78.

19 In the Finnish economy, labour productivity per hour has been stagnant since 2007, whilst it has increased in other euro area countries. Finland's relative productivity is therefore declining. For information on the causes of productivity developments in Finland, see European Commission (2015), op. cit., p. 17.

The impact of labour market reforms on price competitiveness

Productivity gains through labour market reforms

Structural reforms are measures that target the supply side of a country's economy and improve the institutional and regulatory frameworks for the macroeconomic production process. By making labour markets more flexible, simplifying the tax system or cutting red tape, for example, such measures aim, inter alia, to create a more favourable business environment and increase aggregate productivity. It is striking that, to a partial extent, price competitiveness has improved particularly dramatically in recent years in those euro area countries which were under high adjustment pressure and, in some cases, have implemented quite extensive reforms in the labour and product markets. The degree of influence that labour market reforms exert on competitiveness may depend on whether conditions have improved in the tradable or non-tradable sector.[20]

Models indicate that labour market reforms could improve price competitiveness; …

In the theoretical literature, one subject that is modelled is the direct effect of labour market deregulation on price competitiveness, taking into account the fact that efficiency gains in job mediation reduce hiring costs and could result in a decline in active job-seeking.[21] A labour-intensive non-tradable sector could benefit to a comparatively large degree from these cost savings. This would tend to reduce the prices of non-tradable goods and thus lead to real depreciation.[22]

Something else that can be modelled is labour market reforms, which may increase aggregate productivity and thus influence the real exchange rate. This is the case, for example, when the allocation of factors is improved by increasing the flexibility of the labour market. Using a theoretical model, Du and Liu (2015) deduce that productivity in the non-tradable sector may increase under such circumstances.[23] In line with the Balassa-Samuelson model, this reduces the relative price of non-tradable goods. This movement represents real depreciation; the indicator of price competitiveness signals an improvement.

… this relationship is studied

The postulated positive impact of labour market reforms on the indicator of price competitiveness was subjected to empirical review using a panel of countries (see pp. 45 ff.) The analysis relies on the OECD's indicator of employment protection for regular employment as a reform variable.[24,25] This variable is composed of eight differently weighted components which can be divided into three categories: procedural aspects; notice periods and severance payments; and dismissal-related regulations. The period under review is limited to the years 1985 to 2013, as these are the most recent employment protection indicator data available. For reasons of data availability, the panel comprises, in addition to Germany, the 19 other previously mentioned industrial nations in the narrower group of countries.[26] Competition indicators based on the deflators of total sales or aggregate unit labour costs are entered into the regression as endogenous

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20 This is the case when labour market reforms have an impact on productivity initially and thus indirectly affect the real exchange rate, for instance, because, according to the Balassa-Samuelson model, while productivity gains in the tradable sector lead to real appreciation, productivity gains in the non-tradable sector result in real depreciation.
21 See H. Gartner and S. Klinger (2010), Verbesserte Institutionen für den Arbeitsmarkt in der Wirtschaftskrise, Wirtschaftsdienst, Vol. 11, pp. 728-732.
22 Y. Sheng and X. Xu (2011), Real exchange rate, productivity and labor market frictions, Journal of International Money and Finance, Vol. 30, pp. 587-603, use an extended Balassa-Samuelson model to analyse the influence of efficiency gains in job mediation on the real exchange rate. At a given level of sectoral factor productivity, real depreciation, and thus an improvement in price competitiveness, occurs in the model if labour market efficiency rises in the non-tradable sector.
23 See Q. Du and Q. Liu (2015), Labor market flexibility and the real exchange rate, Economics Letters, Vol. 136, pp. 13-18.
24 The OECD provides three versions of employment protection indicators for regular employment which differ in terms of breadth of content. For reasons of data availability, the relatively narrow EPRC_V1 indicator was used in the present empirical study.
25 Employment protection for regular employment has been singled out as just one aspect of labour market regulation. Other labour market reforms, e.g. measures to liberalise temporary employment or subcontracting, can of course influence price competitiveness as well. However, this is not examined in this study.
26 Values of the EPRC_V1 indicator have been available for this group of countries since 1985.

variables. In addition to the employment protection indicator, a proxy variable for aggregate productivity and, as appropriate, further control variables are entered as exogenous variables.

Evolution of the OECD indicator of employment protection for regular employment in euro area countries

The OECD indicator of employment protection for regular employment used in the study shows the following developments in the euro area countries analysed.[27] Whereas in the 1990s employment protection regulations were reinforced in Germany (1994), thus, based on the estimation results, putting downward pressure on the German economy's price competitiveness, Finland (1990), France (1987) and Spain (1995) implemented measures to relax such regulations. Ireland joined the path of reform in 2005. Following the outbreak of the global financial and economic crisis and the ensuing sovereign debt crisis, reform pressure increased and employment protection was relaxed in a number of particularly hard-hit countries. For example, Portugal (2010, 2012 and 2013), Greece (2011 and 2013) and Spain (2011 and 2013) implemented what were, in some cases, relatively comprehensive reforms in the context of the rescue programmes. In Italy, employment protection was only reformed to a comparatively minor extent in 2013. While certain amendments were made to employment protection legislation in France in 2009,[28] no action was taken in Germany and Finland. In Ireland, employment protection measures were even ramped up in 2012. Measured against the OECD's reform indicator, several other euro area countries have thus – in relative terms – taken steps towards liberalisation compared with Finland, France, Germany, Ireland and Italy in recent years.

Relaxing employment protection legislation improves price competitiveness, according to estimation results

The empirical analysis suggests that price competitiveness can be improved by relaxing the rules on employment protection to a greater extent than those of partner countries. The wage-based indicator displays a greater degree of elasticity than the price-based indicator. This is certainly plausible, as the indicator based on aggregate unit labour costs is directly linked to labour market policy measures and exhibits relatively high volatility. The outbreak of the global financial crisis itself also appears to have exerted a not insignificant influence on the strength of this relationship. The significance of the estimated parameters thus increases considerably when the crisis and post-crisis period since 2008 is differentiated from the pre-crisis period in the form of a dummy variable. The estimation results suggest that measures to deregulate the labour market during times of crisis, when adjustment pressure is particularly high, have a stronger impact on wages and prices and consequently price competitiveness than is usually the case. The estimated effect of labour market regulation on price competitiveness both before and after the crisis is greater in economic terms when a relative productivity variable is also factored into the analysis.

Productivity gains through relaxing employment protection

However, theoretical reasoning suggests that not only could labour market regulation have a direct impact on price competitiveness, it could also have an indirect effect by influencing productivity levels.[29] The analysis does indeed indicate that, for the period since the start of the crisis, relaxing employment protection regulations increases aggregate productivity. As, according to the estimates, an increase in productivity raises the indicator of price competi-

27 As mentioned above, the OECD indicator only examines certain aspects of employment protection for regular employment. Reforms in other areas of labour market regulation are not taken into account in the following overview, even if they have in some cases been profound – like the German labour market reforms since 2002, for instance.
28 After 2015, France implemented further such reforms.
29 One direct effect of a variation in labour market regulation at a given level of productivity, as has been estimated so far, is produced in the model of Sheng and Xu (2011), op. cit., by altering the efficiency of job mediation. However, amending labour market regulations can also first have an impact on labour productivity and thus indirectly affect price competitiveness, as modelled by Du and Liu (2015), op. cit. In both cases, the direction of the effect on price competitiveness is greatly dependent on which sector is most affected by such amendments.

Estimates of the impact of labour market regulation on price competitiveness

Various theoretical approaches postulate that structural features of the labour market have an impact on an economy's price competitiveness. We refer, in particular, to the contributions of De Gregorio et al. (1994), Sheng and Xu (2011), Du and Liu (2015), and Berka and Steenkamp (2018).[1] Each of the aforementioned approaches refer to the modelling concept proposed by Balassa (1964) and Samuelson (1964), according to which the real exchange rate is determined purely on the supply side by total factor productivity in the tradable and non-tradable sectors;[2] however, they modify or expand the model in a way that allows structural features of the labour market to make an additional explanatory contribution. In order to verify this empirically, the following econometric model was estimated as part of a panel regression:

$$q_{it} = \alpha_i + \beta_1 \cdot X_{it} + \beta_2 \cdot r_{it} + \varepsilon_{it},$$

where the variable q_{it} stands for the logged indicator of the price competitiveness of country i at point in time t, α_i represents a country-specific constant, r_{it} generally denotes an indicator of relative labour market regulation, X_{it} is a vector of additional explanatory variables which should at least contain the logged relative aggregate production level, and ε_{it} is an independent and identically distributed random variable. The indicator of price competitiveness is defined as the real exchange rate, which is calculated in this estimate against a group of 19 key trading partners.[3] Together with the base country, this group of advanced economies also forms the sample of 20 countries included in the panel. Similarly to the real exchange rate, the variables assumed as exogenous are considered for a given country relative to the trade-weighted average of the corresponding variables of the same 19 trading partners.

An OECD indicator that models the degree of employment protection is used as the

1 See J. De Gregorio, A. Giovannini and T. H. Krueger (1994), The behavior of nontradable goods prices in Europe: evidence and interpretation, Review of International Economics 2, pp. 284-305; Y. Sheng and X. Xu (2011), Real exchange rate, productivity and labor market frictions, Journal of International Money and Finance 30, pp. 587-603; Q. Du and Q. Liu (2015), Labor market flexibility and the real exchange rate, Economics Letters 136, pp. 13-18; M. Berka and D. Steenkamp (2018), Deviations in real exchange rate levels in the OECD countries and their structural determinants, CEPII Working Paper No 2018-16.

2 See B. Balassa (1964), The purchasing-power parity doctrine: a reappraisal, Journal of Political Economy 72, pp. 584-596; and P. A. Samuelson (1964), Theoretical notes on trade problems, Review of Economics and Statistics 46, pp. 145-154. An aggregate increase in total factor productivity, whereby the total factor productivities of the tradable and non-tradable sectors rise in proportion with each other, results in a real appreciation – as in the classic case of a productivity gain in the tradable sector only – if the tradable sector is capital-intensive compared with the non-tradable sector. See, for example, C. Fischer and O. Hossfeld (2014), A consistent set of multilateral productivity approach-based indicators of price competitiveness – Results for Pacific Rim economies, Journal of International Money and Finance 49, pp. 152-169. Against this backdrop, empirical studies often use aggregate measures of productivity to simplify matters.

3 The countries included are Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Fixed effects estimates of the impact of employment protection legislation on price competitiveness°

Item	Specification (1)	(2)	(3)
	Endogenous variable: indicator of price competitiveness based on deflators of total sales		
GDP per capita			0.18**
D*GDP per capita			0.01***
EPI	0.10	0.12	0.19***
D*EPI		0.08***	0.09***
N	557	557	557
R^2(overall)	0.04	0.05	0.07
	Endogenous variable: indicator of price competitiveness based on unit labour costs in the total economy		
GDP per capita			0.27
D*GDP per capita			0.02***
EPI	0.32**	0.37**	0.50***
D*EPI		0.11***	0.12***
N	367	367	367
R^2(overall)	0.04	0.05	0.06

° Estimation period for the indicator based on total sales deflators 1985-2013, for regressions with the indicator based on unit labour costs 1995-2013. All variables logged and calculated as a weighted average against 19 advanced economies; GDP per capita = relative gross domestic product per capita, index; EPI = relative employment protection indicator which models relative labour market regulation r in the estimate equation; D = dummy variable to separate the pre and post-crisis periods with 1 from 2008 and 0 prior to that year; N = number of observations in the (unbalanced) panel; R^2(overall) = squared correlation coefficient between the endogenous variable and its estimate (disregarding fixed effects). **/*** denote significance at the 5%/1% level according to the estimator robust to autocorrelation, heteroskedasticity and cross-correlation used by J. C. Driscoll and A. C. Kraay (1998), Consistent covariance matrix estimation with spatially dependent panel data, Review of Economics and Statistics 80, pp. 549-560.

Deutsche Bundesbank

variable for labour market regulation.[4, 5] The OECD's indicator is composed of eight differently weighted components that contain information on employment protection legislation for regular employment. The scale of the employment protection indicator ranges from 0 (lax regulation) to 6 (strict regulation). An increase in the relative employment protection indicator calculated on this basis signals that employment protection in the country concerned is regulated more strictly than before relative to the weighted average of the trading partners.

The above table shows the results of a fixed effects panel estimation based on annual data. Two variables are used as the indicator of price competitiveness: first, a real exchange rate based on the deflator of total sales (upper half of the table), and second, one based on unit labour costs in the total economy (lower half of the table). In the former case, the observation period runs from 1985 to 2013, and in the latter from 1995 to 2013.[6] A regression which includes only employment protection as the explanatory variable (see specification (1)) produces a positive coefficient. This is significant where price competitiveness is based on unit labour costs in the total economy, but not significant where an indicator based on deflators of total sales is used. The esti-

4 The OECD's indicator of the degree of employment protection has already been used in a number of comparable studies. In A. Bénassy-Quéré and D. Coulibaly (2014), The impact of market regulations on intra-European real exchange rates, Review of World Economics 150, pp. 529-556, the authors build on the model employed by De Gregorio et al. (1994), op. cit., to estimate the impact of the OECD indicator on the real exchange rate for a panel of 12 European countries and find that stricter employment protection results in a significantly less favourable level of competitiveness. However, Berka and Steenkamp (2018), op. cit., are unable to confirm this result in a slightly different specification for 17 OECD countries. Finally, in M. Groneck and C. Kaufmann (2017), Determinants of relative sectoral prices: the role of demographic change, Oxford Bulletin of Economics and Statistics 79, pp. 319-347, the authors include an interaction term between the employment protection indicator and a demographic variable and, in a panel of 15 OECD countries, they find that the stricter the labour market regulation, the more the relative price of non-tradable goods is driven up by an ageing population (i.e. price competitiveness declines). Unlike the analysis presented here, Bénassy-Quéré and Coulibaly (2014), op. cit., as well as Berka and Steenkamp (2018), op. cit., both use bilateral rather than multilateral variables and data that do not extend beyond the onset of the global financial crisis.

5 Employment protection for regular employment has been singled out as just one aspect of labour market regulation. Other labour market reforms, e.g. measures to liberalise temporary employment or subcontracting, can of course influence price competitiveness as well. However, this is not examined in this study.

6 The employment protection indicator is available for 19 of the 20 countries in the panel for the period from 1985 to 2013. The corresponding time series for Luxembourg only begins in 2008. The OECD currently does not provide employment protection indicators for the years after 2013. Indicators of competitiveness based on unit labour costs are available only from 1995 onwards.

mated positive coefficient implies that stricter employment protection legislation results in real appreciation, thus reducing price competitiveness. This is consistent with the above-mentioned theoretical models.[7]

It is conceivable that measures to (de)regulate the labour market have a stronger than usual impact on prices in crisis periods, when adjustment pressure is relatively high.[8] For this reason, specification (2) is augmented with an interaction term between the employment protection indicator and a dummy variable that takes the value of 1 from 2008 onwards and 0 prior to that.[9] It actually transpires that – independent of the competitiveness indicator – the impact of the chosen labour market regulation measure on price competitiveness is significantly greater after 2008 than before.

If specification (3) is expanded in line with the theoretical concept to include a relative productivity variable (simply measured here as an index of relative real gross domestic product (GDP) per capita),[10] the estimated impact of employment protection legislation on price competitiveness is even larger in economic terms both before and after the crisis. All employment protection-related coefficients are now statistically significant. For the indicator based on unit labour costs, elasticity is markedly higher than on the basis of total sales deflators (0.5 compared with 0.2 before the crisis, and 0.6 compared with 0.3 after 2008). This is quite plausible, first because indicators based on unit labour costs should have a direct link to labour market policy measures, and second because they are inherently more volatile than those based on total sales deflators. Consistent with the indications of the Balassa-Samuelson model, the productivity variable is significantly positive,[11] i.e. an aggregate increase in productivity results in a real appreciation; in the context of the model, however, this should not be interpreted as a loss of competitiveness as it only reflects price pressures in the non-tradable sector.[12]

It can also be posited that labour market regulation in the countries analysed affects their price competitiveness not only directly but also indirectly via productivity. The model employed by Du and Liu, for example, also indicates that this is the case.[13] To gain an impression of whether such a transmission mechanism actually exists, the impact of employment protection on the productivity variable is estimated in the same panel as before. This reveals that the coefficient in question was not statistically significant before the crisis began, but has been significantly negative since then. According to the estimate, then, the higher the level of relative labour market regulation, the lower the productivity level measured by relative GDP per capita. Thus, the above-described positive primary effect on

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7 However, several models stipulate that the adjustment of employment protection legislation relates to the non-tradable sector.
8 In R. Anderton, B. Di Lupidio and J. Piqueras (2018), Labour and product market regulation, worker flows and output responsiveness, in K. Masuch, R. Anderton, R. Setzer and N. Benalal (eds.), Structural policies in the euro area, ECB Occasional Paper 210, pp. 95-98, the authors in fact identify different labour market responses depending on whether a pre-crisis period up to 2007 or the crisis and post-crisis period from 2008 is considered.
9 If the equation to be estimated with the interaction term is expanded to additionally include the specified dummy as a single variable, the coefficients of the employment protection indicator remain statistically significant. They are each somewhat larger, however.
10 The specification thus follows Bénassy-Quéré and Coulibaly (2014), op. cit., and Du and Liu (2015), op. cit.
11 See, for example, Fischer and Hossfeld (2014), op. cit.
12 Further econometric specifications were estimated to verify the robustness of the results. For example, the group of explanatory variables was expanded to include a relative unemployment rate as a cyclical variable. However, this has only a minimal effect on the coefficients of the employment protection indicator.
13 See Du and Liu (2015), op. cit.

Fixed effects estimate of the impact of the volume of regulation[o]

Item	Value
GDP per capita	0.33***
Regulation	– 0.11**
N	660
R^2(overall)	0.10

o Estimation period 2006-17. All variables logged and calculated as a weighted average against 56 advanced economies; endogenous variable: indicator of price competitiveness based on consumer price indices; GDP per capita = relative gross domestic product per capita, index; Regulation = effective measure of relative volume of regulation derived from nine sub-indicators of the "Ease of doing business" indicator; N = number of observations in the (balanced) panel; R^2(overall) = squared correlation coefficient between the endogenous variable and its estimate (disregarding fixed effects). **/*** denote significance at the 5%/1% level according to the estimator robust to autocorrelation, heteroskedasticity and cross-correlation used by Driscoll and Kraay, 1998, op. cit.

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the indicator of price competitiveness would be counteracted by a secondary effect via productivity, but only to a negligibly small fraction. Based on specification (3) in the table on p. 46, the primary effect of a variation in the employment protection variable on price competitiveness is between 25 and 36 times as great as the countervailing secondary effect via productivity.

Finally, there is the question of whether the result of a competitiveness-boosting impact of deregulating employment protection for regular employment can be generalised to a broader concept for structural reforms.[14] To do so, a time series of the volume of regulation compiled from sub-categories of the World Bank's "Ease of doing business" indicator is used as the explanatory variable. These sub-categories include regulation of cross-border trade or tax payments, for instance.[15] The regulatory indicator thus calculated is only available for a relatively short period (2006 to 2017) but for a large number of countries. Therefore, the estimation generally uses variables relative to a broad country group of 56 trading partners. Indicators of price competitiveness compared with 56 trading partners are only calculated on the basis of consumer price indices, implying that they be used as endogenous variables.[16]

A fixed effects panel estimation again based on annual data, which contains relative GDP per capita as an additional explanatory variable, produces a significantly negative impact of regulation on price competitiveness (see the adjacent table). Because – unlike the employment protection indicator in the above model – the indicator is normalised such that an increase signifies a decreasing volume of regulation, this implies that the latter is associated with rising price competitiveness. Here, too, there is again a significant countervailing secondary effect on price competitiveness through the impact of the volume of regulation via productivity. In this case, this is by no means negligible, also in terms of dimension. Generally speaking, the results for the impact of

14 Studies related to this question can also be found in the literature. Bénassy-Quéré and Coulibaly (2014), op. cit., for example, also find that in the pre-crisis period deregulation of the product market has a positive impact on the price competitiveness of 12 EU countries. In M. Fidora, C. Giordano and M. Schmitz (2017), Real exchange rate misalignments in the euro area, ECB Working Paper No 2108, the authors also find for a broad panel of 57 countries that an improvement in the quality of regulation accelerates the adjustment to an equilibrium level of price competitiveness.

15 The "Ease of doing business" indicator itself has numerous methodological structural breaks and its quality is therefore low for an analysis that considers the time dimension. The time series used in this study, however, makes use of nine sub-categories that have only a few methodological structural breaks over the observation period. The categories are: enforcing contracts, getting credit, dealing with construction permits, resolving insolvency, paying taxes, protecting minority investors, registering property, starting a business, and trading across borders.

16 See Deutsche Bundesbank, Recalculated weights for indicators of the German economy's price competitiveness, Monthly Report, August 2017, pp. 41-43. The article also lists which 57 countries are included in the broad group. With the exception of Algeria and Venezuela, for which there is no complete dataset, these are also the countries whose data are included in the panel.

regulation extending beyond the labour market on price competitiveness do not seem especially robust. For example, there is no coherent picture when the impact of the nine sub-indicators is gauged by studying them separately rather than as an aggregate.[17] The estimation results presented in the latter part of this box, in particular, must therefore be interpreted with caution.

17 In a panel that considers all sub-indicators individually, some have a significantly positive coefficient, others have a significantly negative coefficient, and others still have an insignificant coefficient, without this being justifiable at first glance.

tiveness,[30] liberalisation of the labour market yields a negative secondary effect;[31] its economic significance is, however, very minimal.

Ease of doing business indicator represents broader concept of structural reforms

In addition to employment protection for regular employment, however, other reforms that improve local conditions are also likely to influence aggregate productivity and price competitiveness – presumably positively. The World Bank's ease of doing business indicator, which is calculated on the basis of ten sub-indicators, provides a measure of the level of business regulation in a given country.[32] These sub-categories are available for quite varied time periods. In addition, the calculation method for the ease of doing business indicator has been adapted on several occasions over time by widening the indicator set and the group of countries analysed. In order to ensure more reliable comparisons over time, a new aggregate regulatory indicator was calculated using nine of the ten sub-categories.[33]

Findings regarding influence of labour market reforms cannot simply be applied to broader structural reform concepts

The impact of the aggregate regulatory indicator or sub-indicators on the price competitiveness indicator was determined by means of a panel estimation using a broad panel of 55 countries for the years 2006 to 2017. This influence proves to be significant in the baseline specification – when the volume of regulation is reduced as measured by the aggregate indicator, price competitiveness improves. Here,

30 On the face of it, this result may not appear to tally with the model of Du and Liu (2015), op. cit., in which the productivity gains generated by labour market flexibility reduce the indicator. However, the differences between the model and the estimate can be explained by the fact that the model assumes productivity growth in the non-tradable sector only, whereas empirically, aggregate productivity is observed across all sectors, and by the fact that productivity gains in the tradable sector can be expected to have an adverse effect on the real exchange rate.

31 As employment protection regulations are only one of many factors influencing aggregate productivity, the productivity variable must nevertheless be included in the analysis.

32 Although the World Bank's ease of doing business index includes information on labour market regulation, it is not part of the overall index.

33 For information on the sub-categories studied here, see p. 48.

too, a surge in productivity triggered by liberalisation subsequently weakens the primary effect, according to the estimates. However, these results do not appear to be very robust. For example, there is no coherent picture when the sub-indicators are used in the regression rather than the aggregate indicator. This may be linked to the fact that a general reduction in the volume of regulation can, unlike a relaxation of employment protection regulations, influence productivity in the tradable sector more strongly under certain circumstances.

Conclusion

In summary, it can be maintained that, over the past few years, competitive positions in the euro area have shifted in favour of those euro area countries which were relatively hard hit by the global financial and economic crisis and the subsequent sovereign debt crisis, and which have undertaken labour market reforms. Although the dispersion of the effective relative price levels in the euro area has increased, the competitive positions of the observed euro area countries are, on average, still quite closely spaced when factoring in productivity developments.

An empirical study indicates that price competitiveness can be improved by relaxing employment protection regulations for regular employment. The estimation results suggest that such measures aiming to deregulate the labour market during times of crisis, when adjustment pressure is particularly high, have a stronger impact on relative price levels and consequently price competitiveness than is usually the case. Of course, this should not be the only yardstick by which labour market policy measures in general and employment protection regulations in particular are evaluated. It must also be borne in mind that although liberalisation gains may be high, this level of gains cannot be sustained in the long term. However, where there is scope for deregulation, its implementation can have a positive impact on price competitiveness, as these findings show.

Financial cycles in the euro area

In the aftermath of the financial and economic crisis, researchers and those involved in economic policy-making have increasingly been turning their attention to cyclical fluctuations in the financial system. In these discussions, the term "financial cycles" is usually used to describe joint upward and downward movements of credit aggregates and asset prices over the medium run, which extend beyond the length of business cycles. The academic literature often presents financial cycles as the result of mutually reinforcing interactions between asset valuation and risk perception in the financial system, which can then generate pronounced fluctuations in financial market variables and thus make for a more vulnerable economy.

When it comes to discussing financial cycles, there is no single generally accepted theoretical basis, nor a dominant method for measuring them. In this article, we apply methods from the field of frequency domain analysis to investigate properties of financial cycles in selected euro area countries. This is done using time series for credit aggregates and house prices, the dynamics of which are often regarded as being representative of financial cycles. The focus lies on cross-country synchronisation of financial cycles in the euro area, looking primarily at whether credit and house prices in euro area countries follow cross-country cycles. The flexible empirical approach employed has the benefit of allowing the analysis of changes in these relationships over time and according to periodicity.

As a first step, a cohesion analysis is carried out. It reveals that cross-country financial cycles in the euro area play a less significant role in determining credit and house price dynamics in the individual countries than the overall euro area business cycle does for the dynamics of gross domestic product (GDP). This result suggests that it makes sense to be guided by developments in the individual member countries when setting macroprudential policy in the euro area.

Following on from this, the second step involves a detailed analysis of country-specific cycles and their cross-country synchronisation. It shows that fluctuations in the growth of loans to households in Germany are more weakly synchronised with the average of the other euro area members included in the study than is the case for the other countries. Furthermore, house price growth in Germany exhibits significantly smaller fluctuations than in other countries.

The analysis of the relationship between real economic cycles and financial cycles reveals that credit growth, house price inflation and real GDP growth in the individual countries are subject to common cycles. Hence, financial cycles and real economic cycles should be viewed not as independent phenomena but as being interrelated. It is therefore likely that macroeconomic policy measures also affect the real economy. In this case, there is also the potential for interactions between macroprudential policy and monetary policy to arise.

Introduction

Cyclical build-up of risks in the financial system increases vulnerability

In the aftermath of the financial and economic crisis, researchers and those involved in economic policy-making have increasingly been turning their attention to cyclical fluctuations in the financial system. The financial crisis was a reminder that pronounced financial upswings may see market participants tend towards taking on too much risk and underestimating the riskiness of investments. By driving up asset prices even further, this behaviour can also lead households and firms to run up excessive debt. In an extreme case, asset prices and credit growth may decouple from the underlying fundamentals to a large extent. If this happens, even small disturbances in the financial system or real economy have the potential to provoke a significant and abrupt rise in risk aversion and burst the asset price bubble. Financial institutions that had been financing the credit-driven climb of asset prices will find themselves forced to shrink their strongly expanded balance sheets – an exercise which generally entails a tightening of credit for firms and households and a drop in asset prices driven by "fire sales", bringing significant costs for the real economy.[1]

Empirical link between financial cycles and financial crises

Patterns of joint upward and downward movements of credit aggregates and asset prices, such as house prices, are commonly referred to as "financial cycles".[2] These tend to be longer than business cycles.[3] Furthermore, the results of numerous empirical investigations have shown that synchronisation of credit and asset price cycles across countries has increased over time.[4] While it is true that asset price booms driven by excessive credit growth, as happened in the lead-up to the financial crisis of 2008-09, occur only rarely, this kind of excessive manifestation of the financial cycle generally culminates in a financial crisis.[5] In addition, recessions associated with financial crises generally tend to be more severe.[6] This means that information on the financial cycle offers important insights for assessing risks to financial stability.

Financial cycles interpreted as the result of self-reinforcing processes

The concept of the financial cycle is not uniformly defined, however. Nor is there a generally accepted method for measuring financial cycles. For the most part, the literature describes financial cycles as the result of mutually reinforcing interaction between asset valuation and risk perception in the financial system that can lead to pronounced credit and asset price fluctuations.[7] These can be explained by various imperfections and distortions in the financial markets, such as information asymmetries, liquidity and financing constraints, or distorted

1 See, for example, M. K. Brunnermeier (2009), Deciphering the Liquidity and Credit Crunch 2007-2008, Journal of Economic Perspectives, 23, pp. 77-100.
2 See M. Drehmann, C. Borio and K. Tsatsaronis (2012), Characterising the Financial Cycle: Don't Lose Sight of the Medium Term, BIS Working Papers 380; D. Aikman, A. Haldane and B. Nelson (2013), Curbing the Credit Cycle, The Economic Journal, 125, pp. 1072-1109; and Y. Schüler, P. Hiebert and T. Peltonen (2017), Coherent Financial Cycles for G-7 Countries: Why Extending Credit Can Be an Asset, ESRB Working Paper 43.
3 See Drehmann et al. (2012), op. cit.; S. Claessens, M. Kose and M. Terrones (2011), Financial Cycles: What? How? When?, NBER International Seminar on Macroeconomics, 7, University of Chicago Press, pp. 303-344; and Aikman et al. (2013), op. cit.
4 See, for example, Aikman et al. (2013), op. cit.; Claessens et al. (2011), op. cit.; B. Meller and N. Metiu (2017), The Synchronization of Credit Cycles, The Journal of Banking & Finance, 82, pp. 98-111; and T. Strohsal, C. Proaño and J. Wolters (2015a), How Do Financial Cycles Interact? Evidence From the US and the UK, SFB 649 Discussion Paper 2015-024, Humboldt University Berlin.
5 See, for example, C. Reinhart and K. Rogoff (2009), This Time is Different: Eight Centuries of Financial Folly, Princeton University Press; P. Gourinchas and M. Obstfeld (2012), Stories of the Twentieth Century for the Twenty-First, American Economic Journal: Macroeconomics, 4, pp. 226-265; and M. Schularick and A. Taylor (2012), Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008, American Economic Review, 102, pp. 1029-1061. For a critique of Schularick and Taylor (2012) see S. Baker, D. Lopéz-Salido and E. Nelson (2018), The Money View Versus the Credit View, International Finance and Economics Discussion Paper 2018-042, Board of Governors of the Federal Reserve System.
6 See, for example, M. Hutchinson and I. Noy (2005), How Bad Are Twins? Output Costs of Currency and Banking Crises, Journal of Money, Credit and Banking, 37, pp. 725-752; S. Claessens, A. Kose und M. Terrones (2012), How Do Business and Financial Cycles Interact?, Journal of International Economics, 87, pp. 178-190; and Ò. Jordà, M. Schularick and A. Taylor (2015), Leveraged Bubbles, Journal of Monetary Economics, 76, pp. S1-S20.
7 See T. Adrian and H. Shin (2010), Liquidity and Leverage, Journal of Financial Intermediation, 19, pp. 418-437; C. Borio (2014), The Financial Cycle and Macroeconomics: What Have We Learnt?, Journal of Banking and Finance, 45, pp. 182-198; and T. Adrian and H. Shin (2014), Procyclical Leverage and Value-at-Risk, Review of Financial Studies, 27, pp. 373-403.

expectations.[8] If such financial market imperfections are relevant, a downturn in the financial cycle may be accompanied by – or even amplify – an economic contraction. In an extreme case, this can result in a financial crisis.

Macroprudential policy as a policy area in its own right

It was once widely believed that microprudential oversight monitoring the stability of individual institutions was sufficient to maintain the stability of the financial system. The global financial crisis of 2008-09 changed all of this. The old view prevented recognition of risks that pose a threat for the stability of the financial system as a whole. Influenced by experiences gathered during the crisis, macroprudential policy was developed as a policy field in its own right. Its purpose is to bolster the financial system's resilience to systemic risk and prevent market participants collectively from taking on excessive risk.[9]

This article addresses the question of whether selected euro area countries share a common financial cycle and how pronounced it is. Further, we examine the relationship between financial and real economic cycles.

Financial cycles cannot be adequately captured by single variables alone

Conventional methods from business cycle analysis generally serve as the starting point for empirical measurement of financial cycles. In business cycle analysis, the notion of a cycle is generally understood to denote more or less regularly occurring fluctuations along a long-term growth trend for GDP. Financial cycles cannot be characterised by reference to just one economic variable, though. Just as the business cycle is to be understood as the co-movement of multiple variables (for example, economic activity, income and employment, affecting more than one sector of the economy),[10] the financial cycle, too, is a multivariate phenomenon. As such, it encompasses coinciding fluctuations of different financial market variables and asset prices. Similarly to the business cycle, the financial cycle also has within-country and cross-country dimensions,[11] i.e. it can consist of common cycles in financial market variables and asset prices within one particular economy but also across countries.

Analyses focus on credit aggregates and house prices

By comparison with business cycles, when it comes to choosing a set of variables which adequately captures the financial cycle, opinions are divided to a greater degree. At one end of the spectrum are those who boil the financial cycle down to fluctuations in credit aggregates.[12] At the other end lies the use of a broad range of financial data and asset prices, including (but by no means limited to) interest rates, equity prices and house prices.[13] The majority of studies position themselves somewhere between these two extremes and use a small set of variables that can adequately capture the

8 See, for example, N. Kiyotaki and J. Moore (1997), Credit Cycles, Journal of Political Economy, 105, pp. 211-248; B. Bernanke, M. Gertler and S. Gilchrist (1999), The Financial Accelerator in a Quantitative Business Cycle Framework, Handbook of Macroeconomics; Aikman et al. (2013), op. cit.; and K. Adam, J. Beutel and A. Marcet (2017), Stock Price Booms and Expected Capital Gains, American Economic Review, 107, pp. 2352-2408.

9 See C. Buch, J. Reich and B. Weigert (2016), Makroprudenzielle Politik, Wirtschaftsdienst, 96, pp. 557-562.

10 See the standard definition of business cycles as contained in A. Burns and W. Mitchell (1946), Measuring Business Cycles, National Bureau of Economic Research, New York.

11 For more on international business cycles, see, for example, M. Kose, C. Otrok and C. Whiteman (2003), International Business Cycles: World, Region and Country-Specific Factors, American Economic Review, 93, pp. 216-239.

12 See, for example, Aikman et al. (2013), op. cit.; L. Kurowski and K. Rogowicz (2018), Are Business and Credit Cycles Synchronised Internally or Externally?, Economic Modelling, 74, pp. 124-141; and B. Meller and N. Metiu (2017), op. cit.

13 Credit, house prices and equity prices are used, for example, in European Commission (2018), Financial Cycle in Euro Area, Quarterly Report on the Euro Area, 17(2), pp. 17-30; Drehmann et al. (2012), op. cit.; T. Strohsal, C. Proaño and J. Wolters (2015b), Characterising the Financial Cycle: Evidence from a Frequency Domain Analysis, Deutsche Bundesbank Discussion Paper No 22/2015; and F. Verona (2016), Time-Frequency Characterization of the U.S. Financial Cycle, Economics Letters, 144, pp. 75-79. Papers that employ a relatively broad range of variables include D. Kunovac, M. Mandler and M. Scharnagl (2018), Financial Cycles in Euro Area Economies: A Cross-Country Perspective, Deutsche Bundesbank Discussion Paper No 04/2018; M. Mandler and M. Scharnagl (2018), Financial Cycles Across G7 Economies: A View from Wavelet Analysis, mimeo; G. Rünstler et al. (2018), Real and Financial Cycles in EU Countries: Stylised Facts and Modelling Implications, Occasional Paper Series, No 205, European Central Bank; Y. Schüler, P. Hiebert and T. Peltonen (2015), Characterising the Financial Cycle: A Multivariate and Time-Varying Approach, ECB Working Paper 1846; and Schüler et al. (2017), op. cit.

interactions between credit aggregates and asset prices. The selection of reference variables can have a significant bearing on the characteristics of any financial cycle identified from the data.[14] In the literature, common fluctuations in loans to the non-financial private sector and in house prices are often regarded as being informative indicators for the financial cycle. This is because, in particular, credit-fuelled real estate price bubbles can result in risks to financial stability.[15] The empirical application presented in this article is therefore based on data on credit aggregates and house prices.[16]

Overview of approaches for estimating financial cycles

In addition to the choice of reference variables, there is another decision to be made: a suitable detrending method needs to be selected so that the time series of financial variables can be decomposed into trend and cyclical components. There are a wealth of different detrending procedures available. They vary in terms of the number of underlying variables, the degree of theoretical foundation and the assumptions they make about the characteristics of the trend and its relationship to the cyclical components (linear or non-linear, for instance).[17] Arguably the most commonly used approaches for measuring the financial cycle are based on univariate turning point analyses or techniques for filtering data developed in order to identify business cycles.[18] These methods are mostly assumption-driven and do not allow us to test the existing hypotheses in respect of the financial cycle's characteristics.[19] When applying filters, the relevant frequency for the financial cycle has to be specified a priori, for example. This article therefore centres on a far more flexible, multivariate approach (wavelet analysis), which makes it possible to identify common cycles in different variables and determine the relevant frequency ranges for those cycles from the data.

Empirical analyses yield stylised facts

Applying this flexible econometric approach, it is thus possible to systematise the characteristics of the financial cycle in the form of robust "stylised facts". These refer to different traits of the cycles, such as average cycle length and amplitude, the interaction between the financial cycle and real economic cycles, and the interplay between financial cycles across countries. The analyses can only provide us with descriptive results and trace correlations between variables; they do not enable any direct statements as to causality. Causal relationships can only be derived by employing structural models which contain restrictions rooted in theory and which go beyond pure description. However, stylised facts derived from descriptive analyses can serve as the basis for more in-depth analysis and inform the development of such models.

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14 See, for example, European Commission (2018), op. cit.
15 See, for example, Jordà et al., op. cit.
16 See, for example, C. Borio (2014), op. cit.; or Drehmann et al. (2012), op. cit. Other analyses using credit aggregates and house prices include Claessens et al. (2011), op. cit.; G. Galati, I. Hindrayanto, S. Koopman and M. Vlekke (2016), Measuring Financial Cycles in a Model-Based Analysis: Empirical Evidence for the United States and the Euro Area, Economics Letters, 145, pp. 83-87; G. Rünstler and M. Vlekke (2018), Business, Housing, and Credit Cycles, Journal of Applied Econometrics, 33, pp. 212-226; Strohsal et al. (2015a), op. cit.; and V. Voutilainen (2017), Wavelet Decomposition of the Financial Cycle: An Early Warning System for Financial Tsunamis, Bank of Finland, Research Discussion Paper 11-2017.
17 See F. Canova (2007), Methods for Applied Macroeconomic Research, Princeton University Press, Chapter 3.
18 See R. Hodrick and E. Prescott (1997), Postwar U.S. Business Cycles: An Empirical Investigation, Journal of Money, Credit and Banking, 29, pp. 1-16; M. Baxter and R. King (1999), Measuring Business Cycles: Approximate Band-Pass Filters for Economic Time Series, The Review of Economics and Statistics, 81, pp. 575-593; D. Harding and A. Pagan (2002), Dissecting the Cycle: A Methodological Investigation, Journal of Monetary Economics, 49, pp. 365-381; and L. Christiano and T. Fitzgerald (2003), The Band Pass Filter, International Economic Review, 44, pp. 435-465.
19 Other statistical detrending procedures available include, in particular, the Beveridge-Nelson decomposition, the unobserved components model and (Markov) regime-switching models. See S. Beveridge and C. Nelson (1981), A New Approach to Decomposition of Economic Time Series into Permanent and Transitory Components with Particular Attention to Measurement of the "Business Cycle", Journal of Monetary Economics, 7, pp. 151-174; J. Valle e Azevedo, S. Koopman and A. Rua (2006), Tracking the Business Cycle of the Euro Area: A Multivariate Model-Based Bandpass Filter, Journal of Business and Economic Statistics, 24, pp. 278-290; and J. Hamilton (1989), A New Approach to the Economic Analysis of Nonstationary Time Series and the Business Cycle, Econometrica, 57, pp. 357-384.

How are financial cycles measured?

Financial cycles not directly observable and have to be estimated

Financial cycles cannot be observed directly and must therefore be estimated. Generally speaking, any time series can be expressed as the sum of a variety of cycles oscillating at different frequencies (see the box on pp. 56 ff.). One stylised fact drawn from the empirical literature dealing with credit and house price cycles is that the length of their quantitatively most significant cyclical components exceeds those of business cycles; business cycles are generally assumed to last up to eight years.[20]

Each time series represents the aggregate of all of the cycles contained within. This means that the components associated with the financial cycle need to be isolated. To be able to infer that these components are the result of financial cycles, it is also necessary to check whether there are common cycles across countries or different variables. If there are no such dynamics in common, then the cycles are idiosyncratic, i.e. they are variable-specific and country-specific – credit cycles or house price cycles, for instance.

Much of the literature adopts a two-stage procedure for this analysis. First, univariate filters are applied to extract the cycles with selected lengths from the variables under investigation. Second, the time series components extracted in this way are scrutinised with a view to identifying their characteristics and relationships to one another.

Statistical filtering to extract cycles requires pre-determination of cycle length

The filter procedures applied in the first step extract components with pre-determined cycle lengths – in other words, cycles at a given frequency interval (see p. 58).[21] They are purely statistical procedures and, as such, do not involve any assumptions with respect to economic structural relationships. A key decision to be taken when applying filters for measuring financial cycles is what frequency range will be pre-defined as relevant, i.e. the assumption as to the duration of oscillations.

Setting too narrow a frequency range can result in potentially relevant common cycles in different variables being overlooked. Another issue is that the cycle lengths relevant for the financial cycle in the data can change over time and may, for example, over-run the pre-defined range. This would give the impression that the financial cycle has weakened or disappeared, when in actual fact its cycle length has simply changed. If a very wide band is set for cycle length, a broad range of cycles in the variables is captured. This makes it harder to identify common cycles if these only cover a fraction of the observed frequencies.

In many studies, the frequency band for the statistical filtering is set on an ad hoc basis. Cycle lengths of eight to 20 years or eight to 30 years are among the commonly selected options.[22] The chart on p. 59 illustrates one example of this. It shows the cycles lasting be-

20 See, for example, C. Borio (2014), op. cit. For more on the length of business cycles, see, for example, M. Baxter and R. King (1996), op. cit.

21 Other commonly used approaches are turning point analysis and trend-cycle decompositions with structural time series models. Turning point analysis plays an important role in the dating of economic cycles. See G. Bry and C. Boschan (1971), Cyclical Analysis of Time Series: Selected Procedures and Computer Programs, National Bureau of Economic Research, New York; and D. Harding and A. Pagan (2002), Synchronization of Cycles, Journal of Econometrics, 132, pp. 59-79. For examples of how this approach is applied to financial cycles, see Claessens et al. (2011), op. cit., and Drehmann et al. (2012), op. cit. For more on trend-cycle decompositions with structural time series models, see A. Harvey and S. Koopman, Multivariate Structural Time Series Models, in C. Heij et al. (eds., 1997), System Dynamics in Economic and Financial Models, Wiley, New York. These models can also be interpreted as filter approaches, but with trend and cycles parametrically specified. Galati et al. (2016), op. cit., apply the approach to the United States, Germany, France, Italy, Spain and the Netherlands. For each country, they extract common cycles in house prices and credit or the credit-to-GDP ratio. G. Rünstler and M. Vlekke (2018), op. cit., extend this analysis to common cycles in house prices, credit and real GDP. For more information on this, see Section 3 of Rünstler et al. (2018), ibid.

22 Examples of analyses on the basis of cycle lengths in the eight to 20-year range include Aikman et al. (2013), op. cit. ("medium-term" cycles), and B. Meller and N. Metiu (2017), op. cit. Cycle lengths of eight to 30 years are assumed in Drehmann et al. (2012), op. cit. In other analyses the frequency band is extended to include shorter oscillations, of the kind used in business cycle analysis. See, for example, Aikman et al. (2013), op. cit.; Kunovac et al. (2018), op. cit.; and Rünstler et al. (2018), op. cit.

Frequency analysis and bandpass filters

Wavelet analysis, the method used in the present article, is a refinement of frequency analysis or spectral analysis. Time series analysis in the frequency domain is an alternative perspective to the more common time domain analysis.[1]

Both perspectives are mutually complementary and emphasise different aspects of time series. In the time domain, a time series is interpreted as the sum of current and past random innovations (independently and identically distributed (i.i.d.) disturbances).[2] In the frequency domain, a time series is decomposed into periodic functions, i.e. functions that exhibit recurring cycles. This decomposition makes it possible to analyse the significance of cycles for the time series.

The chart on p. 57 illustrates the concept of cycles with different frequencies. With y_1 and y_2 it shows two sine functions $y_t = \sin(\omega t)$ with different frequencies (ω). By definition, there is an inverse relationship $\omega = 2\pi/T$ between frequency and cycle length (T): the length of the first cycle is four periods (for quarterly data, one year), corresponding to a frequency of $2\pi/4 = 1.57$; that of the second is 12 observations (for quarterly data, three years), resulting in a frequency of $2\pi/12 = 0.52$. The shortest possible cycle (not shown) has a length of two observations, implying a frequency of $2\pi/2 = \pi$.

Cycles can differ not only in terms of frequency but also in terms of amplitudes or phases. The example in the chart on p. 57 shows two further cycles of the general form $y_t = A \cdot \sin(\omega t + \varphi)$. A denotes the amplitude, i.e. the size of the oscillations, and φ the phase, i.e. the horizontal shift of y_t relative to a standard sine function.

y_3 is a sine oscillation having the same frequency as y_1 but an amplitude of $A = ½$. Its oscillations are only half the size of y_1. y_4 has the same frequency and amplitude as y_1 but, compared to y_1, displays a phase shift of $\pi/2$, i.e. it leads by one period.[3]

The idea behind frequency analysis is that a time series can always be written as the sum of a large number of cycles with different lengths. This is given by the spectral representation of a covariance stationary time series Y_t:

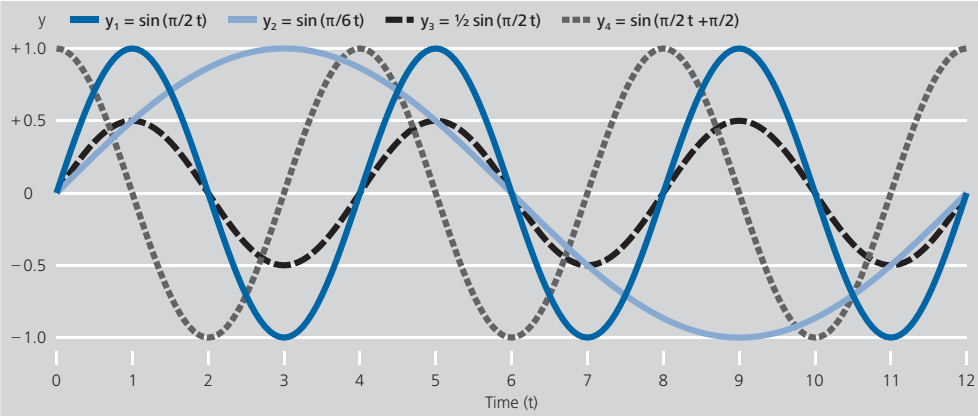
$$Y_t = \mu + \int_0^{\pi} [\alpha(\omega)\cos(\omega t) + \delta(\omega)\sin(\omega t)]\mathrm{d}\omega$$

μ is the mean of Y_t and ω is, as before, the frequency (within the interval between 0 and π). $\alpha(\omega)$ and $\delta(\omega)$ are frequency-dependent weights which determine the importance of a cycle at a given frequency for the pattern of the time series relative to cycles at other frequencies.

An important instrument of frequency analysis is the (power) spectrum. It is a tool for identifying the frequencies of those cycles which are particularly important to the dynamics of a time series. The power

1 For an introduction to spectral analysis, see, for example, J. Hamilton (1994), Time Series Analysis, Princeton University Press, Princeton, chap. 6.
2 See, for example, J. Hamilton (1994), op. cit., chap. 4. The discussion below will refer to covariance stationary time series.
3 A phase shift of φ implies a shift by φ/ω observations compared with a sine oscillation of the same frequency, since $\sin(\omega t + \varphi) = \sin\left(\omega\left(t + \frac{\varphi}{\omega}\right)\right)$.

Sine waves of various amplitudes, frequencies and phases



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spectrum of time series y_t is a function of the frequency ω:

$$f_y(\omega) = \frac{1}{2\pi}\left[\gamma_0 + 2\sum_{j=1}^{\infty}\gamma_j \cos(\omega j)\right] \geq 0.$$

Here, γ_0 is the variance of y_t and γ_j the autocovariance of order j.[4] Cycles with frequencies for which the power spectrum assumes large values are more important for the dynamics of the time series than those with small values. The share of the area between two frequencies $0 \leq \underline{\omega} < \overline{\omega} \leq \pi$ below the power spectrum in the total area represents the share of the variance of the time series Y_t caused by cycles from the selected frequency interval.[5] As is shown by the equation, the power spectrum is not time-varying, i.e. the analysis assumes that there is no change in the relative importance of the various cycles for the time series over time (covariance stationarity).[6]

As an example, the chart on p. 58 shows the power spectra of an artificially generated time series containing stochastic cycles having a length of 16 and 48 observations (for quarterly data, four and 12 years).[7] The time series Y_t and the two stochastic cyclical components contained therein are shown in the lower half of the chart. The spectrum peaks at frequencies of $\pi/8$ and $\pi/24$; these correspond to the cycle lengths contained in the time series.[8]

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4 $\gamma_j = E\,(Y_t - \mu)(Y_{t-j} - \mu)$

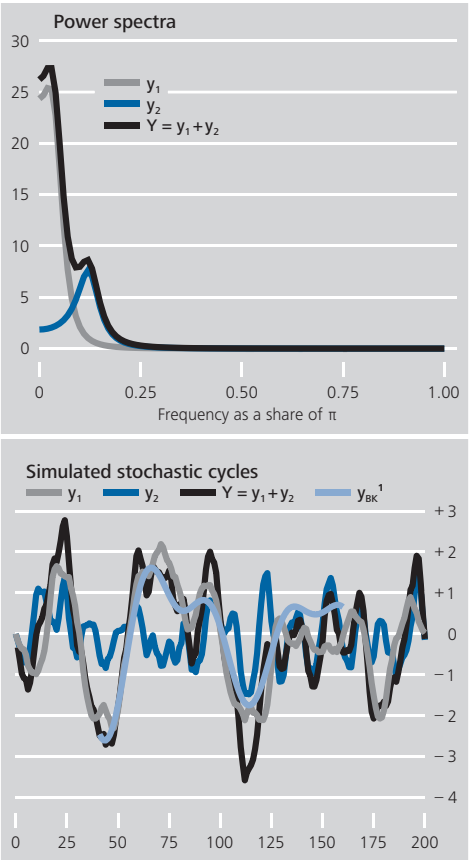
5 The power spectrum can be estimated for a time series by, for instance, estimating the variance and the autocovariances of the time series and inserting the estimated values for γ_0 and γ_j into the above equation or by estimating an ARMA(p,q) process for the time series and calculating the spectrum from the estimated ARMA coefficients. See J. Hamilton (1994), op. cit., pp. 163 ff.

6 A simple way to allow for time variability is by using a rolling window to estimate the power spectrum and other frequency analysis statistics. This approach, however, is inefficient compared with the elaborated time-varying approach of wavelet analysis. See, for instance, the annex to this article and also A. Rua (2012), Wavelets in Economics, Economic Bulletin, Summer, Banco de Portugal, pp. 71-79.

7 For more on stochastic cycles, see A. Harvey and T. Trimbur (2003), General Model-Based Filters for Extracting Cycles and Trends in Economic Time Series, The Review of Economics and Statistics, 85, pp. 244-255.

8 The power spectrum in the chart can be calculated via the AR coefficients of the time series. For an AR(2) process with coefficients ϕ_1 and ϕ_2,
$f_y(\omega) = \frac{\sigma^2}{2\pi}\frac{1}{(1+\phi_1^2+2\phi_2+\phi_2^2+2(\phi_1\phi_2-\phi_1)\cos\omega-4\phi_2\cos^2\omega)}$.
An AR(2) process taking on the general form $y_t = 2\rho\cos(\omega)y_{t-1} - \rho^2\, y_{t-2} + \varepsilon_t$ generates stochastic cycles having the frequency ω. For the two cyclical components of the time series $Y_t = y_{1,t} + y_{2,t}$ in the chart, it is assumed that $\rho = 0.9$; $\omega_1 = \frac{2\pi}{48}$ and $\omega_2 = \frac{2\pi}{16}$. This yields the AR(2) processes, $y_{1,t} = 1.79y_{1,t-1} - 0.81y_{1,t-2} + \varepsilon_{1,t}$ $y_{2,t} = 1.66y_{2,t-1} - 0.81y_{2,t-2} + \varepsilon_{2,t}$. $\varepsilon_{1,t}$ and $\varepsilon_{2,t}$ are i.i.d. disturbances with a standard deviation of, respectively, 0.1 and 0.16.

Power spectra and simulated stochastic cycles



The upper section shows the power spectrum of the simulated time series displayed in the lower section as a function of the frequency (horizontal axis). For more on the simulated time series, see footnote 8. **1** Component of time series Y extracted using the Baxter-King filter, with cycles lasting from 8 to 30 years.

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Bandpass filters extract the cycles falling within a pre-defined frequency range out of a time series which potentially contains multiple cycles of varying frequencies.[9] For instance, the lower half of the chart shows the component extracted from the time series Y_t using such a procedure (the Baxter-King filter) with fluctuations lasting between 32 and 120 observations (for quarterly data, eight and 30 years).[10] The above chart shows that the filtered time series corresponds largely to the longer cycle component.

9 Standard filters used in practice include the Baxter-King, Christiano-Fitzgerald and Hodrick-Prescott filters. See M. Baxter and R. King (1999), Measuring Business Cycles: Approximate Band-Pass Filters for Economic Time Series, The Review of Economics and Statistics, 81, pp. 575-593; L. Christiano and T. Fitzgerald (2003), The Band Pass Filter, International Economic Review, 44, pp. 435-465; and R. Hodrick and E. Prescott (1981), Postwar U.S. Business Cycles: An Empirical Investigation, Discussion Paper 451, Northwestern University. Y. Schüler (2018), Detrending and Financial Cycle Facts Across G7 Countries: Mind a Spurious Medium-Term, ECB Working Paper 2138, shows one of the problems associated with using bandpass filters to analyse financial cycles: the filter can induce "spurious cycles" at the frequencies generally associated with financial cycles or amplify weak cycles in this range.
10 This corresponds to a frequency interval between $\pi/60$ and $\pi/16$.

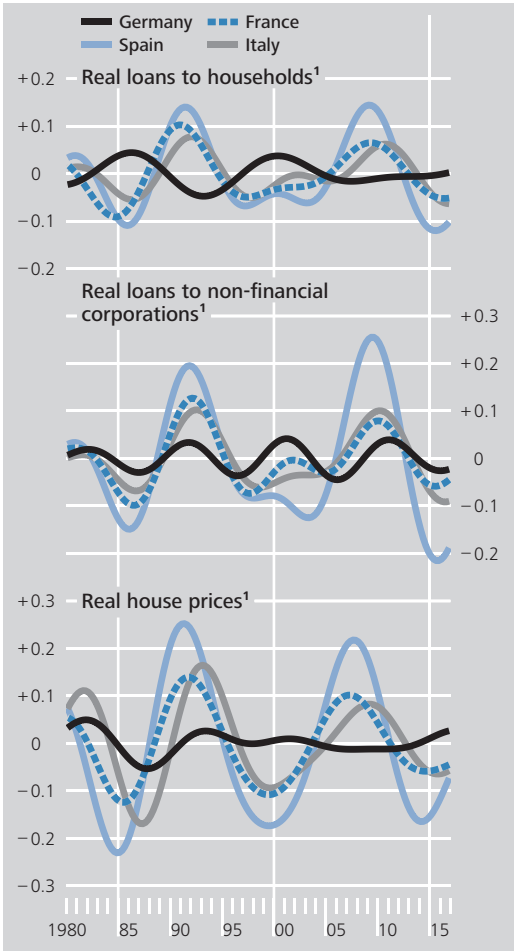
tween eight and 20 years extracted using the popular Christiano-Fitzgerald filter for real loans by monetary financial institutions (MFIs) to households and non-financial corporations, as well as real house prices in Germany, France, Italy and Spain.[23] The chart provides initial indications of cross-country synchronisation of cycles, in particular when it comes to loans to corporations.

Wavelet approach does not require predefined cycle lengths and allows for variation over time

Some other approaches to empirical modelling of the financial cycle do not involve pre-setting relevant cycle lengths and instead determine them on the basis of the data. Given that research on the characteristics of financial cycles is still lagging behind the body of work done on business cycles, it seems prudent to avoid making assumptions about the relevant frequencies as far as possible and to allow the data to "speak for themselves".[24] In this article, methods from wavelet analysis are employed with a view to pinpointing the frequency ranges relevant for financial cycles. This approach does not require pre-specification of cycle length.[25] Instead, the empirical analysis serves to reveal which cycle lengths are responsible for the largest share of the variation in a given time series and for which periodicities there are common cycles with other variables. Moreover, wavelet analysis is a time-varying approach, meaning that it allows for changes in the relevant frequencies over time and does not assume that the characteristics of the financial cycle remain constant over time. The annex beginning on p. 71 provides an overview of the wavelet analysis used here.[26]

Financial cycle components extracted using the bandpass filter*

%, quarterly data



Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * Cycle length: 33 to 80 quarters. Log time series filtered by applying an asymmetric Christiano-Fitzgerald filter with drift adjustment assuming an I(1) process. **1** MFI loans and house prices deflated using the GDP deflator.

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23 MFI loans to households and non-profit institutions serving households, MFI loans to non-financial corporations and house prices. The time series have been deflated using the GDP deflator. The dataset builds on an updated version of the dataset from K. Hubrich at al. (2013), Financial Shocks and the Macroeconomy: Heterogeneities and Non-linearities, Occasional Paper Series, No 143, European Central Bank. For information on the data sources, see Kunovac et al. (2018), op. cit. The credit series constitute actual stocks and not the notional stocks usually used in monetary analysis from which non-transaction-driven changes are removed. It would only be possible to construct notional stocks for the period from 1997 onwards because data on the adjusted changes needed to do so are only available from that point on.

24 See Schüler et al. (2015), op. cit. There is, for instance, empirical evidence to suggest that financial cycles in East Asian economies are much shorter in length than is usually assumed in analyses of financial cycles. See V. Pontines (2017), The Financial Cycles in Four East Asian Economies, Economic Modelling, 65, pp. 51-66.

25 Schüler et al. (2015, 2017), op. cit., take a similar approach. To construct their financial cycle indicator, they select the frequency range in which co-movements in the variables they have chosen are particularly pronounced and develop a new measure for this – power cohesion. Strohsal et al. (2015b), op. cit., use the power spectrum of the time series they analyse to set the frequency range.

26 For analyses of a similar dataset using other empirical approaches see European Commission (2018), op. cit., and Rünstler et al. (2018), op. cit.

Estimation results for the euro area

Analysis for credit and house prices in selected euro area countries

We begin by presenting below an analysis of the cross-country dimension of the euro area financial cycle using data on credit and house prices for selected euro area economies. The investigation is intended to reveal whether, and for which cycle lengths, common – i.e. cross-country – fluctuations can be discovered and whether and how the strength of their synchronicity and their duration have changed over time. The discovery of pronounced synchronised cycles would support the case for centralising or coordinating macroprudential policy. Following on from this, we explore whether there is a relationship between credit or house price cycles and cycles of real economic activity. To what extent are financial cycles to be interpreted as a phenomenon detached from real economic cycles?[27]

The analysis covers the economies of six euro area countries: Belgium, France, Germany, Italy, the Netherlands and Spain.[28] For these countries, relevant data are available as of 1980. However, for reasons of clarity, the results presented are often just those of the four large countries.[29] The examined variables are real loans to non-financial corporations and households, real house prices, and, as a benchmark, real GDP. The nominal time series were deflated using the GDP deflator, i.e. converted into real values, and transformed and standardised into annual growth rates for the wavelet analysis.[30]

Application 1: Are there cross-country financial cycles in loans and house prices in the euro area?

Analysis of cross-country cycles using wavelet cohesion

Indications of the importance of cross-country cycles in lending and house prices are provided by the "wavelet cohesion" of the variables across countries (see the chart on p. 64).[31] This can be understood in simplified terms as a measure of the average pairwise synchronicity of the respective variables across countries, with the weighting of the pairwise results based on the countries' real GDP. More detailed information on the calculation is provided in the Annex. The chart shows the wavelet cohesion for all variables as a function of time (horizontal axis) and cycle length (vertical axis).[32] Cohesion can take on values of between minus one (black) and plus one (full synchronisation, white), i.e. cohesion increases from darker to lighter colours. The black curved lines on the sides mark the area of interpretable results. Cohesion values outside this area should not be interpreted as they are subject to start point and end point problems (see p. 72). The light areas surrounded by black lines in the charts show the time frequency combinations where cohesion is statistically significantly different from zero (at the 10% level).

Cross-country synchronisation of loans to households intensifying over time

Loans to households show cohesion of close to zero, i.e. a relatively weak synchronisation across countries, up to the beginning of the 1990s. Subsequently, the synchronisation of cycles of about four to over six years is significantly more pronounced and cohesion rises to

27 The estimates were produced with a modified version of the ASToolbox for Matlab: https://sites.google.com/site/aguiarconraria/joanasoares-wavelets/ See L. Aguiar-Conraria and M. Soares (2014), The Continuous Wavelet Transform: Moving Beyond Uni- and Bivariate Analysis, Journal of Economic Surveys, 28, pp. 344-375.
28 This is the country selection in Kunovac et al. (2018), op. cit., on which parts of this article draw. The length of the dataset limits the maximum length of the cycles that can be assessed by means of wavelet analysis. For this reason, the analysis only covers euro area countries for which data are available as of at least 1980 for all of the variables examined in the reference paper.
29 Further results can be found in Kunovac et al. (2018), op. cit. For results of a broader selection of EU countries see European Commission (2018), op. cit. and Rünstler et al. (2018), op. cit.
30 See footnote 23 on p. 59.
31 L. Kurowski and K. Rogowicz (2018), op. cit., perform a wavelet analysis in order to examine the international cohesion of output and credit cycles and find indications of an increase in the synchronisation of credit cycles over time.
32 In fact, the vertical axis shows the angular frequency of the cycles, which is standardised between π, the shortest cycle with two observations – i.e. a length of half a year for quarterly data – and zero, the longest cycle of infinite length. However, as maximum cycle lengths are limited by the length of the time series available for the fitting of the wavelet functions, the minimum angular frequency here is limited above zero. The inverse relationship between the angular frequency and the cycle length implies a non-linear scaling of the vertical axis after conversion to the oscillation period.

Analysing the wavelet power spectra of credit aggregates, house prices and real gross domestic product in Germany

This box outlines how the wavelet power spectrum is used to analyse the cyclical characteristics of time series on credit, house prices and real gross domestic product (GDP), as featured in the main text.

In the same way as the power spectrum described in the box on p. 57, the wavelet power spectrum shows the relative importance of various cycle lengths for the variance of a time series. By contrast, however, the level of importance can change over time, making the wavelet power spectrum time-varying.[1] This means that the cycle lengths of the most important time series components can be determined for more in-depth analysis on the basis of the wavelet power spectrum. In addition, it is possible to examine whether and how the length of the cycles of key importance to the time series changes over time. Moreover, the power spectra allow cross-checks to be carried out to determine whether common cross-country cycles derived using different methods are of any major importance to the development of a given time series in a single country.

The chart on p. 62 illustrates the power spectra estimated using the wavelet approach regarding the annual growth rates of loans to households and to non-financial corporations, of house prices and of real GDP for Germany.[2] The value of the power spectrum is colour coded for each combination of cycle length (vertical axis) and time (horizontal axis). Its value increases from black (zero) to white. The black and roughly horizontal lines link the wavelet power spectrum's maxima over time. The black dashed and curved lines denote what is known as the cone of influence. Only results for combinations of time and cycle length between the two lines can be interpreted. The reason for this is that the estimate of the wavelet representation of the time series at each point in time includes both prior as well as future observations. As explained in the Annex on pp. 71ff., the length of this "window" is contingent on the frequency under review and widens as the length of the cycle increases.[3] A sufficient number of observations in both time directions is available only for the estimates of the power spectrum between the two curved lines. As the cycle length increases, the "width of the window" expands and the period for which estimates can be made becomes continuously shorter as a consequence. The results for the combinations of time and cycle length within the cone of influence, i.e. those between the right (left) curved line and the right (left) border of the chart, suffer from start or end point problems and should not be interpreted.[4]

The wavelet power spectra for the variables exhibit considerable differences. Although credit and house prices each contain three dominant cycles, they have differing levels of stability and operate at different cycle

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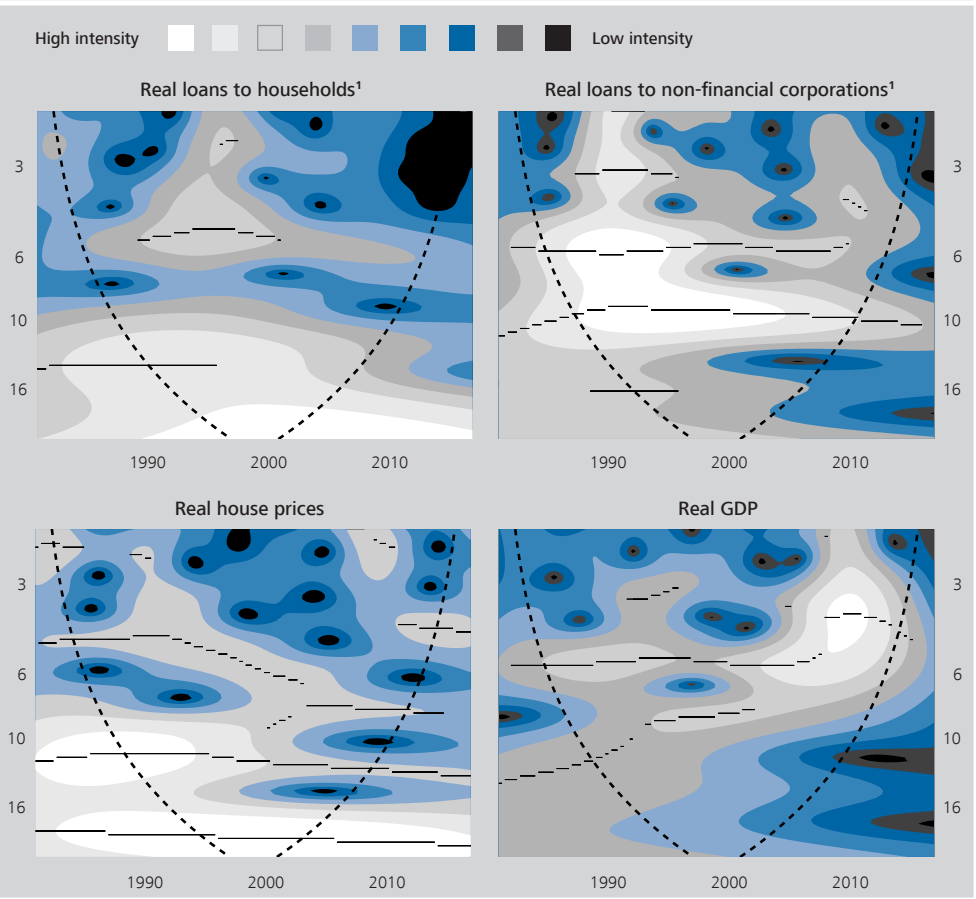
1 See the text in the Annex starting on p. 71.
2 For the data sources, see footnote 23 on p. 59. For a comparison with the wavelet power spectra of the variables in the three other large euro area countries, see M. Scharnagl and M. Mandler (2018), Real and Financial Cycles in Euro Area Economies: Results from Wavelet Analysis, mimeo. For results for the United States, see F. Verona (2016), Time-Frequency Characterization of the U.S. Financial Cycle, Economics Letters, Vol. 144, pp. 75-79. The estimates were produced with a modified version of the ASToolbox for Matlab: https://sites.google.com/site/aguiarconraria/joanasoares-wavelets/ See L. Aguiar-Conraria and M. Soares (2014), The Continuous Wavelet Transform: Moving Beyond Uni- and Bivariate Analysis, Journal of Economic Surveys, Vol. 28, pp. 344-375.
3 This represents the dilation (scaling) of the wavelet.
4 Technically, the power spectrum in these border areas is estimated by reflecting the time series at its start or end points.

Wavelet power spectra for credit, house prices and real GDP in Germany*



Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * Wavelet power spectra calculated from annual growth rates. The horizontal axis shows the time, while the vertical axis shows the oscillation period (in years). The values indicate the relative contribution made by cycles to the variance of the time series for each combination of cycle length and point in time. See the text on p. 72. The thin black lines mark the power spectrum's local maxima over time. The values in the peripheral areas marked by the curved lines suffer from start and end point problems. 1 Deflated using the GDP deflator.

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lengths. In the case of loans to households and house prices, the values for the power spectrum are stable and large in the lowest frequency range, while the values for loans to non-financial corporations are stable and large for cycles with a length of around ten years. For loans to households and house prices, local maxima of the spectrum can also be identified for cycles of between ten and 16 years; however, their importance diminishes over time. The situation is similar for cycle lengths of around five years for loans to non-financial corporations. While the power spectrum for the third and shorter cycle for house prices is relatively stable in terms of value, the cycle length increases over the course of the estimation period. The shorter cycles of loans to households and loans to non-financial corporations (with a duration of five or three years) are only of temporary importance.

In a comparison with credit and house prices, the lower right-hand section of the chart depicts the power spectrum of real GDP, which exhibits two dominant cycles. The first cycle has a length of around six years while the second, longer cycle, which initially has a length of just over ten years, converges towards the first cycle over time.

values that are close to one. A similar development is also apparent for cycles of about ten years in length, albeit with a lag. Overall, the synchronisation between the growth rates of MFI loans to households across the countries under review has increased over time.

Stable cross-border synchronisation of cycles of loans to non-financial corporations over time

For loans to non-financial corporations, the estimation shows stable cohesion of close to one throughout the entire period, both for cycles with a length of between eight and ten years and for those with a length of around 16 years. In the course of the 2000s, the synchronisation intensifies for shorter cycles. This could be due to the likewise increasingly strong synchronisation of real economic cycles (in the lower right-hand section of the chart) in these frequency bands.

Cross-country synchronisation of house price cycles only in a very narrow frequency range

Between the house price cycles of six to 16 years there is a strong synchronisation across countries at the beginning of the estimation period. However, the cycle lengths with relatively high cohesion narrow over time to about 12-14 years in the late 1990s. In this narrower frequency band, cohesion is also statistically significant. Therefore, the results do not point to increasing synchronisation across countries over time for house prices.

Avoidance of a priori specification of frequency ranges beneficial for empirical work

The results for the three variables already show how important it is to avoid an a priori focus on a single frequency range for all variables. For example, the frequencies in which common, cross-country cycles occur differ between variables, and limiting cycle length to eight or more years would, for instance, ignore an important part of the common oscillations in loans to households. The narrowing of the band of cycle lengths with high cohesion in the case of house prices and the increase in cohesion of cycles of loans to households illustrates the advantageousness of wavelet analysis, which can detect this time variability. Indicators based on estimates derived from fixed frequency bands are therefore potentially problematic. This is particularly true if they are used for policy purposes.

For the purpose of comparison, the last part of the chart on p. 64 presents the results of the cohesion analysis for real GDP. Here there is tight synchronisation between the cycles of the individual countries over a wide range of frequencies. A relatively stable synchronisation is seen for cycles of around ten and around 16 years. Moreover, from around 1990 onwards, there is also significant cohesion for shorter cycles, which are usually associated with business cycles. This can be interpreted as evidence of increasing synchronisation between the business cycles of the observed countries over time.

Common cycles of real GDP cover wider frequency ranges than those of loans and house prices

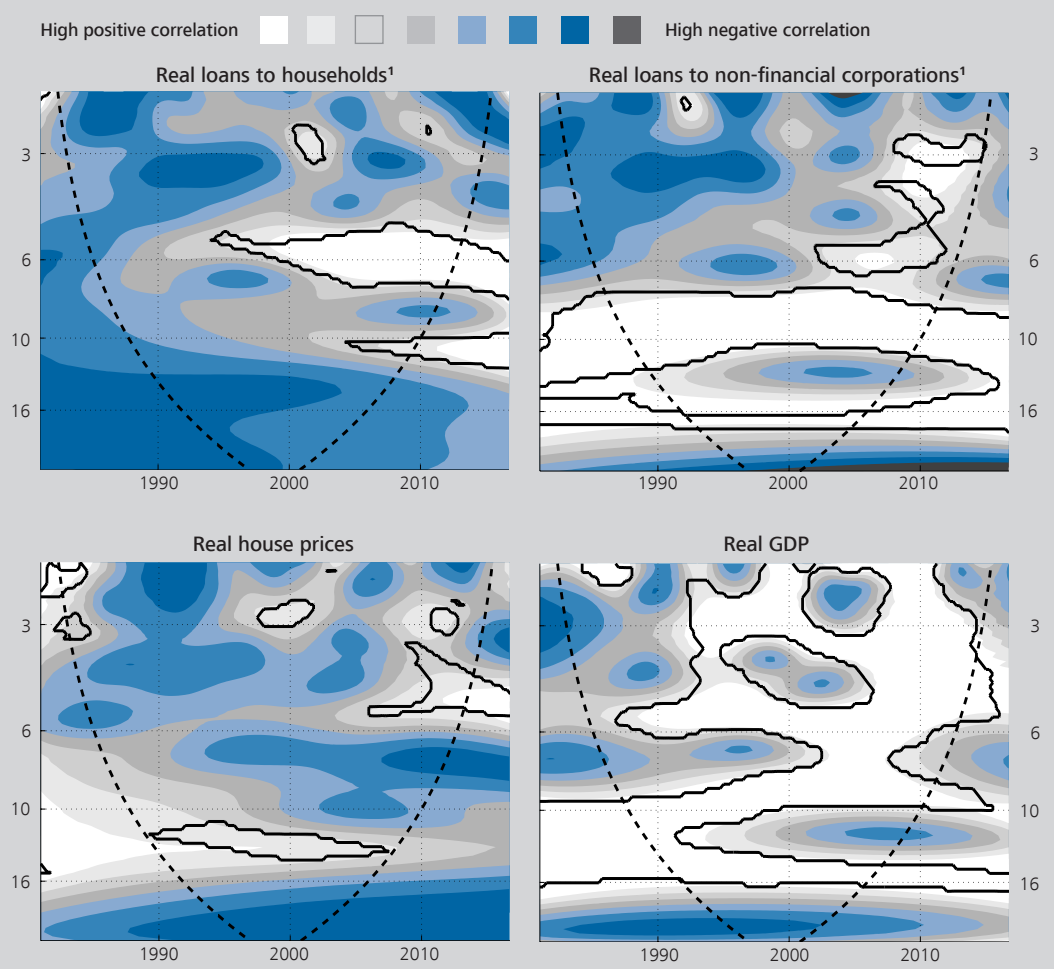
Comparing the results for real GDP with those for the other variables, it is clear that common cycles of real GDP across countries cover a much wider frequency range than common cycles of the other variables. This is particularly true in comparison with house prices, for which common cross-country cycles cover only a narrow band. According to these results, cross-country cycles in the euro area for loans to households and house prices play a smaller role than for real GDP. Across countries, the financial cycle in the euro area for loans to households and house prices is thus less pronounced than the business cycle, meaning that the rationale for a single European macroprudential policy appears less obvious than for a single European monetary policy.

Increase in synchronisation in the second half of the estimation period, except for house prices

The cohesion analysis indicates that the cross-country synchronisation of all the variables considered increased over time, with the exception of house prices. One reason for this could be the start of European monetary union in the middle of the estimation period.

The above analysis relates to the average cross-country synchronisation of the variables' cycles, measured by wavelet cohesion (see p. 74). The analysis focuses on the question of whether the cycles of the variables are synchronised or whether there is a lag between them, i.e. whether there is what is known as a phase shift. Given that Germany has the largest GDP

Wavelet cohesion*



Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * Wavelet cohesion is a measure of the cross-country synchronisation of cycles. See p. 74. Countries: BE, DE, ES, FR, IT, NL. The horizontal axis shows time, while the vertical axis shows the oscillation period (in years). The black lines delineate areas with cohesion significantly different from zero at the 10% level. The values in the peripheral areas marked by the curved lines are subject to start and end point problems. **1** Deflated using the GDP deflator.

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weight in the sample, the degree of synchronisation of the cycles in Germany with those of the other countries has a particularly strong impact on the results of the cohesion analysis as the paired results are weighted according to the real GDP of the two respective countries.

Inversion of the wavelet representation provides filtered time series

The chart on p. 65 provides an impression of the relative positions of the cycles in the annual growth rates of the two credit aggregates and house prices in each country.[33] A distinction is made here between cycles of six to ten years in length and cycles of between ten and 16 years. These frequencies cover the lengths of the most important cycles for each variable.[34] In the chart, each cyclical component is displayed only over periods that are not affected by start and end point problems. For the longer cycles (ten to 16 years), the period for which esti-

33 For selected variables and frequency ranges, the cycles were calculated by inverting the estimated wavelet representation of the time series for certain frequency ranges. In addition, the standardisation of data is reversed. The inversion can be interpreted as a (two-sided) statistical filter which extracts components with the selected cycle lengths from the time series.

34 For Germany, see the results on p. 61f. For the other countries, see M. Scharnagl and M. Mandler (2018), Real and Financial Cycles in Euro Area Economies: Results from Wavelet Analysis, mimeo. For real house prices, cycles with a length of between six and ten years are not shown, as the cohesion analysis did not provide any indication of synchronisation.

mates are available is therefore shorter.[35] In addition to the estimated cycles for the four large countries, the chart also shows the cycles of the aggregate of all six countries, including Belgium and the Netherlands.[36]

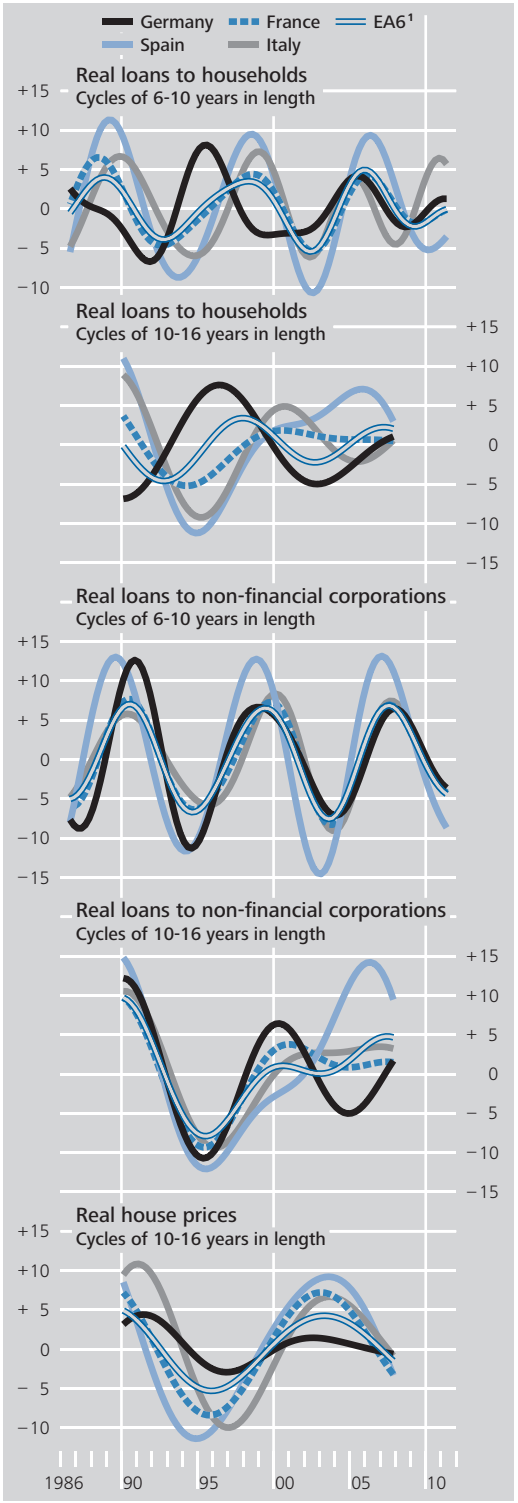
As regards loans to households, it is apparent that the cycles of between ten and 16 years in Germany are substantially out of sync with those of other countries over most of the observation period, which, taken in isolation, reduces cohesion for this variable as shown in the chart on p. 64. While the shorter cycles of six to ten years in Germany are also initially out of sync with those of other countries, over time they increasingly converge towards the cycle of the aggregate, which contributes to the increase in cohesion in this frequency band, as shown in the chart on p. 64.

The chart also shows that, for loans to non-financial corporations, the cycles with a length of six to ten years are relatively strongly synchronised across countries, which is in line with the stable cohesion in this range shown in the chart on p. 64. Cycles in Germany have converged over time towards the average cycle, while the amplitude in Spain has slightly increased. For the longer cycles (ten to 16 years), a high level of synchronisation is apparent at the beginning of the period. However, the cycles later diverge somewhat, especially towards the mid-2000s – with the credit boom in Spain, for example, being clearly visible. That said, at the end of the estimation period, the cyclical components converge once more.

House prices exhibit a relatively high degree of phase synchronisation for oscillations of ten to 16 years, which is reflected in the significant

Filtered annual growth rates from wavelet analysis*

%, quarterly



Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * MFI loans and house prices deflated using the GDP deflator. Selected cyclical components of annual growth rates, calculated through inversion of the estimated wavelet representation. Average values over the given range of cycle lengths. 1 Results for EA6 relate to the sum of real loans in BE, DE, ES, FR, IT and NL or to the real-GDP-weighted average of annual growth rates in real house prices.

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35 As the length of time with interpretable results shrinks as cycle lengths increase, extending the analysis to cover even longer cycles makes little sense, given the length of the time series at hand. It would reduce the period of time for which interpretable results can be estimated and make it virtually impossible for conclusions to be drawn on the time variability of these relations.

36 For house prices, the growth rate of the aggregate is calculated as the mean growth rate of the individual countries weighted by real GDP of the given country.

Standard deviations of the cyclical components*

Item	Time period	Germany	Spain	France	Italy
Real loans to households	6 to 10 years	3.52	6.64	3.33	4.29
	10 to 16 years	4.43	6.20	2.41	4.72
Real loans to non-financial corporations	6 to 10 years	6.28	8.81	4.98	4.91
	10 to 16 years	6.12	8.78	4.83	5.43
Real house prices	6 to 10 years	1.79	8.28	5.17	3.61
	10 to 16 years	2.06	6.99	5.26	6.40
Relative to the standard deviation of GDP					
Real loans to households	6 to 10 years	1.48	2.74	2.10	1.88
	10 to 16 years	2.52	3.94	1.71	3.42
Real loans to non-financial corporations	6 to 10 years	2.64	3.64	3.14	2.15
	10 to 16 years	3.47	5.58	3.43	3.94
Real house prices	6 to 10 years	0.75	3.42	3.26	1.58
	10 to 16 years	1.17	4.44	3.73	4.64

Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * Standard deviations of the cyclical components in the chart on p. 65. The lower part of the table shows the standard deviation relative to the standard deviation of real GDP.

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cohesion in the chart on p. 64. The amplitude of house price cycles is noticeably smaller in Germany than in the other countries.[37]

Amplitude of house price cycles smaller in Germany than in the other countries

The above table shows the standard deviations of the filtered time series for all variables and thus provides information on the average amplitude of the cycles. The amplitude of house price cycles is noticeably smaller in Germany than in the other countries. This also applies to the standard deviation of house price cycles relative to the standard deviation of GDP cycles (lower part of the table). The amplitudes of the cycles of loans to non-financial corporations are greater than those of loans to households in all of the countries. In general, both credit cycles and house price cycles exhibit a larger standard deviation than the GDP cycles:[38] with the exception of house price cycles in Germany, the values in the lower part of the table are all greater than one.

Analysis of the cycles' phase synchronisation across countries supports the results of the cohesion analysis

A more precise assessment of cycles' phase synchronisation across countries is made possible by the chart on p. 67. It shows the average time difference, i.e. the lead or lag in a country's cycle compared to the GDP-weighted average of the cycles of the other countries, for the variables and frequency bands in the chart on p. 65. Positive time differences (vertical axis) represent a lead and negative differences represent a lag.

Consistent with the results of the cohesion analysis, the time differences among cycles of loans to households with a length of between 6 and 10 years are decreasing over time, i.e. the cycles are becoming more synchronised. For the longer cycles of between ten and 16 years, the three other large countries are converging towards the average cycle; Germany, however, has a cycle that is four to five years out of sync over the entire period. Due to Germany's large weight in the calculation of cohesion, this presumably leads to cohesion remaining relatively low, despite the increasing synchronisation of the other countries. The time differences between the cycles of loans to non-financial corporations are for the most part less than one year, corroborating the finding of strong cross-country synchronisation in the cohesion analysis.

37 On the clear deviations of the cycles in Germany from those of the other countries, see Kunovac et al. (2018), op. cit.

38 For similar results, see C. Borio (2014), op. cit., G. Rünstler and M. Vlekke (2018), op. cit., and Rünstler et al. (2018), op. cit. Rünstler et al (2018) document a positive correlation for EU countries between the volatility of credit and house price cycles and the home ownership rate, and a negative correlation with the current account balance.

Clear phase shift of house price cycle in Germany

The estimated time differences for house price cycles point to some convergence over time. However, the time difference of cycles in Germany to the average of the other countries is relatively large until the beginning of the 2000s. The subsequent major change in the phase shift in house price cycles in Germany goes hand in hand with a declining importance of these cycles (see p. 62). This implies rising estimation uncertainty with regard to the time difference, which means that the change in the time difference should be interpreted with caution.

Overall, the analysis of the time differences supports the conclusions based on the measures of cohesion. Cycles of loans to non-financial corporations exhibit relatively stable and tight synchronisation across countries, while the synchronisation of loans to households has increased over time, especially for cycles of between six and ten years in length. As regards the longer cycles of loans to households, the discernible special role of Germany implies that the aggregate measure of cohesion does not sufficiently reflect the link between the cycles of other countries.[39] The time differences of house price cycles point to a slight convergence between countries.

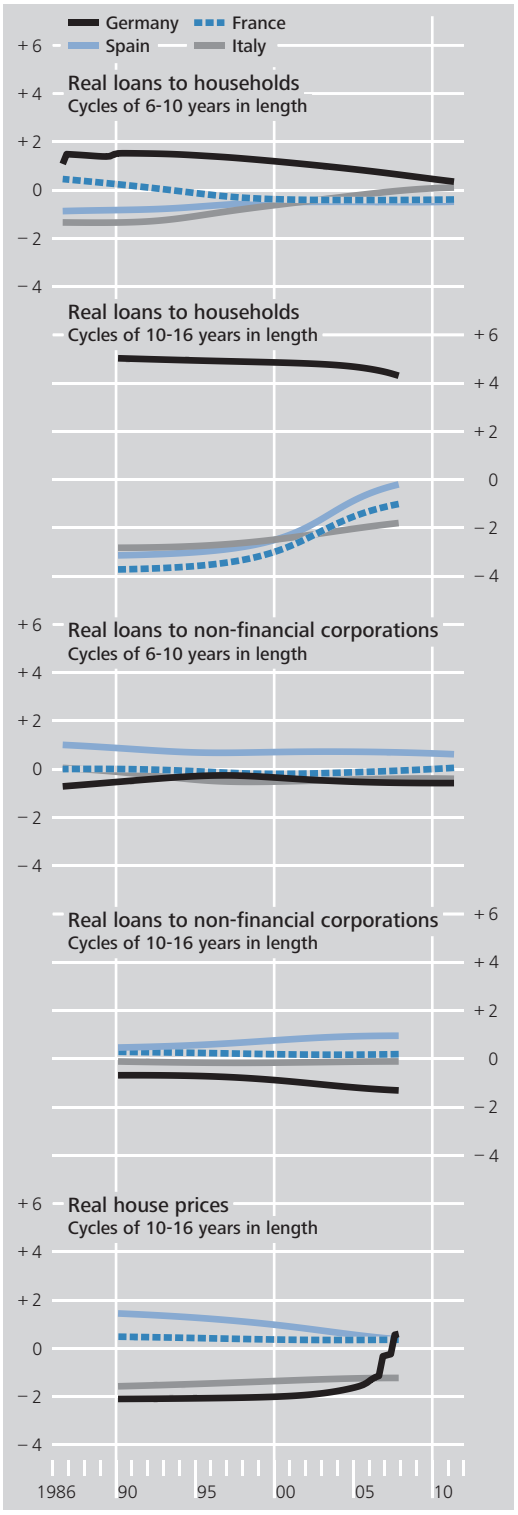
Application 2: Relationship between financial cycles and real economic cycles

What is the relationship between financial cycles and cycles of real economic activity?

The cohesion analysis has shown that the frequency ranges in which there are cross-country cycles of real GDP also encompass frequency ranges in which there are common cycles of credit and house price growth. This also applies internally within countries, as real GDP growth also includes cyclical components of lengths similar to those found in the growth rates of credit and house prices.[40] The chart on p. 68 examines the correlation between real eco-

Time difference to the aggregated cycle of the other countries for selected cycle lengths*

Years, quarterly



Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * MFI loans and house prices deflated using the GDP deflator. Average time differences, calculated for selected ranges of cycle lengths, between the cycle of the variable of the observed country and the GDP-weighted average of the other countries.

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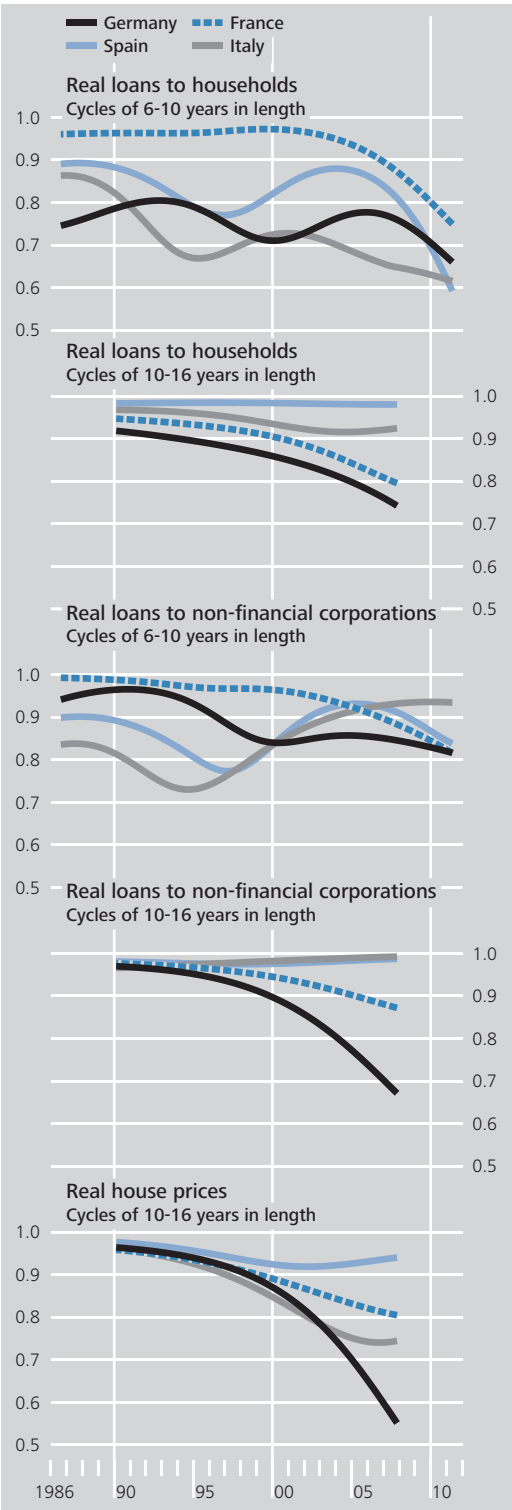
39 Evidence that the German financial cycle is less strongly synchronised with the cycle of the rest of the euro area is also documented in European Commission (2018), op. cit.
40 On these findings, see also M. Scharnagl and M. Mandler (2018), op. cit.

Wavelet coherence between credit aggregates/house prices and real GDP for selected cycle lengths*

%, quarterly



Sources: BIS, ECB, Eurostat, IMF, OECD and Bundesbank calculations. * MFI loans and house prices deflated using the GDP deflator. Wavelet coherence is a measure of the strength of the variables' correlation with real GDP, depending on the point in time and the cycle length. See p. 74. Average values over the given range of cycle lengths.

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nomic cycles and cycles of loans and house prices. It shows the wavelet coherence between the growth rates of the two credit aggregates and house prices, on the one hand, and those of real GDP, on the other. This is a measure of the strength of the local correlation between two time series, depending on time and the cycle lengths considered, and can take values of between zero (no coherence) and one (perfect coherence).[41]

Commonalities between credit and house price cycles and cycles of real GDP

According to the estimates, the cycles of loans to households and loans to non-financial corporations exhibit strong commonality with real GDP cycles. In the case of longer cycles, this is likely to reflect, in particular, the economy's growing demand for funding as activity increases. For Germany, the coherence of the cycles of between ten and 16 years for corporate loans is decreasing over time. However, this result is not very meaningful, as the cycles with the specified duration play only a minor role in the growth rate of corporate loans (see the chart and the text on p. 62).

The coherence between real GDP growth and growth in house prices is stable in Spain and close to one. By contrast, in Italy, but above all in Germany, there is a noticeable decline in coherence. In Germany, the result could reflect, inter alia, the weak growth in real house prices over the 2000s accompanied by a simultaneous acceleration of GDP growth as of 2003.[42]

Within-country dimension of the financial cycle

Further analysis shows that within France, Italy and Spain, the two credit aggregates and house prices are strongly synchronised for cycle lengths of ten years or more. There is therefore another dimension to the financial cycle in these countries, namely common cycles of different variables within a country. As the variables in these frequency ranges are also closely

41 In highly simplified terms, coherence can be compared to the positive root of the R^2 of a regression.
42 See also the cyclical component in the chart on p. 65. In the charts on p. 62, this is reflected in the much higher reduction in the power spectrum of real GDP in the given frequency range compared to house prices.

correlated with real GDP cycles, it can be concluded that cycles in real economic activity and financial cycles are potentially interdependent phenomena. In Germany, however, there is no similar synchronisation of cycles of loans and house prices, which means that from the point of view of this analysis, there is no pronounced evidence of a financial cycle in Germany in terms of a synchronisation of loans and house prices.

Assessment and outlook

Descriptive analytical results should not be interpreted as causal relationships

The empirical results for the euro area presented above show correlations between variables within individual countries and across countries, but do not allow any direct conclusions to be drawn with regard to the causalities. Structural models are needed to infer causal relationships, for example between real economic cycles and financial cycles, to identify the causes of such cycles and to derive policy recommendations. The stylised facts obtained from this analysis and other empirical studies thus serve as a reference point for structural model analyses, which means that structural models should be able to reproduce the key characteristics of financial cycles in the data and their interaction with real economic cycles.[43]

Cross-country cycles less important for loans and house prices than for economic activity

The main empirical findings of the analysis presented are as follows:

- There are indications of cross-country cycles in the growth of credit aggregates and house prices.

- However, common cross-country cycles of these variables are less pronounced than those of real economic activity. This suggests that country-specific cycles are of considerable importance for credit growth, particularly for loans to households, and for house price dynamics. Indeed, there are significant fluctuations in the variables at country level that are not covered by the cycle lengths of the identified common cycles.

- In comparison, coverage for cycles of real GDP is much greater, i.e. the common euro area business cycle is more important for GDP growth in the Member States than the common financial cycle is for growth in loans and house prices.

- The cycles of loans to households and of house prices in Germany differ significantly from those in the other countries.[44] Furthermore, additional analyses do not provide strong evidence of common cycles for loans or property prices in Germany.

These results have implications for the proper orientation of macroprudential policy. In the euro area, responsibility for the use of macroprudential policy measures, such as the countercyclical capital buffer, is generally assigned at the national level. At the same time, macroprudential policy is embedded in an international framework of rules. An understanding of the synchronisation between national financial cycles is therefore essential for successful coordination at the European and global level. The orientation of macroprudential policy in the euro area to country-specific developments is supported by the empirical findings presented above.

Financial cycles and real economic cycles as interrelated phenomena

Another important finding is that credit growth, house price inflation and real GDP growth in the countries under review exhibit common medium-term fluctuations. It can therefore be concluded that financial cycles and real eco-

43 With dynamic general equilibrium models (DSGE models), which are often used for policy analysis, this is currently possible only to a limited extent; see Rünstler et al. (2018), op. cit.

44 See also B. Meller and N. Metiu (2017), op. cit., Schüler et al. (2017), op. cit., and Kunovac et al. (2018), op. cit. The empirical methodology, however, does not yield results concerning the causes of these deviations. G. Rünstler and M. Vlekke (2018), op. cit, and Rünstler et al. (2018), op. cit., draw a connection between the lower amplitude of credit and property price cycles in Germany compared to other countries and a lower share of home ownership.

nomic cycles should not be regarded as independent phenomena. However, the results do not allow any conclusions to be drawn on the direction of causality, i.e. whether these common cycles are caused predominantly by real economic or financial factors, or both. It is therefore likely that measures that aim to increase the resilience of the financial system to systemic risks are also likely to have a real economic impact.[45] In this case, there can also be interactions between macroprudential policy and monetary policy.[46] In the long term, macroprudential policies reinforce the framework conditions for a stability-oriented monetary policy by setting the right incentives and ensuring sufficient resilience in the financial sector. Macroprudential policy should therefore be consistently focused on financial stability and should not be reinterpreted as a tool for demand-side management at the national level.[47]

Problem of estimating the financial cycle in real time

Macroprudential policy has a number of instruments to counteract systemic risks from excessive credit and asset price booms. The use of these instruments requires indicators which allow for a timely assessment of the risk situation and which should therefore be available with as little delay as possible. These indicators, such as the credit-to-GDP gap or the early warning indicator for systemic financial crises used at the Bundesbank,[48] build on the results of empirical studies on financial cycles.[49] However, it should also be noted that, because they are estimated metrics, financial cycle indicators are inherently uncertain, especially if they are identified in real time in order to support policy decisions and are intended to provide an estimate that is as up to date as possible.[50] Studies show that uncertainty in real-time estimates of financial cycles is of a comparable order of magnitude, in relation to cycle amplitude, to that in estimates of the business cycle or the output gap.[51] The design of appropriate indicators therefore presents a similar challenge to estimating the macroeconomic output gap.

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45 See S. Eickmeier, B. Kolb and E. Prieto (2018), Tighter bank capital requirements do not reduce lending long term, Deutsche Bundesbank Research Brief No 22, November 2018.

46 While price and financial stability are interdependent in the long term, there can be short to medium-term trade-offs between the two. For example, macroprudential instruments to mitigate risks in the financial system can counteract monetary policy objectives in the short to medium term, and monetary policy measures, such as via the risk-taking channel, can temporarily put a strain on financial stability. For a detailed analysis of the relationship between macroprudential policy and monetary policy, see Deutsche Bundesbank, The importance of macroprudential policy for monetary policy, Monthly Report, March 2015, pp. 39-71.

47 See C. Buch (2014), Alter Wein in neuen Schläuchen? Die Ziele makroprudenzieller Regulierung, speech at the Banken- und Unternehmensabend event which took place at the Bundesbank's Regional Office in Bavaria, and Deutsche Bundesbank (2015) op. cit.

48 See Deutsche Bundesbank, Financial Stability Review 2018.

49 For example, M. Drehmann and K. Tsatsaronis (2014), The Credit-to-GDP Gap and Countercyclical Capital Buffers: Questions and Answers, BIS Quarterly Review, March, pp. 55-73.

50 The uncertainty regarding real time estimates of financial cycles has multiple components. The first is the general estimation or parameter uncertainty associated with any econometric estimation. Where filtering techniques are used, another component is filter uncertainty resulting from the absence of future observations at or near the current end of the data. In the wavelet estimates, this problem is reflected in the non-interpretability of the border regions. This problem can be partially circumvented by using a one-sided filter or by extending the data with forecasts. However, both of these approaches lead to increased uncertainty of the estimation results at the current end. Furthermore, data revisions may mean that estimates of the financial cycle turn out to be incorrect ex post. The uncertainty of real-time estimates has been discussed in the past mainly for estimates of the output gap, i.e. deviation of actual real GDP from equilibrium or potential output, or for estimates of the unemployment gap, i.e. the deviation of the unemployment rate from the natural rate of unemployment. See, for example, A. Orphanides and S. van Norden (2003), The Unreliability of Output Gap Estimates in Real Time, The Review of Economics and Statistics, 85, pp. 569-583; and A. Basistha and R. Startz (2007), Measuring the NAIRU with Reduced Uncertainty: A Multiple-Indicator-Common-Cycle Approach, The Review of Economics and Statistics, 90, pp. 805-811.

51 For more information see G. Rünstler and M. Vlekke (2018), op. cit., and Rünstler et al. (2018), op. cit. These studies take into account parameter and filter uncertainty, but not data revisions. The results suggest that multivariate structural time series models are associated with lower uncertainty for real time estimates than univariate filtering approaches.

Annex

An introduction to wavelet analysis

Wavelet analysis is a tool for analysing time series within the frequency domain.[52] It represents a refinement of spectral analysis to cover non-stationary time series, which are common in economic applications. While the conventional spectral analysis, which is based on the Fourier transform, works on the assumption that the importance for the variance of the time series of certain cycle lengths remains constant over time, the spectrum of the time series being constant, wavelet analysis allows for the spectrum to change over time. Accordingly, the same applies to multivariate analyses. Wavelet analysis is therefore also suitable for studying changes in the relationship between multiple time series over time. Typically, variables containing trends are transformed into annual growth rates before applying the wavelet analysis.

Unlike Fourier analysis, which is based on cycles with infinite support, wavelet analysis uses local base functions with finite support. The maximum length of cycles which can be examined is limited by the number of observations, i.e. the length of the underlying time series. A distinction is made between the discrete wavelet transform (DWT) and the continuous wavelet transform (CWT). The discussion below will be confined to the CWT.[53] A wavelet (mother wavelet) $\psi_{\tau,s}$ is characterised as a small wave as opposed to a sine function, which is a large wave

$$\psi_{\tau,s}(t) = \frac{1}{\sqrt{|s|}}\psi\left(\frac{t-\tau}{s}\right),$$

where s is the scale and τ the localisation in time. A wavelet, in other words a wave function, must be different from zero within a certain range, i.e. it must exhibit both positive and negative elements (wave-like behaviour); at the same time, it must tend towards zero outside this range, otherwise it would not have finite support. The mother wavelet ψ can be compressed or stretched and shifted across the time axis in order to capture waves of different cycle lengths and at different points in time. In order to analyse longer cycles, the wavelet is stretched, whereas it is compressed to analyse shorter cycles. The larger the scaling parameter s, the more ψ is stretched and vice versa. As a consequence, wavelet analysis works with frequency-dependent window lengths, which means that more data points are included in estimations for longer cycles than for shorter ones.[54]

In the context of the CWT, a specific wavelet function, known as the Morlet wavelet,[55] which possesses certain desirable characteristics, is used very frequently. The Morlet wavelet is defined as:

$$\psi_{\omega_0}(t) = \pi^{-1/4}\left(e^{i\omega_0 t} - e^{-\frac{1}{2}\omega_0^2}\right)e^{-t^2/2}.$$

The second term in brackets is negligible for $\omega_0 > 5$ and is disregarded in the following, implying that:

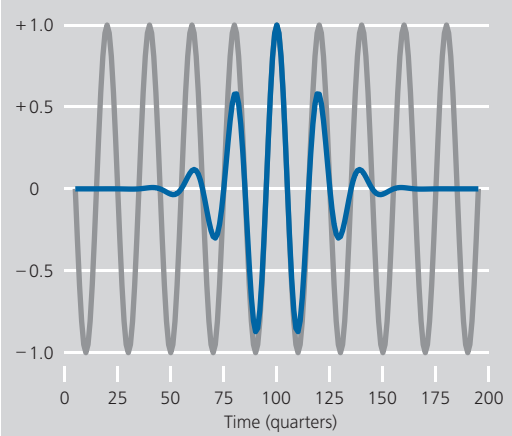
$$\psi_{\omega_0}(t) = \pi^{-1/4}e^{i\omega_0 t}e^{-t^2/2}.$$

The first term is a normalisation factor, the second term a complex sine curve, and the last term the Gaussian bell curve. An optimal time-frequency localisation for the decomposition of a time series is obtained for $\omega_0 = 6$. In addition, this value implies a direct relationship between scale and frequency $(\omega \approx 1/s)$.

The Morlet wavelet, with $\omega_0 = 6$, is shown in the chart on p. 72. It can be described as a complex sine wave modulated by a Gaussian function, which means that the wavelet is, at the centre, equivalent to a complex sine wave. Closer to the borders, there is a steady decrease in oscillation, ultimately converging towards the value of zero. The chart depicts the

52 For information on the frequency representation of time series, see the box on pp. 56 ff. For an introduction to wavelet analysis, see, for example, A. Rua (2012), Wavelets in Economics, Economic Bulletin, Banco de Portugal, Summer, pp. 71-79; or L. Aguiar-Conraria and M. Soares (2014), The Continuous Wavelet Transform: Moving Beyond Uni- and Bivariate Analysis, Journal of Economic Surveys, Vol. 28, pp. 344-375.
53 Unlike the CWT, the DWT only stretches or shifts wavelets by discrete numerical values. In the extreme case of the dyadic approach, a factor of two is applied in the stretching process.
54 In conventional spectral analysis, time variation can be taken into account through what is referred to as a windowed Fourier transform. The calculation of the spectrum does not include the entire time series, but instead only observations within a window of fixed length, which is shifted along the time axis. Adjusting the window length in the wavelet analysis in accordance with the frequency leads, by comparison, to a higher resolution for low frequencies in the frequency dimension, and for short cycles in the time dimension; see A. Rua (2012), op. cit.
55 Morlet wavelets were first introduced in P. Goupillaud, A. Grossman and J. Morlet (1984), Cycle-Octave and Related Transforms in Seismic Signal Analysis, Geoexploration, Vol. 23, pp. 85-102.

Morlet wavelet versus cosine wave*



* Cycle lengths of 20 quarters.
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comparison of the real part of the Morlet wavelet, with $\omega_0 = 6$, with a cosine wave spanning a cycle length of twenty quarters.[56]

The upper chart on p. 73 shows how, once the Morlet wavelet is substituted in the first equation, the wavelet function can be stretched or – as in the example – compressed by changing s and shifted across time by changing τ. The left side of the chart illustrates how the Morlet wavelet is scaled to adjust to higher frequencies. The right side illustrates the shift of the Morlet wavelet across the time axis.

The CWT of a time series is obtained by projecting the time series $x(t)$ onto the wavelet function ψ[57]

$$W_x(\tau, s) = \int x(t) \frac{1}{\sqrt{|s|}} \psi^* \left(\frac{t-\tau}{s} \right) dt,$$

where * denotes the complex conjugate wavelet function. The transform is calculated for all combinations of scales s and points in time t. It measures the correlation between the time series $x(t)$ and the wavelet in question. The more the two resemble each other, the higher the value of $W_x(\tau,s)$.

The wavelet power spectrum (WPS) represents the relative contribution made by the various cycles to the total variance of the time series for each scale and point in time. It is defined as:

$$WPS_x(\tau, s) = |W_x(\tau, s)|^2.$$

The higher the value of the power spectrum, the more important the fluctuations are in the corresponding frequency range at the relevant point in time.

For the purposes of illustration, the bottom chart on p. 73 shows a simulated time series containing a structural break in period 50, after which the cycle length changes from four to eight years. The estimated power spectrum based on the Fourier transform, which does not allow for time variation, captures both cycles. It is not clear, however, whether the two cycles move simultaneously across the entire period or whether a change has taken place over time. The WPS can provide information on the matter.[58] It is depicted as a heatmap with power spectrum values increasing from dark to light colours. The curved lines mark the boundaries of what is referred to as the cone of influence. The number of observations close to the borders is insufficient to accurately calculate the wavelet coefficients, due to which only the results within the two lines should be interpreted. The black and largely horizontal lines show the key cycle lengths (local maxima of the WPS). It is discernible that a structural break occurred midway through the observation period.

The interaction between two time series $x(t)$ and $y(t)$ can be analysed by means of the cross-wavelet transform

$$W_{xy}(\tau, s) = W_x(\tau, s) W_y^*(\tau, s).$$

Given that the Morlet wavelet is complex, the cross-wavelet transform, too, exhibits complex values.

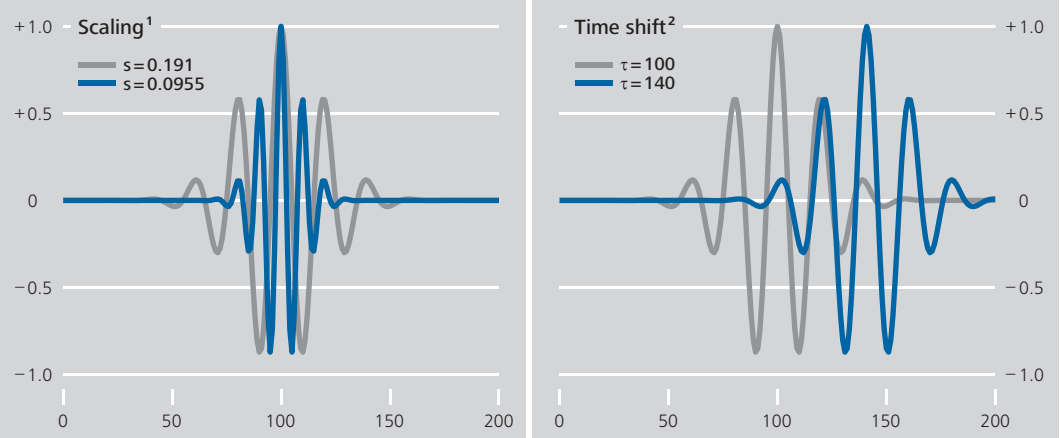
This allows phase shifts and phase differences between two time series, i.e. lead-lag relationships, to be analysed. The phase angle of a time series is defined as:

$$\varphi_x(\tau, s) = \tan^{-1} \left[\frac{\mathfrak{I}\{W_x(\tau, s)\}}{\mathfrak{R}\{W_x(\tau, s)\}} \right],$$

where $\mathfrak{R}\{W_x\}$ is the real and $\mathfrak{I}\{W_x\}$ is the imaginary part of the wavelet transform W_x. The phase angle indicates the oscillation position of the time series for a specific time-frequency combination. In

56 The real part of the Morlet wavelet is a cosine function (Euler's formula).
57 See L. Aguiar-Conraria and M. Soares (2014), op. cit.
58 The estimates of the WPS were produced using a modified version of the ASToolbox for Matlab: https://sites.google.com/site/aguiarconraria/joanasoares-wavelets/ See L. Aguiar-Conraria and M. Soares (2014), op. cit.

Scaling and time shift of the Morlet wavelet



1 Scaling to adjust the Morlet wavelet to higher frequencies. **2** Shift of the Morlet wavelet along the time axis.
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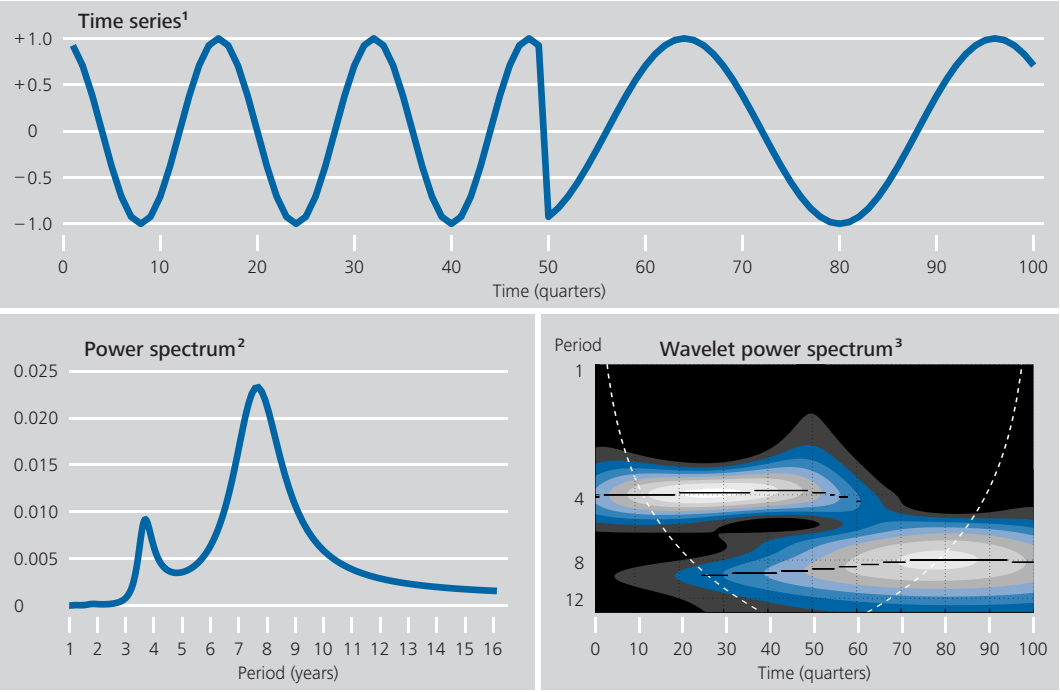
A comparison of spectral and wavelet analysis



1 Simulated time series with cycles having a length of four years up until period 50, thereafter having a length of eight years. **2** Power spectrum does not reflect time variation. **3** The horizontal axis shows the time, while the vertical axis shows the oscillation period. The thin black lines represent local maxima of the power spectrum over time, while the curved white lines depict the cone of influence. The values of the wavelet power spectrum increase from dark to light colours.
Deutsche Bundesbank

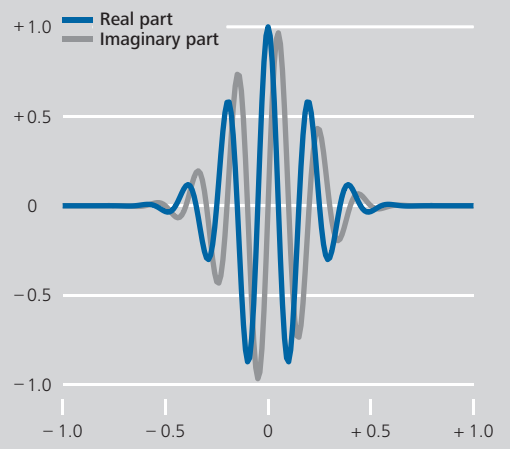
the bivariate case, the corresponding information from the cross-wavelet transform is examined:

$$\varphi_{xy}(\tau, s) = \tan^{-1}\left[\frac{\Im\{\mathrm{W}_{xy}(\tau, s)\}}{\Re\{\mathrm{W}_{xy}(\tau, s)\}}\right].$$

$\varphi_{xy}(\tau,s)$ denotes the phase difference. In the case of $\varphi_{xy} \in (0,\pi)$, time series $x(t)$ leads $y(t)$. For a given frequency $\omega(s)$, the phase difference can be converted into the corresponding time difference

$$\Delta_{xy}^{T} = \frac{\varphi_{xy}}{\omega(s)}.$$

Real and imaginary parts



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Coherence can be interpreted as a local correlation between two time series. It is defined as:

$$\mathrm{R}_{xy}(\tau, s) = \frac{|\mathrm{W}_{xy}(\tau, s)|}{\sqrt{|\mathrm{W}_{x}(\tau, s)|^2}\sqrt{|\mathrm{W}_{y}(\tau, s)|^2}}.$$

A measure of the strength of common cycles pertaining to multiple time series is cohesion. This is a weighted average of all pairwise combinations of the dynamic correlation[59]

$$\mathrm{coh}(\tau, s) = \frac{\sum_{i \neq j} w_i w_j \rho_{xy}(\tau, s)}{\sum_{i \neq j} w_i w_j}.$$

w_{i} and w_{j} represent the weights of time series $\mathrm{x}(t)$ and $\mathrm{y}(t)$.[60] The dynamic correlation is defined as:

$$\rho_{xy}(\tau, s) = \frac{\Re\left(\mathrm{W}_{xy}(\tau, s)\right)}{\sqrt{|\mathrm{W}_{x}(\tau, s)|^2}\sqrt{|\mathrm{W}_{y}(\tau, s)|^2}},$$

where $\Re$ denotes the real part of the cross-wavelet transform W_{xy}.[61]

The statistical significance of coherence or cohesion is tested by means of a parametric bootstrap procedure.[62] For each time series, a certain number of artificial time series are simulated on the basis of univariate ARMA models. The corresponding null hypothesis assumes that the time series are not correlated with one another. The test is based on the simulated distribution of coherence and cohesion under the null hypothesis.

59 See A. Rua and A. Silva Lopes (2015), Cohesion Within the Euro Area and the US: A Wavelet-Based View, OECD Journal: Journal of Business Cycle Measurement and Analysis, 2014/2, pp. 63-76.
60 In the application in the main text, countries' real GDP is used for weighting purposes.
61 See A. Rua (2010), Measuring Comovement in the Time-Frequency Space, Journal of Macroeconomics, Vol. 32, pp. 685-691.
62 See B. Cazelles, M. Chavez, D. Berteaux, F. Menard, J. Vik, S. Jenouvrier and N. Stenseth (2008), Wavelet Analysis of Ecological Tme Series, Oecologia, Vol. 156 (2), pp. 287-304.

IFRS 9 from the perspective of banking supervision

Since the beginning of the 2018 financial year, publicly traded credit institutions in the EU have been required to apply the new International Financial Reporting Standard (IFRS) 9 when accounting for financial instruments in their consolidated financial statements. IFRS 9 was developed in response to G20 criticism about accounting standards during the course of the financial crisis, which singled out the late and insufficient recognition of loss allowances ("too little, too late"). In contrast to the incurred loss approach under the previous International Accounting Standard (IAS) 39, IFRS 9 now requires preparers to account for expected credit losses.

Implementation of the new impairment model is changing the way in which credit institutions that prepare their financial statements in conformity with IFRSs draw up their accounts. Furthermore, in some cases, they can now exercise considerable discretion when calculating their expected credit losses. How banks utilise this discretion is also a topic that concerns banking supervisors, who have a vested interest in timely and appropriate provisioning and in balance sheets that enable credit institutions to be assessed on as level a playing field as possible.

At the transition date, German institutions saw a moderate rise in their loss allowances of just under 6% on average as well as a decline in their Common Equity Tier 1 (CET1) capital ratios of 11 basis points. It will only be possible to gauge whether any adjustments to the regulatory treatment of accounting loss allowances will be needed in the long term once robust data are forthcoming. German institutions have so far not made use of the transitional arrangements allowing them to phase in the impact of IFRS 9 on regulatory capital.

There is generally no need to amend the relevant accounting rules set forth in the German Commercial Code (HGB), as this set of rules already implicitly contains the option of taking into account forward-looking components in the form of the principle of prudence as well as the concept of setting aside general loss allowances.

Introduction

IFRS 9 as a response to the financial crisis

The international accounting standards for financial instruments attracted mounting criticism as the global financial crisis unfolded. A majority view emerged that if impairments had been accounted for earlier, it might have been possible to dampen cyclical moves in the crisis.[1] The recognition of loss allowances on financial assets in conformity with the existing accounting standards at that time, meanwhile, was described by many as "too little, too late". Additional criticism was sparked by the variety of permissible measurement methods, which gave the accounting framework a reputation for being too complex and having little basis in principle. This was the background against which the G20 heads of state and government, in analysing and learning from the financial crisis, called for a reform of the accounting standards, amongst other things, in April 2009.[2]

Following intensive deliberations and consultations, the International Accounting Standards Board (IASB) ultimately responded to the G20's call to action on 24 July 2014 by publishing IFRS 9 as the new standard for accounting for financial instruments. The most significant innovation is the introduction of the expected credit loss (ECL) model when recognising loss allowances, which aims to promote the earlier recognition of credit risk. Another change introduced a principles-based approach to classifying and measuring financial assets in an effort to reduce the number of measurement methods and make financial reporting more comprehensible. Lastly, in the area of hedge accounting, the IASB made adjustments to align financial reporting more closely with risk management practice.

Highly relevant to credit institutions and supervisory authorities

The new IFRS 9 standard was endorsed by the EU in November 2016 through Commission Regulation (EU) 2016/2067, and its application became mandatory on 1 January 2018 for all publicly traded entities when accounting for financial instruments in their consolidated financial statements. Since both securities and loans are considered to be financial instruments for the purposes of IFRS 9, it is highly relevant for the accounting of credit institutions.

The annual and consolidated financial statements of credit institutions and external auditors' reports on these financial statements are some of the most important sources of information for the Bundesbank in performing its mandate to contribute to preserving the stability of the banking system. Supervisors use the information contained in annual and consolidated financial statements, and in the supervisory reporting based on them, to assess the risk situation as part of the ongoing supervision of credit institutions. Furthermore, the carrying amounts reported by institutions form the basis for determining the adequacy of their regulatory capital. It is therefore in the interest of supervisors that credit institutions recognise existing risks in a timely manner and take proper consideration of them in their accounts. For this reason, the Bundesbank, like other central banks and supervisory authorities, closely followed the development and implementation of IFRS 9. The objective was to gain a thorough grasp of the impact of the new standard and to work towards ensuring that its implementation does indeed address the G20's points of criticism and contribute to the stability of the banking system.

Key requirements of IFRS 9

To push the development of the new accounting standard ahead as quickly as possible, the IASB divided work on IFRS 9 into three project phases. Phase 1 revised the rules for recognising and measuring financial instruments, phase 2 introduced an overhauled impairment

1 See Financial Stability Forum (2009), Report of the Financial Stability Forum on Addressing Procyclicality in the Financial System, p. 4. Available at http://www.fsb.org/wp-content/uploads/r_0904a.pdf
2 See G20 (2009), Declaration on Strengthening the Financial System, London summit. Available at http://www.g20.utoronto.ca/2009/2009ifi.pdf

model, and phase 3 was dedicated to hedge accounting.

Recognition and measurement of financial instruments

Principles-based approach to classification and measurement

The oft-criticised complexity of the accounting standards, with the patchwork of measurement methods and associated rules, should be reduced under IFRS 9 by way of a principles-based approach that sets forth two central criteria for classifying financial assets (IFRS 9.4.1.1): first, the type of business model for managing the financial assets, and second, the contractual cash flow characteristics of the financial assets. This is based on the notion that, for users of financial statements, the usefulness of the information provided by the various measurement methods depends on the manner in which an entity generates revenue using its assets. Representatives from credit institutions, especially, argued that the accounting standards ought to take account of cases in which financial instruments are held, for example, with the aim of collecting interest payments that are fixed when the contract is concluded. In such cases, they claimed, it was questionable whether fair value accounting, for example, provided users with relevant information.

As a result, IFRS 9 continues to classify financial assets in a number of measurement categories in which different methodologies are used to determine their carrying amounts ("mixed attribute approach"). The main change is that, in principle, only the two classification criteria mentioned above are to be assessed.

Traditional lending business classified in "Amortised cost" category

Where financial assets are held in order to collect their contractual cash flows and these are solely payments of principal and interest, they are to be assigned to category (1) "Amortised cost (AC)". IFRS 9 mentions a basic lending arrangement as one example of this type of financial instrument. For this reason, credit institutions' traditional lending business typically falls under this measurement category.

New classification rules for financial assets

Business model/cash flows	Measurement category
(1) Collection of contractual cash flows that are solely payments of principal and interest	Amortised cost (AC)
(2) Both collection of contractual cash flows that are solely payments of principal and interest as well as sales are integral to the business model	Fair value through other comprehensive income (FVOCI – with recycling)[1]
(3) Equity instruments not held for trading (optional category)	Fair value through other comprehensive income (FVOCI – without recycling)[1]
(4) Mainly trading and/or contractual cash flows that are not solely payments of principal and interest	Fair value through profit or loss (FVPL)

1 "Recycling" refers to the reclassification of the fair value gain or loss from other comprehensive income to profit or loss when a financial instrument is derecognised.

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"Fair value through other comprehensive income" category relevant to liquidity reserves

If, alongside the collection of contractual cash flows, the sale of financial assets with corresponding cash flow characteristics is also an integral part of an entity's business model, the financial assets are to be categorised under (2) "Fair value through other comprehensive income (FVOCI) – with recycling". In addition, since the contractual cash flows from the assets in this category are solely payments of principal and interest, interest revenue calculated using the effective interest method is recognised in profit or loss. Securities held in the liquidity reserve, for example, can be allocated to this category.

Option for strategic investments

As a general rule, equity instruments cannot be assigned to categories (1) "Amortised cost" or (2) "FVOCI – with recycling" as their cash flows, by definition, are not payments of principal and interest. For equity instruments not held for trading, however, IFRS 9 does offer entities the option of assigning them to category (3) "Fair value through other comprehensive income

(FVOCI) – without recycling". The IASB has said that it added this option because users of financial statements assess the fair value changes of equity instruments differently depending, for example, on whether the instruments are intended to serve as a strategic investment or to generate short-term gains. By presenting fair value gains and losses separately in other comprehensive income (OCI), it should therefore be easier to assess changes in the fair value of equity investments not held for trading. Recycling of fair value gains and losses into profit or loss is prohibited as, according to the IASB, this would create the need to routinely assess these equity investments for impairment, and it was precisely the impairment rules for equity instruments that had been criticised during the financial crisis for being subjective. The IASB has opted to proceed pragmatically on this score.

FVPL as a residual category

The residual measurement category under IFRS 9 is category (4) "Fair value through profit or loss (FVPL)". At the onset of the debate regarding overhauling the accounting standards, the IASB still held the opinion that fair value was the only measurement attribute that was appropriate for all types of financial instruments. However, there was opposition to expanding fair value accounting, including from the Basel Committee on Banking Supervision, which argued that a large proportion of business is not managed on the basis of fair value, especially among smaller credit institutions. As a compromise, IFRS 9 therefore contains provisions to identify assets for which relevant and useful information can be obtained by measuring them using the effective interest method. The only assets to be recognised at fair value through profit or loss (FVPL) are those which cannot be assigned to any of the other categories (1 to 3) due to the entity's business model and/or the characteristics of their cash flows. One example of this is financial assets held for trading, which, by definition, also include derivatives.

Fair value option remains

Besides classifying financial assets based on the two criteria mentioned above, IFRS 9 retains the option of designating financial assets upon initial recognition as measured at fair value through profit or loss if doing so would eliminate or significantly reduce an accounting mismatch. By contrast, the IASB concluded that the fair value option was unnecessary for financial assets managed on a fair value basis or for those with embedded derivatives because IFRS 9 requires these assets to be assigned to category (4) "Fair value through profit or loss (FVPL)".

Minimal changes in liabilities accounting

IFRS 9 does not include any principles comparable to those for financial assets for the classification of financial liabilities. Instead, the previous accounting rules were left largely unchanged, with the result that measurement at amortised cost is the default (IFRS 9.4.2.1). Liabilities held for trading, including all derivative liabilities and liabilities for which the fair value option is exercised, are subject to FVPL accounting. Concerning the fair value option, IFRS 9 introduced the requirement to present in OCI the amount of change in the fair value of a financial liability that is attributable to the change in the reporting entity's own credit risk.

Welcome new concept

In summary, while IFRS 9 does not reduce the number of accounting methods for financial instruments in any great way, its principles-based approach to classifying assets does introduce a stringent concept which replaces much of the complex and unclear rules-based requirements that were in place previously. From the perspective of banking supervision, clear and consistent implementation of this new concept is vital, since classification determines how the risks arising from financial assets affect the balance sheet. In category (1) "Amortised cost", impairments of financial assets are only recognised if they are the result of credit risk. Changes in value caused by market risk, by contrast, continue to be disregarded.[3] Market risk is, however, relevant when financial instruments are leveraged or to be sold, which can

3 While foreign exchange rate risk is one type of market risk, it is not covered in this article.

expose the expected cash flows to negative factors. These financial instruments are therefore excluded from amortised cost accounting. Impairments resulting from credit risk are recognised according to the impairment requirements described below.

Loss allowances based on expected credit losses

ECL model for impairment

Under IFRS 9, loss allowances are established on the basis of a model that recognises expected credit losses (ECL model). The ECL model differs fundamentally from previous practice under IAS 39, where the incurred loss approach only required allowances to be recognised after a loss event had taken place.

Uniform and symmetrical application of new requirements

The new requirements apply to financial assets in categories (1) "Amortised cost" and (2) "FVOCI – with recycling", and to lease receivables, loan commitments and financial guarantee contracts. The introduction of a single impairment model for these financial instruments marks a major improvement over the IAS 39 regime, which had multiple impairment models for the various measurement categories and had therefore been criticised for its complexity. IFRS 9 now requires the three-stage model depicted overleaf to be applied uniformly to all these financial instruments and a loss allowance to be recognised through profit and loss at each reporting date. The stage to which a financial instrument is assigned depends on how its credit risk has evolved since initial recognition. The criteria for transferring a financial instrument from one stage to another are to be applied symmetrically – in other words, all else being equal, deteriorations in credit quality should prompt a transfer to a higher stage just as improvements in credit quality should result in a transfer to a lower stage.

Recognition of 12-month ECL at stage 1

Stage 1 comprises all financial instruments whose credit risk has not increased significantly since their initial recognition. A loss allowance equal to the 12-month expected credit losses (12-month ECL) needs to be recognised for each of these financial instruments. The 12-month ECL represent the credit losses arising from a potential debtor default within the next twelve months, weighted by the respective risk of a default occurring.[4] Interest revenue from financial assets at this stage is calculated on the basis of the gross carrying amount.

Significant increase in credit risk triggers transfer to higher stage

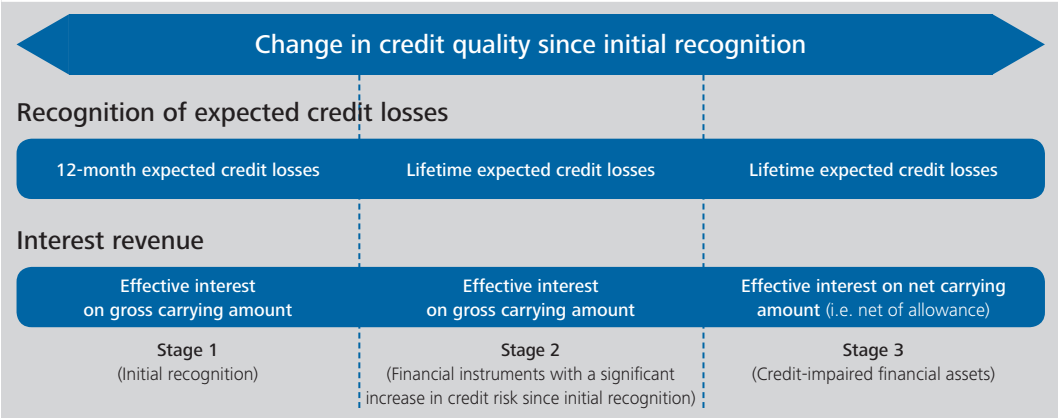
Stage 2 of the new impairment model comprises all financial instruments whose credit risk has increased significantly since their initial recognition. To determine whether credit risk has increased significantly, the risk of a default occurring over the remaining lifetime of the financial instrument is compared with the risk of a default occurring that was originally expected for the same time period when the financial instrument was initially recognised (forward probability of default, or forward PD).[5] It is appropriate for this comparison to also consider the absolute change in the risk of a default occurring in order to avoid overlooking a significant increase simply because the change does not appear significant in relation to an already high level of credit risk.

Recognition of lifetime ECL at stage 2

For stage 2 financial instruments, credit institutions recognise loss allowances at an amount equal to the lifetime expected credit losses (lifetime ECL). These are the credit losses arising from a potential debtor default over the financial instrument's lifetime weighted with the risk of a default occurring. In the IASB's view, recognition of lifetime ECL is appropriate here because a significant increase in credit risk means that an economic loss has been incurred. This loss is caused by the fact that, for most financial instruments, the interest rate, and especially the credit risk premium, are not adjusted to changes in the credit risk during their life-

4 In other words, the lifetime expected credit losses (discounted difference between contractual and expected cash flows) are weighted with the probability of a loss event occurring within the next twelve months.
5 A simple comparison with the risk of a default occurring over the total expected lifetime as at initial recognition is not sufficient as the risk of a default occurring over the remaining lifetime typically diminishes over time.

IFRS 9 impairment model



Source: Deutsche Bundesbank based on IASB.

time. In the event of a significant increase in credit risk, it is therefore not appropriate to use the 12-month ECL as a proxy for the expected credit loss, and lifetime ECL should be used instead.

Stage 3 similar to IAS 39 impairment model

Finally, stage 3 of the ECL model comprises credit-impaired financial assets. A significant deterioration in the credit quality of these assets is observable in that one or more serious events have occurred that have had a detrimental impact on the estimated future cash flows of those assets. The examples of such events listed in IFRS 9 are much the same as the examples of loss events in IAS 39 and include, for example, significant financial difficulty of the debtor, and interest or principal payments that are substantially past due.

Reporting entities are required to recognise loss allowances at an amount equal to lifetime ECL for stage 3 financial assets. However, unlike at stages 1 and 2, interest revenue is calculated on the basis of the net carrying amount, i.e. the exposure amount net of loss allowances. The reason for this change in calculation methodology is that, following the significant increase in credit risk, the gap between the contractual payments and the payments that are actually expected becomes so wide that calculating interest revenue on the basis of the gross carrying amount would no longer faithfully represent the economic return. For the same reason, interest revenue from impaired financial assets was already calculated on the basis of the net carrying amount under IAS 39.

Wide range of information taken into consideration

When measuring the loss allowances at the various stages, and when determining a significant increase in credit risk, reporting entities are to consider all reasonable and supportable information that is available without undue cost or effort.[6] Unlike under IAS 39, this wide range of information also includes forward-looking data such as forecasts of future economic conditions. IFRS 9 expects reporting entities to reflect this forward-looking information in scenario analyses that are used when calculating the amount of the loss allowances. At least one scenario should consider the possibility that a credit loss occurs. Beyond these requirements, reporting entities are generally free to choose the methods they use to calculate loss allowances and identify significant increases in credit risk.[7]

6 See, for example, IFRS 9.5.5.11.
7 Credit institutions, however, face further supervisory expectations for the implementation of ECL models, which were formulated in guidelines issued by the Basel Committee on Banking Supervision and the European Banking Authority (EBA). For more information on this, see the section entitled "Regulatory guidelines on accounting for expected credit losses" on pp. 84 ff.

Hedge accounting

Hedge accounting requirements overhauled

In the area of hedge accounting, the IASB sought to develop a more principles-based approach and align the accounting requirements more closely with risk management practice. One major innovation is that effectiveness testing has been made more flexible. The time-consuming requirement to demonstrate that micro hedges always are within the 80% to 125% effectiveness range has been removed. Instead, hedge effectiveness is assessed on the basis of an economic analysis that uses internal risk management data.[8]

Critical appraisal of new accounting requirements

Banking supervisors welcome timely processing of information and early provisioning

The key features of IFRS 9 are the requirement to take forward-looking information into account and the introduction of stage 2 of the ECL model. From the perspective of banking supervisors, the early and – in comparison to IAS 39 – "additional" recognition of loss allowances is generally to be welcomed. Credit institutions are now required to reflect relevant information about changes in credit risk in their financial statements in a timely manner and therefore also take it into account when calculating their regulatory capital.

Considerable scope for discretion nevertheless

What is problematic is the considerable discretionary leeway which the new ECL model in particular brings for reporting credit institutions. For instance, the credit institutions themselves get to determine when there has been a significant increase in credit risk. The IASB consciously avoided writing a specific requirement as credit risk is calculated using different methods and a blanket requirement cannot properly reflect the differences between the various types of firms, sectors and geographical regions. Credit institutions can likewise use a great deal of judgement when it comes to calculating credit risk, such as the manner in which they model risk parameters and select the underlying input factors. The estimation of future cash flows is, by its very nature, another activity that is fraught with uncertainties, especially if it is to consider assumptions about future economic developments. Here, too, credit institutions can use their discretion in considering issues such as how historical loss experience is to be adjusted to future conditions and which indicators should be used as inputs when forecasting these future conditions. These numerous forms of discretionary scope give rise to the risk that, in practice, discrepancies will emerge in the implementation of IFRS 9, making it more difficult to compare one credit institution's financial statements with another's. This also impacts on the activities of banking supervisors, as their efforts to assess the risk situation include comparing and contrasting financial statements across credit institutions.

Challenges for credit institutions

Banking supervisors monitoring implementation of IFRS 9 closely

Banking supervisors are keeping a very close eye on how credit institutions implement IFRS 9. They want to see that credit institutions have adequate processes in place for establishing appropriate levels of loss allowances[9] and that accounting standards are implemented such that they are able to assess institutions on as level a playing field as possible. For this reason, banking supervisors in Europe conducted a series of projects on IFRS 9 with a view to fostering the consistent implementation of the standard. These initiatives explored which parts of the new accounting requirements come with specific challenges for credit institutions and how key prudential metrics are expected to be affected.

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8 One item still on the agenda is the revision of the accounting rules governing the dynamic risk management of open portfolios (macro hedging), which is a particularly relevant topic for credit institutions. As long as this project has not been finalised, reporting entities may elect to continue applying the hedge accounting requirements of IAS 39 in their entirety.

9 See Basel Committee on Banking Supervision (2012), Core Principles for Effective Banking Supervision, Principle 18. Available at https://www.bis.org/publ/bcbs230.pdf

Data quality and availability the greatest challenges

In two joint impact assessments by the EBA and national supervisory authorities, 58 institutions were surveyed at year-end 2015, and 54 at year-end 2016, regarding the stage of implementation and the impact of IFRS 9.[10] The institutions surveyed in both studies pointed to insufficient data quality in some cases and a lack of data for determining a significant increase in credit risk and for calculating expected credit losses as the greatest challenges. Moreover, many institutions reported that they leveraged regulatory models to estimate expected credit losses, yet adapting these to incorporate forward-looking information was a complex task. In consideration of these and other observations, the EBA issued a number of recommendations it believes to be key to robust implementation of IFRS 9. One such recommendation highlights the importance of applying a consistent methodology when making use of approximations for accounting purposes.

With regard to the expected impact on the prudential metrics, the surveyed institutions reported that the new impairment requirements resulted in a reduction of the Common Equity Tier 1 (CET1) capital ratio. Institutions across Europe expected an average decline in the CET1 capital ratio of 45 basis points (in the first study: 59 basis points). One-quarter of the institutions surveyed even expected a decline of at least 75 basis points (in both studies). Loss allowances were expected to rise by an average of 13% (first study: 18%), with one-quarter of institutions projecting an increase of at least 18% (first study: 30%).

Significant institutions assessed by JSTs

Besides the EBA, the supervisory authorities that make up the Single Supervisory Mechanism (SSM) also investigated in 2017 how credit institutions were prepared for the application of IFRS 9 (ECB Thematic Review). This review covered 106 significant institutions (SIs) and 77 less significant institutions (LSIs).[11] The SIs were assessed in the first quarter of 2017 by the joint supervisory teams (JSTs), which considered the extent to which preparations for IFRS 9 were consistent with the predefined expectations of supervisors. The SIs were informed in writing and during the supervisory dialogue of any findings and remedial actions, and the JSTs also followed up on outstanding issues from the Thematic Review after IFRS 9 came into effect in 2018. LSIs were investigated using self-assessments based on the EBA's impact assessment exercises. All the institutions surveyed felt the greatest challenge to be the implementation of the new impairment regime, where supervisors noted, amongst other things, the insufficient documentation on the processes for including forward-looking information, plus room for improvement in developing the validation and back-testing processes. The SIs calculated that the expected quantitative impact of IFRS 9 would push down the CET1 capital ratio by 40 basis points on average, with around one-quarter of the institutions estimating an effect of at least 50 basis points. The LSIs, meanwhile, forecasted a reduction of 59 basis points, although this number was heavily influenced by negative outliers as more than three-quarters of these institutions reported that they were only expecting a decline of 25 basis points at most.

The actual impact on own funds and loss allowances

Analysis of real data possible for the first time

Most of the studies available thus far were carried out before IFRS 9 was applied for the first time, meaning that they are only based on estimations. Since 1 January 2018, however, credit institutions have had to implement the new standard in their actual accounting practices. The Bundesbank has analysed how the initial application of IFRS 9 has impacted on those German credit institutions which prepare

10 These impact assessments are available at https://www.eba.europa.eu/documents/10180/1360107/EBA+Report+on+impact+assessment+of+IFRS 9 (first study) and https://www.eba.europa.eu/documents/10180/1720738/EBA+Report+on+results+from+the+2nd+EBA+IFRS 9+IA.pdf (second study).

11 The ECB published the results of its Thematic Review in November 2017; the review itself is available at https://www.bankingsupervision.europa.eu/press/letterstobanks/shared/pdf/2017/ssm.reportlsi_2017.en.pdf

their financial statements in conformity with IFRSs.

Sample represents lion's share of IFRS institutions

In Germany, a total of 24 credit institutions were preparing their consolidated financial statements in conformity with IFRSs at the end of 2017. The sample examined excludes 11 institutions that were either a subgroup of another institution already included in the sample, or because their size and business model had negligible significance for the banking market, or because they were undergoing a substantial restructuring process. The final sample comprises 13 institutions which were assessed at the highest level of consolidation in Germany. These institutions' aggregate total assets amounted to around €4.25 trillion, equivalent to around 94% of the consolidated total assets of the German credit institutions that prepare their financial statements in conformity with IFRSs. Data on the impact of first-time application of IFRS 9 on these selected institutions were gathered from their published consolidated financial statements and Pillar 3 disclosure reports for 2017 and from their semi-annual financial reporting as at 30 June 2018. Where data were not publicly available, the institutions were asked to provide internal figures.

Impact on CET1 capital ratio moderate

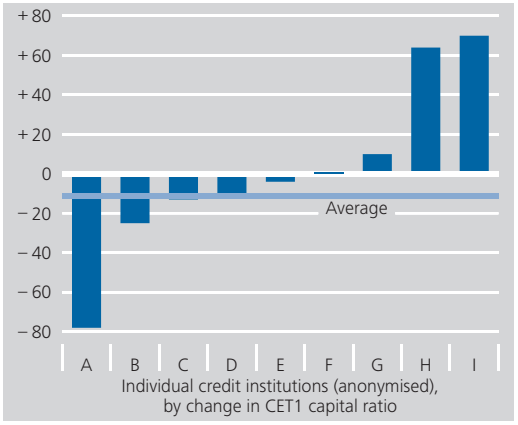
To determine the overall impact of IFRS 9, Bundesbank analysts compared the institutions' CET1 capital ratios as at 31 December 2017 and 1 January 2018 without application of the supervisory transitional arrangements permitted under the European Capital Requirements Regulation (CRR) ("fully loaded").[12] Since the relevant data were lacking for four of the institutions as per at least one of the reporting dates, this part of the investigation only touches on nine institutions. The Bundesbank found that first-time application of IFRS 9 reduced the "fully loaded" CET1 capital ratio by just 11 basis points on average.[13]

Reclassifications increase CET1 capital ratio for some institutions

The chart above shows that the change in the "fully loaded" CET1 capital ratio in the sample has a wide margin, ranging from a drop of 80 basis points to an increase of 70 basis points.

Change in Common Equity Tier 1 (CET1) capital ratio due to IFRS 9

Basis points



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One notable reason why some institutions saw their CET1 capital ratios increase is that financial assets are measured at fair value under IFRS 9, but at amortised cost under the previous regime.[14] For the bulk of the institutions under review, the "fully loaded" CET1 capital ratio fell only marginally, if at all, on 1 January 2018. There are, however, also isolated cases in which this key prudential metric comes under more distinct pressure, as had been projected ahead of IFRS 9 implementation, especially on account of the new impairment regime, for European credit institutions in the investigations by the EBA and the ECB.

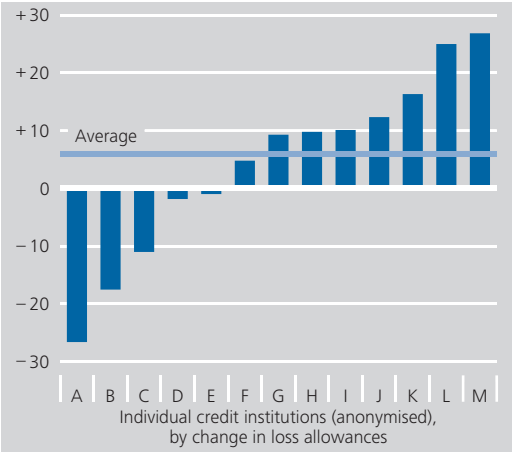
Loss allowances up under IFRS 9

Information on the impact of the new impairment regime was provided by all 13 institutions in the sample. First-time application of IFRS 9 increased loss allowances by 5.9% on average.[15] How each institution fared is shown in the chart on p. 84, which indicates that loss

12 The "fully loaded" CET1 capital ratio is used here because various transitional arrangements under the CRR expired at the start of 2018. Comparing the CET1 capital ratios with these transitional arrangements factored in would bias the results on the impact of IFRS 9.
13 The average value was determined by weighting it with total assets as calculated according to the HGB.
14 Reclassification to a fair value category leads to the recognition of hidden reserves if the fair value of financial assets is higher than their previous carrying amount.
15 The average value was determined by weighting it with total assets as calculated according to the HGB.

Change in loss allowances due to IFRS 9

%



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allowances decreased in some cases. This outcome is notably due to the fact that the Bundesbank's analysis looks at the net change in loss allowances, which includes the impact from both the new ECL model and changes in the stock of financial assets which are subject to the impairment requirements. Because of the new classification approach, some institutions have reclassified financial assets to the FVPL category, which covers, for instance, shipping loans that are now to be sold if a favourable opportunity were to arise. No loss allowances need to be recognised under the ECL model for financial assets classified to the FVPL category; instead, changes in value are recognised directly in the assets' fair values. However, the reversal of loss allowances as a result of reclassifications should not generally cause an increase in equity as the circumstances that led to loss allowances being set aside in the first place reduce the fair value at the same time.[16]

Impact lower than in comparable European studies

All in all, the actual impact of IFRS 9 is moderate for most of the 13 German institutions that were examined. The effect on the CET1 capital ratio and the change in allowance levels are lower than the figures forecast by the European institutions in the earlier impact assessment exercises by the EBA and the ECB.

Regulatory guidelines on accounting for expected credit losses

Implementation of new ECL requirements of particular interest to banking supervisors

One cornerstone of the various assessments performed by German and European authorities in the context of IFRS 9 was the supervisory expectations regarding the implementation of the new ECL accounting requirements, which have been set out by the Basel Committee on Banking Supervision. The Committee looked at the standard in great detail immediately after it was finalised with the purpose of mapping out ways to promote consistent implementation of the new rules. The outcome of these deliberations saw the Committee update its guidelines on sound credit risk assessment and valuation for loans from 2006 and rename them "Guidance on credit risk and accounting for expected credit losses".[17]

The Basel "Guidance on credit risk and accounting for expected credit losses" …

Published in December 2015, the revised guidelines articulate supervisory expectations with regard to credit risk management processes and procedures as a basis for determining ECL allowances. They draw special attention to the need for robust consideration of relevant, reasonable and supportable forward-looking information as the key component of ECL accounting models. Particular emphasis is also placed on the responsibility of the board and management, both of whom are responsible for ensuring that their institution has appropriate credit risk practices (including an effective system of internal control) to consistently determine adequate loss allowances in accordance with the applicable accounting framework and relevant supervisory guidance. Other specific expectations address, amongst other things, the credit risk rating process, the group-

16 That said, it is theoretically conceivable, where fair value measurement is applied, that impairments caused by credit risk will be more than offset by the fact that the general market interest rate level is significantly below the contractual interest rate of the assets, meaning that, overall, their fair value is higher than their amortised cost, resulting in an increase in equity due to reclassification.

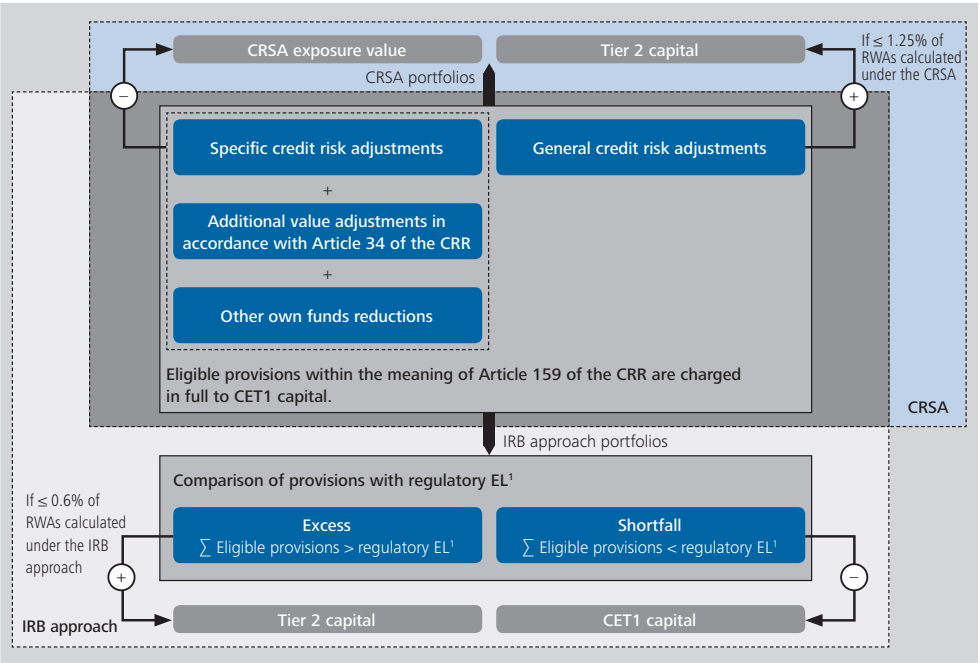
17 The Basel Committee's "Guidance on credit risk and accounting for expected credit losses" are available at https://www.bis.org/bcbs/publ/d350.pdf

Current regulatory treatment of accounting loss allowances

There are around 40 credit institutions in Germany – mostly large ones – that use the internal ratings-based (IRB) approach. This approach allows credit institutions to calculate their capital requirements for credit risk based on their own internal parameter estimates. These estimates are needed for the calculation of the regulatory expected loss (regulatory EL) amount, which serves, on the one hand, as a credit risk provisioning floor and, on the other, as an input in the calculation of risk weights. However, the approach applied exclusively by the majority of credit institutions is the simpler standardised approach for credit risk (CRSA), where no regulatory EL amount is determined and risk weights are calibrated by banking supervisors. Unsurprisingly, then, the IRB approach and the CRSA differ in a number of ways in terms of their conceptual basis and design, including how they each treat accounting loss allowances (provisions).

The CRSA makes a distinction between specific and general credit risk adjustments. Specific credit risk adjustments are deducted from the exposure value, so the higher the accounting loss allowances in the form of specific credit risk adjustments, the lower the risk-weighted assets (RWAs). By contrast, general credit risk adjustments do not reduce RWAs but can be included in Tier 2 capital, though only up to 1.25% of the RWAs calculated under the CRSA. In this context, it is particularly worth noting that the definitions of specific and general credit risk adjustments are partly decoupled from the common accounting terminology. That is to say, accounting loss allowances are mapped to general or specific credit risk

Regulatory treatment of accounting provisions at a glance



1 Regulatory expected loss.

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Shortfall* at German IFRS credit institutions

€ million

* Deduction from Common Equity Tier 1 items pursuant to Article 36(1) point (d) of the CRR (Capital Requirements Regulation).

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adjustments in accordance with criteria determined by regulators. Individual, general and collective loss allowances are thus generally considered specific credit risk adjustments under EU law. Only provisioning amounts that are freely and fully available, as regards to timing and amount, to meet credit risk losses that have not yet materialised may be considered general credit risk adjustments. Under the German generally accepted accounting principles (GAAP), the freely available part of the reserve for general banking risks pursuant to Section 340f. of the Commercial Code *(Handelsgesetzbuch)* is one example of a general credit risk adjustment. However, credit institutions often decide to not have their undisclosed reserves counted as Tier 2 items, since this would effectively require disclosure of these reserves in their Pillar 3 reports.

Under the IRB approaches, meanwhile, the entire stock of accounting loss allowances for credit risk – that is, specific and general credit risk adjustments alike – is deemed eligible for the comparison with the regulatory EL amount. As mentioned above, regulatory EL represents the floor for backing credit risk with own funds. This is why a credit institution whose eligible provisions are lower than its regulatory EL is required to deduct the resulting shortfall directly from its Common Equity Tier 1 (CET1) capital. If the opposite is the case – that is, the comparison of eligible provisions with the regulatory EL amount reveals an excess of provisions, regardless of whether they are considered specific or general credit risk adjustments – an institution is permitted to include the excess amount in its Tier 2 capital up to a limit of 0.6% of the RWAs calculated under the respective IRB approach.

The evolution of the aggregate shortfall under IFRS 9 has been analysed for a sample of ten credit institutions that prepare their financial statements according to International Financial Reporting Standards (IFRSs) and that reported a shortfall at least once between September 2017 and September 2018. The aggregate shortfall declined noticeably over this horizon, falling from €2.1 billion at the end of September 2017 to €805 million at the end of September 2018. Evidently, then, the difference between eligible provisions and the regulatory EL amount has decreased significantly in size. The observed increase in loss allowances following the initial application of IFRS 9 suggested that such a decline would occur. The shortfall that still remains can be put down to the unique design and technical features of the approaches used to determine this measure.

ing of similar lending exposures and the validation of impairment models.

… also includes specific supervisory expectations for accounting under IFRS 9

The scope of the Basel guidance primarily covers internationally active credit institutions for which the use of ECL models is mandatory on account of the accounting framework that applies to them. Consequently, these supervisory expectations are, in principle, relevant to preparers of IFRS and US GAAP accounts alike.[18] The guidance does, however, also contain an appendix with supervisory expectations specific to credit institutions reporting under IFRSs. This appendix formulates more detailed supervisory expectations regarding the measurement of 12-month ECL, the assessment of significant increases in credit risk, and the use of "practical expedients" under IFRS 9. In some cases, the Basel Committee interprets the IASB's requirements in a conservative manner, thus signalling that credit institutions must meet the highest quality standards when implementing IFRS 9 in order to satisfy supervisory expectations.

Basel guidelines incorporated into EU framework

In May 2017, the EBA incorporated the Basel Committee's guidelines into guidelines of its own[19] and called on Member States to implement them in their national law via the "comply or explain" mechanism. The ECB has declared its intention to comply with the EBA guidelines for its jurisdiction – SIs in the euro area. For its part, the Federal Financial Supervisory Authority (BaFin), in its capacity as Germany's national competent authority for LSIs, saw no need to specify the Minimum Requirements for Risk Management (MaRisk) in response to the EBA guidelines because the latter are largely geared towards IFRS standards, while the vast majority of LSIs in Germany prepare their financial statements according to national GAAP (HGB).

Impact of IFRS 9 on the prudential capital requirements for credit risk

Banking supervisors exploring interaction between accounting rules for ECL and capital requirements for credit risk

Two regulatory approaches are permitted for calculating the prudential capital requirements for credit risk – the standardised approach for credit risk (CRSA) and the internal ratings-based (IRB) approach. With IFRS 9 coming into force from 2018 and the US GAAP "current expected credit losses" (CECL) standard becoming applicable as of 2020, the Basel Committee investigated how the new ECL accounting frameworks interact with the relevant rules under the CRSA and IRB approach, and published its preliminary deliberations for consultation at the end of 2016.[20] The standard "Regulatory treatment of accounting provisions – interim approach and transitional arrangements"[21] was then published in March 2017, communicating two decisions of the Committee.

Status quo to be maintained as an "interim solution", at least for the time being

The first of these decisions is that the existing regulatory treatment of loss allowances will be retained at least until the interaction between the capital requirements and the ECL accounting frameworks has been subjected to a thorough conceptual and quantitative analysis. Under this "interim solution", jurisdictions would extend their existing approaches to categorising loss allowances as specific or general credit risk adjustments, which is of particular relevance for the CRSA, to loss allowances for

18 The new "current expected credit loss" impairment standard under US GAAP, applicable from 2020, also requires the recognition of expected credit losses. However, unlike IFRS 9, loss allowances will be based solely on lifetime ECL.
19 The EBA's "Guidelines on credit institutions' credit risk management practices and accounting for expected credit losses" are available at https://www.eba.europa.eu/-/eba-publishes-final-guidelines-on-credit-institutions-credit-risk-management-practices-and-accounting-for-expected-credit-losses
20 Two documents are concerned here: the consultative document "Regulatory treatment of accounting provisions – interim approach and transitional arrangements" (available at https://www.bis.org/bcbs/publ/d386.pdf) and the discussion paper "Regulatory treatment of accounting provisions" (available at https://www.bis.org/bcbs/publ/d385.pdf).
21 The Basel standard is available at https://www.bis.org/bcbs/publ/d401.pdf

IFRS 9 transitional arrangements in the European Capital Requirements Regulation (CRR)

Based on high-level requirements set out by the Basel Committee, Regulation (EU) 2017/2395 effective as of 27 December 2017 amended the European Capital Requirements Regulation (CRR) as regards transitional arrangements for International Financial Reporting Standard (IFRS) 9. This transitional rule can be found in Article 473a of the CRR. Institutions that prepare their accounts in conformity with IFRSs, institutions that apply IFRSs voluntarily for supervisory reporting purposes pursuant to Article 24(2) of the CRR, and institutions that apply national generally accepted accounting principles (GAAP) which require the recognition of loss allowances on the basis of expected credit losses (ECL) all fall within the scope of these transitional arrangements.

Application of the transitional arrangements is optional. Institutions were given until 1 February 2018 to notify their competent authority whether they wish to apply the arrangements. Where an institution has received the prior permission of the competent authority, it may reverse once, during the transitional period, its initial decision.

Specifically, institutions are permitted, over a five-year transitional period starting in 2018, to add back to their Common Equity Tier 1 (CET1) capital a portion of the additional loss allowances (provisions) incurred due to application of ECL accounting.

This capital add-back needs to be calculated separately for portfolios under the standardised approach for credit risk (CRSA) and the internal ratings-based (IRB) approach in order to ensure that only provisions in excess of the regulatory expected loss (EL) are included in own funds. Furthermore, the add-back amount is made up of a static and a dynamic component, with institutions having the option to deselect the latter. The idea behind the static component is to mitigate the increase in loss allowances resulting from day one application of IFRS 9 at the effective date of transition from International Accounting Standard (IAS) 39 to IFRS 9. The dynamic component serves to dampen the potential subsequent impact in future periods, but it is confined to loss allowances for non-defaulted exposures.

The phase-in factors applied to the provisioning amounts which can be added back will decrease over time – 95% in 2018, 85% in 2019, 70% in 2020, 50% in 2021, and 25% in 2022. It should be noted that institutions are permitted to almost fully neutralise the impact of transitioning to the new impairment regime during the first transition period. This compromise was reached in the European negotiations on the design of the transitional arrangements as a step towards creating a level playing field for IFRS and US GAAP institutions.

To prevent institutions from benefiting twice from the provisioning adjustments, these shall be effected in a consistent manner under the regulatory regime, which – besides adjustments to CET1 capital – also necessitates changes to other regulatory items that are impacted directly or indirectly by the "adjusted" provisions. This calls for a number of adjustments, in particular to the capital deductions for deferred tax assets, the (CRSA) exposure values and the provisions included in Tier 2 capital.

Whether an institution decides to apply the transitional arrangements or not, in the interests of market transparency it must communicate its decision in the regulatory Pillar III report. Institutions that decide to apply the IFRS 9 transitional arrangements are furthermore required to calculate and disclose all capital ratios and the leverage ratio both with and without the application of Article 473a of the CRR.

Currently, the German credit institutions are not making use of the transitional arrangements, but a survey by the European Banking Authority (EBA) has found that 56% of EU institutions are doing so.

ECL. As a result, and based on EU rules as they currently stand, the EBA published an Opinion which clarifies that all three stages of the IFRS 9 impairment model constitute specific credit risk adjustments.[22] Credit institutions that prepare their financial statements in conformity with IFRSs are now expected to comply with this stipulation. That said, the treatment of fair value adjustments has not yet been fully clarified.

A regulatory transitional period …

The second decision sets out a framework for transitional arrangements. Under this framework, it is permissible (as an option) to phase in the impact of the new ECL accounting rules on CET1 capital as long as the transitional period does not exceed five years and certain other requirements are respected. To date, only the EU has made use of this option, though the supervisory authorities in the United States are also currently discussing the introduction of a regulatory transitional period for the US CECL standard.

… will also be used by supervisors to gain experience with ECL accounting models

Given the uncertainties associated with the (first-time) implementation of the new and far more complex impairment models, the aforementioned transitional arrangements were set up as a kind of regulatory hedge against the possibility of a sudden and significant reduction of CET1 capital as a result of switching from incurred loss provisioning to ECL provisioning. During the transitional phase, supervisors can gain experience with the new accounting requirements and how they are implemented by the institutions – experience which will ultimately be needed to make a well-informed decision on whether the existing rules on the regulatory treatment of accounting loss allowances are appropriate.

Possible effects on business models and the stability of credit institutions

One topic raised while the accounting rules were being revised concerned the extent to which the ECL model under IFRS 9 might impact on loan maturities. The European Systemic Risk Board (ESRB) addressed this issue in its "Financial stability implications of IFRS 9" report.[23] In this paper, the ESRB describes the possibility that institutions might shorten the maturities of their loans because the shorter the loan maturity, the lower the lifetime ECL they would need to recognise as a loss allowance in the event of a significant increase in credit risk. Note that this incentive will probably be weaker as long as financial instruments are assigned to stage 1 on account of the shorter, 12-month ECL observation period.

Shorter maturities in new business possible

One of the most controversial issues at the moment is the potential procyclicality of ECL impairment models.[24] The new stages 1 and 2 under IFRS 9 encourage credit institutions to recognise loss allowances at an early stage. This expedites the processing of relevant information on credit quality as well as on the associated expected credit losses, and this is generally to be welcomed. However, the ESRB writes in its "Financial stability implications of IFRS 9" report that this could cause procyclicality, especially if exposures are systematically shifted from stage 1 to stage 2. In the ESRB's view, these shifts to stage 2 could occur on a major scale at a large number of institutions simultaneously if economic conditions deteriorated, pushing up borrower default rates. This could significantly increase the need for additional loss allowances and also put a strain on capital, potentially triggering a credit crunch and thereby exacerbating the economic downturn.

Procyclicality still on the table

22 The EBA's Opinion is available at https://www.eba.europa.eu/-/eba-publishes-opinion-on-transitional-arrangements-and-credit-risk-adjustments-due-to-the-introduction-of-ifrs-9
23 This report is available at https://www.esrb.europa.eu/pub/pdf/reports/20170717_fin_stab_imp_IFRS_9.en.pdf
24 This can be understood as mutually reinforcing feedback mechanisms between the financial and real sectors of the economy. See Financial Stability Forum (2009), Report of the Financial Stability Forum on Addressing Procyclicality in the Financial System, p. 8. Available at http://www.fsb.org/wp-content/uploads/r_0904a.pdf

One point that speaks against potential procyclicality is that, at the lowest point of a recession, IFRS 9 could lead to the early reversal of loss allowances if expectations regarding macroeconomic conditions and the individual borrower's credit risk have improved. What counts here is that such expectations are not overly optimistic. In this case, the onus might be on banking supervisors to impose supervisory measures in the form of capital add-ons, for instance.

Conclusion and outlook

IFRS 9 ranks as the most significant conceptual change in how financial instruments are accounted for since it became mandatory for publicly traded entities to prepare their financial statements in conformity with IFRSs. Recognition of expected credit losses in the new impairment model puts into practice one of the G20's main demands for a wider range of information to be incorporated into accounting. At this stage, it is not possible to make a clear statement on the long-term material impact of the new standard going forward. In the short term, the biggest challenge for banks and supervisors will continue to be that of ensuring the proper implementation of the revised framework, which will entail considerable changes in institutions' accounting processes and systems. Looking towards the medium and long term, the impact of IFRS 9 will need to be evaluated using quantitative data. It is for this reason that supervisors have stated that they are in favour of retaining the regulatory treatment of accounting loss allowances for the time being.

There is no immediate need for action with regard to accounting pursuant to the HGB, as this set of rules already implicitly contains the option of taking into account forward-looking components in the form of the prudence principle as well as the concept of setting aside general loss allowances.

Statistical Section

Contents

I. Key economic data for the euro area

1. Monetary developments and interest rates 5*
2. External transactions and positions 5*
3. General economic indicators 6*

II. Overall monetary survey in the euro area

1. The money stock and its counterparts 8*
2. Consolidated balance sheet of monetary financial institutions (MFIs) 10*
3. Banking system's liquidity position 14*

III. Consolidated financial statement of the Eurosystem

1. Assets 16*
2. Liabilities 18*

IV. Banks

1. Assets and liabilities of monetary financial institutions (excluding the Bundesbank) in Germany 20*
2. Principal assets and liabilities of banks (MFIs) in Germany, by category of banks 24*
3. Assets and liabilities of banks (MFIs) in Germany vis-à-vis residents 26*
4. Assets and liabilities of banks (MFIs) in Germany vis-à-vis non-residents 28*
5. Lending by banks (MFIs) in Germany to domestic non-banks (non-MFIs) 30*
6. Lending by banks (MFIs) in Germany to domestic enterprises and households, housing loans, sectors of economic activity 32*
7. Deposits of domestic non-banks (non-MFIs) at banks (MFIs) in Germany 34*
8. Deposits of domestic households and non-profit institutions at banks (MFIs) in Germany 36*
9. Deposits of domestic government at banks (MFIs) in Germany, by creditor group 36*
10. Savings deposits and bank savings bonds of banks (MFIs) in Germany sold to non-banks (non-MFIs) 38*
11. Debt securities and money market paper outstanding of banks (MFIs) in Germany 38*
12. Building and loan associations (MFIs) in Germany 39*
13. Assets and liabilities of the foreign branches and foreign subsidiaries of German banks (MFIs) 40*

V. Minimum reserves

1. Reserve maintenance in the euro area 42*
2. Reserve maintenance in Germany 42*

VI. Interest rates

1. ECB interest rates 43*
2. Base rates 43*
3. Eurosystem monetary policy operations allotted through tenders 43*
4. Money market rates, by month 43*
5. Interest rates and volumes for outstanding amounts and new business of German banks (MFIs) 44*

VII. Insurance corporations and pension funds

1. Assets 48*
2. Liabilities 49*

VIII. Capital market

1. Sales and purchases of debt securities and shares in Germany 50*
2. Sales of debt securities issued by residents 51*
3. Amounts outstanding of debt securities issued by residents 52*
4. Shares in circulation issued by residents 52*
5. Yields and indices on German securities 53*
6. Sales and purchases of mutual fund shares in Germany 53*

IX. Financial accounts

1. Acquisition of financial assets and external financing of non-financial corporations 54*
2. Financial assets and liabilities of non-financial corporations 55*
3. Acquisition of financial assets and external financing of households 56*
4. Financial assets and liabilities of households 57*

X. Public finances in Germany

1. General government: deficit/surplus and debt level as defined in the Maastricht Treaty .. 58*
2. General government: revenue, expenditure and deficit/surplus as shown in the national accounts 58*
3. General government: budgetary development 59*
4. Central, state and local government: budgetary development 59*
5. Central, state and local government: tax revenue 60*

6. Central and state government and European Union: tax revenue, by type ... 60*
7. Central, state and local government: individual taxes ... 61*
8. German pension insurance scheme: budgetary development and assets ... 61*
9. Federal Employment Agency: budgetary development ... 62*
10. Statutory health insurance scheme: budgetary development ... 62*
11. Statutory long-term care insurance scheme: budgetary development ... 63*
12. Central government: borrowing in the market ... 63*
13. General government: debt by creditor ... 63*
14. Maastricht debt by instrument ... 64*
15. Maastricht debt of central government by instrument and category ... 65*

XI. Economic conditions in Germany

1. Origin and use of domestic product, distribution of national income ... 66*
2. Output in the production sector ... 67*
3. Orders received by industry ... 68*
4. Orders received by construction ... 69*
5. Retail trade turnover, sales of motor vehicles ... 69*
6. Labour market ... 70*
7. Prices ... 71*
8. Households' income ... 72*
9. Negotiated pay rates (overall economy) ... 72*
10. Assets, equity and liabilities of listed non-financial groups ... 73*
11. Revenues and operating income of listed non-financial groups ... 74*

XII. External sector

1. Major items of the balance of payments of the euro area ... 75*
2. Major items of the balance of payments of the Federal Republic of Germany ... 76*
3. Foreign trade (special trade) of the Federal Republic of Germany, by country and group of countries ... 77*
4. Services and primary income of the Federal Republic of Germany ... 78*
5. Secondary income of the Federal Republic of Germany ... 78*
6. Capital account of the Federal Republic of Germany ... 78*
7. Financial account of the Federal Republic of Germany ... 79*
8. External position of the Bundesbank ... 80*
9. Assets and liabilities of enterprises in Germany (other than banks) vis-à-vis non-residents ... 81*
10. ECB's euro foreign exchange reference rates of selected currencies ... 82*
11. Euro area countries and irrevocable euro conversion rates in the third stage of Economic and Monetary Union ... 82*
12. Effective exchange rates of the euro and indicators of the German economy's price competitiveness ... 83*

I. Key economic data for the euro area

1. Monetary developments and interest rates

	Money stock in various definitions [1,2]				Determinants of the money stock [1]			Interest rates		
			M3 [3]							
	M1	M2		3-month moving average (centred)	MFI lending, total	MFI lending to enterprises and households	Monetary capital formation [4]	EONIA [5,7]	3-month EURIBOR [6,7]	Yield on European government bonds outstanding [8]
Period	Annual percentage change							% p.a. as a monthly average		
2017 Mar.	9.1	5.1	5.2	4.9	4.8	2.8	– 1.2	– 0.35	– 0.33	1.2
Apr.	9.2	5.1	4.8	5.0	4.5	2.6	– 1.5	– 0.36	– 0.33	1.1
May	9.2	5.0	4.9	4.9	4.3	2.6	– 1.3	– 0.36	– 0.33	1.1
June	9.6	5.2	4.9	4.8	4.1	2.8	– 1.2	– 0.36	– 0.33	1.0
July	9.3	5.0	4.6	4.8	3.8	2.6	– 1.0	– 0.36	– 0.33	1.2
Aug.	9.6	5.4	5.1	4.9	3.8	2.3	– 0.9	– 0.36	– 0.33	1.0
Sep.	9.8	5.3	5.1	5.1	3.9	2.4	– 0.9	– 0.36	– 0.33	1.0
Oct.	9.5	5.4	5.0	5.0	3.7	2.5	– 1.3	– 0.36	– 0.33	1.1
Nov.	9.1	5.2	4.9	4.9	3.9	2.9	– 1.3	– 0.35	– 0.33	0.9
Dec.	8.8	5.2	4.6	4.7	3.6	2.6	– 1.1	– 0.34	– 0.33	0.9
2018 Jan.	8.8	5.2	4.6	4.5	3.5	2.9	– 0.7	– 0.36	– 0.33	1.1
Feb.	8.4	4.8	4.3	4.2	3.3	2.6	– 1.2	– 0.36	– 0.33	1.2
Mar.	7.5	4.3	3.6	3.9	2.8	2.4	– 0.8	– 0.36	– 0.33	1.1
Apr.	7.1	4.1	3.8	3.8	2.8	2.7	– 0.6	– 0.37	– 0.33	1.0
May	7.5	4.6	4.0	4.0	3.2	3.2	– 0.9	– 0.36	– 0.33	1.1
June	7.4	4.7	4.3	4.1	3.1	2.8	– 1.0	– 0.36	– 0.32	1.1
July	7.0	4.4	4.0	3.9	3.4	3.3	– 0.7	– 0.36	– 0.32	1.0
Aug.	6.5	4.0	3.5	3.7	3.3	3.3	– 0.8	– 0.36	– 0.32	1.1
Sep.	6.8	4.3	3.6	3.7	3.1	3.2	– 0.1	– 0.36	– 0.32	1.2
Oct.	6.8	4.4	3.9	3.7	2.8	2.8	0.4	– 0.37	– 0.32	1.3
Nov.	6.7	4.3	3.7	...	2.6	2.8	0.4	– 0.36	– 0.32	1.2
Dec.	...	...	...	...	...	...	...	– 0.36	– 0.31	1.1

1 Source: ECB. **2** Seasonally adjusted. **3** Excluding money market fund shares/units, money market paper and debt securities with a maturity of up to two years held by non-euro area residents. **4** Longer-term liabilities to euro area non-MFIs. **5** Euro overnight index average. **6** Euro interbank offered rate. **7** See also footnotes to Table VI.4, p. 43• . **8** GDP-weighted yield on ten-year government bonds. Countries include: DE,FR,NL,BE,AT,FI,IE,PT,ES,IT,GR,SK.

2. External transactions and positions *

	Selected items of the euro area balance of payments [r]								Euro exchange rates [1]		
	Current account		Financial account							Effective exchange rate [3]	
	Balance	of which: Goods	Balance	Direct investment	Portfolio investment	Financial derivatives [2]	Other investment	Reserve assets	Dollar rate	Nominal	Real [4]
Period	€ million								EUR 1 = USD ...	Q1 1999 = 100	
2017 Mar.	+ 46,134	+ 37,077	– 110	– 55,746	+ 24,866	+ 7,915	+ 22,133	+ 722	1.0685	94.0	89.2
Apr.	+ 15,732	+ 23,526	+ 11,654	+ 33,533	+ 12,873	+ 1,671	– 32,265	– 4,157	1.0723	93.7	89.0
May	+ 9,418	+ 28,729	+ 30,753	+ 55,198	– 32,047	+ 3,696	+ 2,780	+ 1,126	1.1058	95.6	90.5
June	+ 32,930	+ 33,636	+ 64,006	– 2,410	+ 18,146	– 6,631	+ 53,327	+ 1,573	1.1229	96.3	91.2
July	+ 36,880	+ 30,903	+ 33,595	+ 1,887	+ 25,558	– 2,681	+ 14,023	– 5,193	1.1511	97.6	92.4
Aug.	+ 34,968	+ 24,500	– 999	– 25,778	+ 73,088	– 5,530	– 42,106	– 674	1.1807	99.0	93.6
Sep.	+ 47,857	+ 33,429	+ 80,034	+ 27,186	+ 29,500	– 2,104	+ 19,039	+ 6,413	1.1915	99.0	93.6
Oct.	+ 38,780	+ 29,413	+ 26,775	+ 13,316	+ 52,427	– 613	– 35,660	– 2,695	1.1756	98.6	93.1
Nov.	+ 37,960	+ 35,178	+ 7,142	– 53,071	+ 26,721	+ 508	+ 26,821	+ 6,164	1.1738	98.5	93.0
Dec.	+ 46,060	+ 32,404	+ 96,101	+ 47,972	– 23,523	+ 4,570	+ 68,687	– 1,604	1.1836	98.8	93.3
2018 Jan.	+ 9,678	+ 11,114	+ 8,202	+ 40,981	+ 4,365	+ 5,951	– 45,377	+ 2,282	1.2200	99.4	93.9
Feb.	+ 24,534	+ 24,878	+ 19,822	+ 8,167	+ 59,680	+ 356	– 48,262	– 119	1.2348	99.6	93.9
Mar.	+ 46,322	+ 37,311	+ 93,285	+ 91,353	– 68,220	– 3,188	+ 64,126	+ 9,213	1.2336	99.7	94.2
Apr.	+ 33,686	+ 26,757	– 1,613	+ 26,101	+ 31,563	+ 11,865	– 67,514	– 3,629	1.2276	99.5 p	93.9
May	+ 14,290	+ 26,442	+ 23,770	+ 1,004	+ 45,707	+ 14,857	– 40,132	+ 2,334	1.1812	98.1 p	92.7
June	+ 34,107	+ 31,977	+ 40,473	+ 359	– 37,803	+ 11,286	+ 58,769	+ 7,862	1.1678	97.9 p	92.6
July	+ 32,976	+ 26,200	+ 2,869	+ 6,131	+ 7,437	+ 12,826	– 19,174	– 4,351	1.1686	99.2 p	93.8
Aug.	+ 28,946	+ 20,215	+ 30,063	– 11,123	+ 71,348	+ 14,120	– 47,550	+ 3,269	1.1549	99.0 p	93.4
Sep.	+ 28,456	+ 20,962	+ 59,870	+ 25,173	– 43,994	+ 6,381	+ 70,064	+ 2,246	1.1659	99.5 p	94.0
Oct.	+ 26,629	+ 19,541	+ 13,606	+ 74,018	– 16,138	+ 1,547	– 45,071	– 750	1.1484	98.9 p	93.4
Nov.	...	...	...	...	...	...	...	...	1.1367	98.3 p	92.8
Dec.	...	...	...	...	...	...	...	...	1.1384	98.4 p	92.8

***** Source: ECB, according to the international standards of the International Monetary Fund's Balance of Payments Manual (sixth edition). **1** See also Tables XII.10 and 12, pp. 82-83• . **2** Including employee stock options. **3** Against the currencies of the EER-19 group. **4** Based on consumer price indices.

I. Key economic data for the euro area

3. General economic indicators

Period	Euro area	Belgium	Germany	Estonia	Finland	France	Greece	Ireland	Italy	Latvia
Real gross domestic product [1]										
Annual percentage change										
2016	1.9	1.5	2.2	3.5	2.5	1.2	– 0.2	5.0	1.1	2.1
2017	2.4	1.7	2.2	4.9	2.8	2.2	1.5	7.2	1.6	4.6
2018	...	...	1.5	...	...	...	...	...	...	...
2017 Q2	2.5	1.5	0.9	5.8	2.6	1.6	1.5	6.2	1.4	4.4
Q3	2.8	1.4	2.2	3.9	2.1	2.5	2.4	13.2	1.3	5.5
Q4	2.7	1.9	2.2	4.8	2.4	2.8	2.1	6.5	1.3	4.3
2018 Q1	2.4	1.5	1.4	3.3	2.3	2.0	2.2	9.0	1.2	4.0
Q2	2.2	1.5	2.3	3.8	2.5	1.7	1.5	8.7	1.5	5.3
Q3	1.6	1.6	1.1	4.2	2.3	1.5	2.4	4.9	0.7	4.6
Industrial production [2]										
Annual percentage change										
2015	2.6	– 1.2	0.9	– 0.2	– 1.1	1.5	1.0	35.9	1.1	3.4
2016	1.6	4.5	1.1	3.0	3.9	0.3	2.6	1.8	1.9	4.9
2017	3.0	2.9	3.4	8.0	3.9	2.4	4.8	– 2.2	3.6	8.5
2017 Q2	2.4	4.0	3.1	12.4	2.9	1.6	3.4	– 6.6	3.8	9.2
Q3	4.0	4.2	4.3	4.4	2.5	3.2	4.5	3.4	4.6	11.4
Q4	4.2	1.9	5.0	4.9	4.7	4.1	1.9	0.5	4.0	4.9
2018 Q1	3.1	2.7	4.0	5.6	5.3	2.2	– 0.5	– 2.2	3.5	4.5
Q2	2.4	1.3	3.1	2.5	4.3	1.1	1.7	4.1	1.9	0.1
Q3	0.7	– 0.6	– 0.1	4.1	3.5	0.7	1.8	5.9	– 0.2	3.0
Capacity utilisation in industry [3]										
As a percentage of full capacity										
2016	81.7	80.0	84.6	73.6	78.0	83.2	67.6	–	76.3	72.6
2017	83.1	81.8	86.6	74.9	82.3	84.7	70.0	–	76.8	74.5
2018	84.2	81.0	87.7	74.4	84.1	86.0	70.8	–	78.1	76.4
2017 Q3	83.3	82.0	86.9	73.9	82.6	84.7	72.0	–	77.0	74.5
Q4	84.0	82.9	87.7	74.8	83.6	85.2	71.2	–	77.6	74.2
2018 Q1	84.5	82.1	88.2	75.5	83.1	86.2	70.4	–	78.3	75.8
Q2	84.3	81.2	87.8	73.9	84.3	85.9	71.2	–	78.1	76.3
Q3	84.2	79.9	87.8	75.2	84.7	85.9	70.7	–	77.9	77.4
Q4	83.9	80.8	87.1	73.0	84.1	85.9	70.9	–	77.9	75.9
Standardised unemployment rate [4]										
As a percentage of civilian labour force										
2016	10.0	7.8	4.1	6.8	8.8	10.1	23.6	8.4	11.7	9.6
2017	9.1	7.1	3.8	5.8	8.6	9.4	21.5	6.7	11.2	8.7
2018	...	...	...	...	...	...	...	5.7	...	...
2018 July	8.1	6.0	3.4	5.3	7.4	9.0	19.1	5.8	10.4	7.4
Aug.	8.0	5.7	3.4	5.4	7.3	9.0	18.9	5.7	10.1	7.1
Sep.	8.0	5.5	3.4	5.8	7.2	9.0	18.6	5.6	10.4	6.9
Oct.	8.0	5.5	3.3	5.3	7.2	8.9	18.6	5.4	10.6	6.9
Nov.	7.9	5.6	3.3	...	7.1	8.9	...	5.3	10.5	7.0
Dec.	...	...	...	...	...	...	...	5.3	...	...
Harmonised Index of Consumer Prices										
Annual percentage change										
2016	0.2	1.8	0.4	0.8	0.4	0.3	0.0	– 0.2	– 0.1	0.1
2017	1.5	2.2	1.7	3.7	0.8	1.2	1.1	0.3	1.3	2.9
2018	1.7	2.3	1.9	3.4	1.2	2.1	0.8	0.7	1.2	2.6
2018 July	2.1	2.7	2.1	3.3	1.4	2.6	0.8	1.0	1.9	2.7
Aug.	2.0	2.6	1.9	3.5	1.4	2.6	0.9	0.9	1.6	2.8
Sep.	2.1	2.8	2.2	3.5	1.4	2.5	1.1	1.2	1.5	3.3
Oct.	2.2	3.2	2.4	4.5	1.7	2.5	1.8	1.1	1.7	3.2
Nov.	1.9	2.9	2.2	3.2	1.4	2.2	1.1	0.8	1.6	2.9
Dec.	1.6	2.2	1.7	3.3	1.3	1.9	0.6	0.8	1.2	2.5
General government financial balance [5]										
As a percentage of GDP										
2016	– 1.6	– 2.4	0.9	– 0.3	– 1.7	– 3.5	0.5	– 0.5	– 2.5	0.1
2017	– 1.0	– 0.9	1.0	– 0.4	– 0.7	– 2.7	0.8	– 0.2	– 2.4	– 0.6
2018	...	...	1.7	...	...	...	...	...	...	...
General government debt [5]										
As a percentage of GDP										
2015	89.9	106.5	70.8	9.9	63.6	95.6	175.9	76.8	131.6	36.8
2016	89.1	106.1	67.9	9.2	63.0	98.2	178.5	73.4	131.4	40.3
2017	86.8	103.4	63.9	8.7	61.3	98.5	176.1	68.4	131.2	40.0

Sources: Eurostat, European Commission, European Central Bank, Federal Statistical Office, Bundesbank calculations. Latest data are partly based on press reports and are provisional. **1** Euro area: quarterly data seasonally adjusted. **2** Manufacturing, mining and energy: adjusted for working-day variations. **3** Manufacturing: quarterly

I. Key economic data for the euro area

Lithuania	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovakia	Slovenia	Spain	Cyprus	Period
										Real gross domestic product [1]
										Annual percentage change
2.4	2.4	5.7	2.2	2.0	1.9	3.1	3.1	3.2	4.8	2016
4.1	1.5	6.6	2.9	2.6	2.8	3.2	4.9	3.0	4.2	2017
...	...	...	...	...	...	...	...	...	...	2018
4.5	0.1	7.2	2.9	2.3	2.7	3.4	4.2	3.3	4.4	2017 Q2
3.7	0.6	7.6	2.8	2.5	2.7	3.0	4.2	2.7	4.6	Q3
3.8	2.8	4.9	2.7	2.4	2.4	3.7	6.3	3.2	3.6	Q4
3.7	3.4	4.8	2.8	3.7	1.8	3.7	4.7	2.8	3.9	2018 Q1
3.8	3.2	6.2	3.1	2.7	2.4	4.5	4.0	2.5	3.9	Q2
2.4	3.2	7.5	2.4	2.2	1.9	4.6	4.8	2.3	3.7	Q3
										Industrial production [2]
										Annual percentage change
4.2	1.2	6.3	– 3.5	2.2	2.1	6.7	5.1	3.4	5.1	2015
2.8	0.6	– 4.7	1.3	2.9	2.4	4.6	7.8	1.7	9.2	2016
6.8	2.5	3.9	1.3	5.4	3.5	3.4	8.3	3.3	7.5	2017
6.2	1.0	2.5	– 0.2	5.0	2.7	0.7	7.5	2.7	6.5	2017 Q2
8.7	5.4	4.7	1.9	6.8	5.6	3.4	8.5	3.1	7.1	Q3
7.0	5.2	1.6	2.3	6.5	2.4	3.9	10.9	5.4	6.7	Q4
6.5	3.1	– 3.4	3.1	4.9	2.0	1.4	8.4	2.9	3.5	2018 Q1
4.5	0.4	– 1.2	1.9	5.1	0.4	5.9	6.6	1.2	8.8	Q2
2.2	– 1.2	– 3.8	1.6	2.3	– 1.4	6.7	3.7	0.3	4.0	Q3
										Capacity utilisation in industry [3]
										As a percentage of full capacity
75.9	76.9	79.1	81.7	84.3	80.2	84.5	83.5	78.6	59.8	2016
77.2	81.5	80.3	82.5	86.7	80.4	85.3	85.1	78.7	59.1	2017
77.5	...	80.3	84.0	88.7	81.6	85.4	85.3	79.5	61.4	2018
77.6	80.1	80.0	83.1	86.9	80.9	84.4	85.1	78.7	61.5	2017 Q3
77.4	81.1	82.8	83.1	88.0	81.7	83.0	85.2	79.1	59.1	Q4
77.8	83.1	81.1	83.9	88.8	81.6	83.7	85.0	79.7	60.4	2018 Q1
77.5	82.0	77.6	83.6	88.7	81.4	86.3	86.0	80.3	60.9	Q2
77.2	80.8	83.2	84.4	88.7	82.0	84.0	84.6	79.3	61.8	Q3
77.4	...	79.1	84.0	88.5	81.2	87.6	85.6	78.6	62.5	Q4
										Standardised unemployment rate [4]
										As a percentage of civilian labour force
7.9	6.3	4.7	6.0	6.0	11.2	9.7	8.0	19.6	13.0	2016
7.1	5.6	4.0	4.9	5.5	9.0	8.1	6.6	17.2	11.1	2017
...	...	...	...	...	...	...	...	...	...	2018
6.3	5.4	3.8	3.8	4.9	6.8	6.5	5.2	15.1	8.4	2018 July
6.3	5.4	3.7	3.9	4.9	6.9	6.3	5.2	15.0	8.5	Aug.
6.6	5.2	3.7	3.7	4.9	6.6	6.2	5.2	14.9	8.6	Sep.
6.3	5.2	3.6	3.7	4.8	6.6	6.1	5.2	14.8	8.8	Oct.
6.2	5.0	3.7	3.5	4.7	6.6	6.0	5.1	14.7	9.2	Nov.
...	...	...	...	...	...	...	...	...	...	Dec.
										Harmonised Index of Consumer Prices
										Annual percentage change
0.7	0.0	0.9	0.1	1.0	0.6	– 0.5	– 0.2	– 0.3	– 1.2	2016
3.7	2.1	1.3	1.3	2.2	1.6	1.4	1.6	2.0	0.7	2017
2.5	2.0	1.7	1.6	2.1	1.2	2.5	1.9	1.7	0.8	2018
2.3	2.5	2.1	1.9	2.3	2.2	2.6	2.1	2.3	1.4	2018 July
1.8	2.4	2.4	1.9	2.3	1.3	2.9	2.0	2.2	1.7	Aug.
2.4	2.7	2.5	1.6	2.1	1.8	2.7	2.2	2.3	1.7	Sep.
2.8	2.8	2.1	1.9	2.4	0.8	2.5	2.3	2.3	1.9	Oct.
2.4	2.6	1.4	1.8	2.3	0.9	2.0	2.1	1.7	1.6	Nov.
1.8	1.9	1.2	1.9	1.7	0.6	1.9	1.4	1.2	1.0	Dec.
										General government financial balance [5]
										As a percentage of GDP
0.3	1.6	0.9	0.0	– 1.6	– 2.0	– 2.2	– 1.9	– 4.5	0.3	2016
0.5	1.4	3.5	1.2	– 0.8	– 3.0	– 0.8	0.1	– 3.1	1.8	2017
...	...	...	...	...	...	...	...	...	...	2018
										General government debt [5]
										As a percentage of GDP
42.6	22.2	58.6	64.6	84.8	128.8	52.2	82.6	99.3	108.0	2015
39.9	20.7	56.3	61.9	83.0	129.2	51.8	78.7	99.0	105.5	2016
39.4	23.0	50.9	57.0	78.3	124.8	50.9	74.1	98.1	96.1	2017

data seasonally adjusted. Data collection at the beginning of the quarter. **4** Monthly data seasonally adjusted. Germany: Bundesbank calculation based on unadjusted data from the Federal Statistical Office. **5** According to Maastricht Treaty definition.

II. Overall monetary survey in the euro area

1. The money stock and its counterparts *

a) Euro area

€ billion

Period	I. Lending to non-banks (non-MFIs) in the euro area					II. Net claims on non-euro area residents			III. Monetary capital formation at monetary financial institutions (MFIs) in the euro area				
		Enterprises and households		General government									
	Total	Total	of which: Securities	Total	of which: Securities	Total	Claims on non-euro area residents	Liabilities to non-euro area residents	Total	Deposits with an agreed maturity of over 2 years	Deposits at agreed notice of over 3 months	Debt securities with maturities of over 2 years (net) [2]	Capital and reserves [3]
2017 Apr.	54.7	24.5	20.1	30.1	27.6	– 38.6	77.8	116.4	– 23.0	– 12.6	– 0.3	– 0.5	– 9.6
May	48.4	24.0	16.3	24.4	35.1	0.9	– 4.0	– 4.9	18.0	– 7.7	– 0.3	17.0	9.0
June	24.1	29.4	0.4	– 5.3	– 5.3	58.4	– 108.4	– 166.8	– 3.3	– 12.1	– 0.1	– 6.3	15.2
July	6.9	– 0.1	15.2	7.0	9.4	5.6	105.8	100.1	– 6.7	– 7.8	– 0.9	– 2.6	4.5
Aug.	12.1	– 20.4	– 15.7	32.4	38.5	– 27.0	– 2.9	24.1	7.5	– 5.8	– 0.8	– 3.0	17.0
Sep.	55.6	44.0	– 12.8	11.6	17.1	6.5	– 35.6	– 42.1	– 24.2	– 12.0	– 0.9	– 30.0	18.7
Oct.	64.0	52.3	– 10.3	11.7	11.5	– 68.4	88.2	156.6	– 30.3	– 27.0	– 0.6	– 7.2	4.6
Nov.	127.6	99.0	22.0	28.6	34.8	18.4	– 1.0	– 19.4	5.3	4.5	– 0.8	– 1.5	3.0
Dec.	– 107.2	– 89.3	– 8.7	– 17.9	– 8.6	16.7	– 151.9	– 168.6	– 4.4	11.3	– 0.6	– 8.0	– 7.1
2018 Jan.	124.7	83.9	26.4	40.8	27.6	– 42.8	152.3	195.1	13.3	– 7.6	– 0.1	22.2	– 1.1
Feb.	4.5	– 0.5	– 0.4	5.0	20.8	– 11.5	46.9	58.3	– 20.0	– 0.7	– 0.5	– 13.4	– 5.4
Mar.	65.9	61.3	1.7	4.5	6.9	80.4	– 66.2	– 146.6	14.8	– 5.6	– 0.4	2.0	18.8
Apr.	66.1	65.0	52.3	1.1	– 0.7	– 76.1	41.8	117.9	– 6.9	– 1.6	– 0.5	– 2.5	– 2.3
May	122.4	88.2	11.1	34.2	39.9	– 35.7	120.5	156.2	– 6.2	– 7.3	– 0.4	1.1	0.4
June	– 5.3	– 22.6	– 22.2	17.3	20.5	77.8	– 67.5	– 145.2	– 8.1	– 4.9	– 0.4	– 7.7	4.9
July	67.5	66.9	19.7	0.6	3.2	– 24.4	41.5	66.0	10.5	6.2	– 0.6	– 8.5	13.4
Aug.	– 2.1	– 13.6	– 4.8	11.5	22.7	– 26.5	– 1.6	24.9	4.1	– 8.3	– 0.4	1.4	11.4
Sep.	25.2	22.3	– 11.3	2.9	7.1	64.7	– 25.9	– 90.6	23.6	– 12.5	– 0.5	22.3	14.2
Oct.	5.4	12.1	– 2.5	– 6.7	– 8.2	– 5.8	61.9	67.7	1.7	– 6.4	– 0.3	3.9	4.4
Nov.	91.5	90.5	12.0	1.0	2.6	65.1	32.5	– 32.6	6.4	– 4.9	– 1.0	3.5	8.9

b) German contribution

Period	I. Lending to non-banks (non-MFIs) in the euro area					II. Net claims on non-euro area residents			III. Monetary capital formation at monetary financial institutions (MFIs) in the euro area				
		Enterprises and households		General government									
	Total	Total	of which: Securities	Total	of which: Securities	Total	Claims on non-euro area residents	Liabilities to non-euro area residents	Total	Deposits with an agreed maturity of over 2 years	Deposits at agreed notice of over 3 months	Debt securities with maturities of over 2 years (net) [2]	Capital and reserves [3]
2017 Apr.	14.9	7.8	– 1.5	7.1	5.4	– 19.0	– 7.3	11.6	9.3	– 3.5	– 0.5	1.3	11.9
May	13.8	13.3	3.5	0.6	7.9	7.1	– 13.0	– 20.1	2.7	– 0.1	– 0.4	1.8	1.4
June	11.8	11.5	6.2	0.4	2.6	22.7	16.2	– 6.4	6.0	– 2.0	– 0.4	2.8	5.6
July	18.1	12.8	1.8	5.3	3.5	– 10.3	– 23.0	– 12.7	– 4.0	– 1.3	– 0.8	– 1.4	– 0.5
Aug.	13.6	10.2	– 0.6	3.4	8.3	14.7	– 13.8	– 28.5	4.5	0.1	– 0.8	3.5	1.7
Sep.	17.8	14.1	– 1.8	3.7	8.0	– 22.3	9.2	31.5	– 5.9	– 0.2	– 0.6	– 7.3	2.3
Oct.	15.9	8.6	0.4	7.3	6.5	6.1	– 11.4	– 17.5	– 11.4	– 1.0	– 0.8	– 9.5	– 0.1
Nov.	27.2	16.7	6.4	10.5	11.2	23.1	– 2.6	– 25.7	2.6	3.3	– 0.6	0.1	– 0.1
Dec.	– 5.4	– 3.5	4.3	– 1.8	1.0	– 48.9	– 8.1	40.8	2.6	– 0.3	– 0.6	– 1.9	5.3
2018 Jan.	19.1	21.3	2.0	– 2.2	– 1.3	10.1	28.1	18.0	4.9	– 3.0	– 0.7	14.2	– 5.6
Feb.	5.1	10.7	– 1.7	– 5.6	– 0.2	– 20.7	11.6	32.4	– 5.3	– 0.9	– 0.6	– 1.0	– 2.9
Mar.	7.2	9.7	– 2.2	– 2.5	– 0.6	7.9	– 5.2	– 13.1	3.1	– 2.6	– 0.4	4.0	2.2
Apr.	7.3	7.2	0.9	0.1	– 0.7	– 5.0	– 13.9	– 8.9	– 2.3	– 0.6	– 0.5	– 3.1	1.9
May	19.2	21.2	5.0	– 2.1	2.4	– 10.7	29.8	40.6	– 0.1	0.6	– 0.2	4.1	– 4.6
June	16.7	17.9	2.1	– 1.1	1.3	– 18.2	– 20.4	– 2.1	2.3	– 2.2	– 0.5	– 3.1	8.1
July	12.7	9.7	0.0	2.9	0.9	26.0	– 0.3	– 26.3	2.4	– 0.4	– 0.5	– 2.7	5.9
Aug.	4.1	5.7	– 8.7	– 1.6	2.8	– 8.5	– 11.6	– 3.1	– 3.5	– 3.2	– 0.4	– 1.7	1.8
Sep.	19.3	18.3	1.8	1.0	4.1	– 4.1	7.9	12.0	12.0	– 3.1	– 0.3	7.6	7.8
Oct.	7.0	8.7	1.4	– 1.7	– 5.0	34.2	2.8	– 31.4	1.6	0.1	– 0.5	4.1	– 2.0
Nov.	20.0	18.5	0.9	1.5	2.5	15.0	– 3.7	– 18.7	0.9	– 0.1	– 0.6	3.0	– 1.4

***** The data in this table are based on the consolidated balance sheet of monetary financial institutions (MFIs) (Table II.2); statistical breaks have been eliminated from the flow figures (see also the "Notes on the figures" in the "Explanatory notes" in the Statistical Supplement 1 to the Monthly Report, p. 30•). **1** Source: ECB. **2** Excluding MFIs' portfolios. **3** After deduction of inter-MFI participations. **4** Including the counterparts of monetary liabilities of central governments. **5** Including the monetary liabilities of central governments (Post Office, Treasury). **6** In Germany, only savings deposits. **7** Paper held by residents outside the euro area has been eliminated.

II. Overall monetary survey in the euro area

a) Euro area

IV. Deposits of central governments	V. Other factors: Total [4]	V. Other factors: of which: Intra-Eurosystem liability/claim related to banknote issue	VI. Money stock M3 (balance I plus II less III less IV less V): Total	Money stock M2: Total	Money stock M1: Total	Money stock M1: Currency in circulation	Money stock M1: Overnight deposits [5]	Deposits with an agreed maturity of up to 2 years [5]	Deposits at agreed notice of up to 3 months [5,6]	Repo transactions	Money market fund shares (net) [2,7,8]	Debt securities with maturities of up to 2 years (incl. money market paper) (net) [2,7]	Period
– 5.4	– 9.4	–	53.9	72.8	101.9	6.8	95.1	– 30.7	1.7	– 5.9	– 4.4	– 16.2	2017 Apr.
13.4	– 13.2	–	31.1	28.0	42.0	0.4	41.6	– 21.0	7.0	– 11.7	– 4.6	6.3	May
20.4	21.4	–	44.1	73.1	82.7	9.5	73.2	– 11.9	2.3	– 16.6	– 20.6	– 0.1	June
– 7.7	– 15.7	–	42.7	31.5	35.9	6.0	29.9	– 6.2	1.8	– 24.1	12.9	– 3.5	July
– 18.3	– 59.8	–	55.8	45.5	30.9	– 2.3	33.2	8.1	6.4	2.6	9.4	– 5.4	Aug.
41.3	23.3	–	21.6	23.3	47.9	0.9	47.0	– 21.5	– 3.0	7.0	– 4.1	11.6	Sep.
– 43.4	54.0	–	15.3	12.1	22.7	1.9	20.8	– 7.9	– 2.8	19.8	9.0	– 7.9	Oct.
– 8.8	72.3	–	77.3	73.2	81.7	0.9	80.8	– 7.7	– 0.9	17.2	– 3.8	0.1	Nov.
– 21.2	– 86.5	–	21.6	63.0	65.6	16.1	49.5	– 6.7	4.1	– 31.8	– 26.5	– 6.9	Dec.
40.9	17.7	–	10.0	– 1.8	– 19.1	– 15.2	– 3.9	5.6	11.7	– 7.8	20.1	– 11.6	2018 Jan.
13.9	11.7	–	– 12.5	– 9.4	5.2	0.3	4.9	– 17.3	2.7	– 4.8	– 11.3	4.9	Feb.
13.9	47.8	–	69.8	67.4	64.8	8.7	56.1	– 3.7	6.3	8.2	– 1.4	7.3	Mar.
– 19.8	– 31.6	–	48.3	29.8	48.6	4.2	44.4	– 20.8	2.0	– 3.8	11.3	0.4	Apr.
7.1	17.0	–	68.8	93.2	95.7	4.9	90.8	– 9.8	7.2	24.9	– 12.3	– 6.6	May
21.4	– 43.5	–	102.7	108.9	91.2	11.4	79.7	13.9	3.8	– 5.6	– 8.9	5.2	June
7.6	33.8	–	– 8.9	– 9.8	– 6.3	6.7	– 13.0	– 8.2	4.7	6.7	10.3	– 6.0	July
2.8	– 41.3	–	5.8	– 1.3	– 0.0	2.9	– 3.0	– 6.5	5.3	3.8	– 1.6	2.3	Aug.
40.7	6.4	–	19.3	45.4	69.3	2.1	67.2	– 20.7	– 3.1	– 10.7	– 19.5	– 0.2	Sep.
– 38.9	– 1.0	–	37.8	13.4	8.1	1.8	6.3	8.5	– 3.2	– 10.1	24.3	0.0	Oct.
7.2	58.9	–	84.1	88.5	96.8	5.3	91.5	– 10.6	2.4	31.5	– 3.3	– 3.6	Nov.

b) German contribution

IV. Deposits of central governments	V. Other factors: Total	V. Other factors: of which: Intra-Eurosystem liability/claim related to banknote issue [9,11]	V. Other factors: of which: Currency in circulation	VI. Money stock M3 (balance I plus II less III less IV less V) [10]: Total	Components of the money stock: Overnight deposits	Deposits with an agreed maturity of up to 2 years	Deposits at agreed notice of up to 3 months [6]	Repo transactions	Money market fund shares (net) [7,8]	Debt securities with maturities of up to 2 years (incl. money market paper)(net) [7]	Period
– 6.7	– 8.9	3.3	1.6	2.3	10.3	– 7.1	– 0.0	0.9	– 0.0	– 1.8	2017 Apr.
7.7	– 8.7	2.9	– 0.7	19.2	18.3	1.3	– 0.1	– 1.1	– 0.0	0.8	May
7.1	0.7	4.7	0.9	20.7	20.6	0.7	– 0.7	– 0.6	0.1	0.6	June
2.5	14.8	2.1	2.1	– 5.6	– 3.0	– 3.0	– 0.4	1.4	– 0.1	– 0.6	July
7.4	5.1	3.7	– 1.3	11.2	14.7	– 2.9	– 0.3	0.1	0.2	– 0.5	Aug.
9.6	– 14.2	3.5	– 0.3	5.9	5.6	0.8	0.0	– 0.8	0.0	0.3	Sep.
– 14.2	43.1	2.1	0.8	4.5	14.3	– 9.3	0.5	– 0.3	– 0.3	– 0.5	Oct.
6.2	8.7	1.2	– 0.0	32.7	33.8	– 1.7	0.2	0.3	0.0	0.2	Nov.
10.0	– 58.0	3.8	2.0	– 8.8	– 10.1	0.4	2.4	0.7	– 0.3	– 1.8	Dec.
– 24.3	35.5	– 0.0	– 2.8	13.1	11.5	2.4	0.2	1.0	– 0.0	– 2.0	2018 Jan.
9.2	– 21.2	2.0	– 0.3	1.7	5.2	– 4.4	0.3	– 0.5	0.3	0.7	Feb.
8.3	0.6	6.9	– 1.5	3.1	– 0.5	6.0	– 0.5	– 0.9	0.2	– 1.1	Mar.
– 15.2	14.5	1.3	1.9	5.3	14.7	– 8.6	– 0.3	– 0.5	– 0.0	– 0.0	Apr.
11.7	– 42.5	5.4	– 0.1	39.3	38.8	– 0.5	– 0.1	– 0.8	– 0.2	2.1	May
17.7	– 26.3	3.6	2.5	4.8	– 6.4	14.6	– 0.5	– 0.3	0.1	– 2.6	June
– 21.0	57.8	3.1	2.2	– 0.5	6.6	– 6.1	– 0.6	0.6	– 0.1	– 0.9	July
13.7	– 14.2	5.3	0.5	– 0.4	2.4	– 3.5	– 0.2	– 0.6	– 0.0	1.7	Aug.
12.2	– 32.9	3.9	– 0.3	23.8	27.3	– 2.1	0.0	0.1	– 0.1	– 1.5	Sep.
– 17.8	43.5	3.8	0.1	13.8	11.1	– 0.8	0.2	1.0	0.0	2.3	Oct.
9.6	– 8.2	2.5	1.0	32.7	38.6	– 4.0	0.5	– 1.0	0.4	– 1.7	Nov.

8 Less German MFIs' holdings of paper issued by euro area MFIs. **9** Including national banknotes still in circulation. **10** The German contributions to the Eurosystem's monetary aggregates should on no account be interpreted as national monetary aggregates and are therefore not comparable with the erstwhile German money stocks M1, M2 or M3. **11** The difference between the volume of euro banknotes actually issued by the Bundesbank and the amount disclosed in accordance with the accounting regime chosen by the Eurosystem (see also footnote 2 on banknote circulation in Table III.2).

II. Overall monetary survey in the euro area

2. Consolidated balance sheet of monetary financial institutions (MFIs) *

End of year/month	Total assets or liabilities	Assets										
		Lending to non-banks (non-MFIs) in the euro area									Claims on non-euro area residents	Other assets
			Enterprises and households				General government					
		Total	Total	Loans	Debt securities 2	Shares and other equities	Total	Loans	Debt securities 3			
	Euro area (€ billion) 1											
2016 Oct.	27,047.5	17,202.9	12,923.3	10,785.5	1,363.1	774.8	4,279.6	1,101.2	3,178.4	5,421.5	4,423.1
Nov.	27,162.6	17,295.8	12,983.5	10,830.1	1,383.5	770.0	4,312.2	1,089.2	3,223.0	5,454.2	4,412.7
Dec.	26,715.5	17,273.1	12,963.7	10,810.3	1,372.2	781.2	4,309.4	1,079.7	3,229.7	5,208.3	4,234.1
2017 Jan.	26,797.1	17,356.0	12,994.9	10,815.3	1,393.4	786.2	4,361.1	1,097.6	3,263.5	5,377.8	4,063.3
Feb.	27,058.5	17,417.4	13,033.2	10,845.9	1,398.4	788.9	4,384.2	1,076.5	3,307.8	5,497.7	4,143.4
Mar.	27,009.9	17,549.9	13,115.7	10,902.1	1,423.7	789.8	4,434.2	1,073.0	3,361.1	5,418.3	4,041.8
Apr.	27,100.8	17,594.8	13,130.3	10,897.5	1,429.9	803.0	4,464.5	1,075.7	3,388.8	5,450.8	4,055.1
May	27,016.5	17,632.4	13,145.3	10,895.9	1,451.2	798.2	4,487.1	1,062.5	3,424.6	5,361.1	4,023.1
June	26,693.5	17,611.0	13,132.7	10,895.2	1,441.3	796.2	4,478.3	1,063.1	3,415.2	5,196.2	3,886.2
July	26,650.5	17,603.8	13,118.6	10,865.9	1,460.1	792.5	4,485.3	1,060.3	3,425.0	5,229.0	3,817.6
Aug.	26,683.4	17,610.2	13,087.0	10,853.0	1,444.3	789.7	4,523.2	1,054.6	3,468.6	5,199.5	3,873.7
Sep.	26,562.1	17,655.8	13,130.8	10,905.5	1,434.3	791.0	4,525.1	1,046.0	3,479.1	5,171.1	3,735.2
Oct.	26,760.7	17,733.3	13,189.6	10,968.3	1,423.0	798.3	4,543.6	1,046.2	3,497.4	5,292.7	3,734.7
Nov.	26,790.2	17,846.3	13,272.2	11,037.5	1,431.0	803.7	4,574.1	1,038.2	3,535.9	5,247.3	3,696.6
Dec.	26,320.9	17,708.3	13,167.2	10,942.7	1,425.7	798.9	4,541.0	1,028.7	3,512.3	5,065.8	3,546.8
2018 Jan.	26,336.6	17,819.1	13,241.2	10,990.6	1,449.1	801.5	4,577.9	1,041.6	3,536.3	5,253.9	3,263.6
Feb.	26,299.7	17,821.4	13,239.8	10,992.9	1,456.6	790.2	4,581.6	1,025.6	3,556.0	5,342.8	3,135.6
Mar.	26,292.2	17,880.5	13,279.4	11,032.0	1,466.9	780.6	4,601.1	1,023.3	3,577.8	5,257.6	3,154.1
Apr.	26,515.5	18,032.9	13,433.0	11,127.8	1,490.1	815.1	4,599.9	1,025.1	3,574.8	5,334.9	3,147.7
May	26,916.4	18,104.5	13,514.3	11,201.9	1,504.6	807.7	4,590.2	1,019.9	3,570.3	5,543.5	3,268.4
June	26,772.1	18,099.2	13,482.3	11,193.4	1,501.8	787.0	4,616.9	1,016.8	3,600.1	5,455.8	3,217.1
July	26,781.9	18,156.2	13,547.0	11,235.8	1,524.0	787.2	4,609.3	1,012.7	3,596.5	5,466.0	3,159.6
Aug.	26,815.4	18,127.5	13,530.7	11,227.3	1,524.0	779.3	4,596.8	1,001.7	3,595.1	5,484.6	3,203.4
Sep.	26,769.4	18,147.6	13,539.4	11,248.0	1,509.3	782.1	4,608.2	1,000.7	3,607.5	5,461.9	3,159.9
Oct.	27,083.0	18,145.3	13,549.4	11,266.5	1,511.2	771.8	4,595.9	1,002.5	3,593.4	5,679.1	3,258.6
Nov.	27,223.5	18,236.6	13,631.0	11,337.1	1,516.6	777.3	4,605.6	1,001.0	3,604.6	5,701.5	3,285.5
	German contribution (€ billion)											
2016 Oct.	6,208.1	4,019.0	3,087.3	2,664.9	161.9	260.5	931.7	360.3	571.4	1,260.2	928.9
Nov.	6,186.1	4,046.1	3,107.1	2,680.4	165.0	261.7	939.0	355.5	583.5	1,243.2	896.8
Dec.	6,131.1	4,037.0	3,099.2	2,671.7	164.0	263.6	937.8	345.2	592.6	1,234.7	859.4
2017 Jan.	6,131.6	4,054.1	3,112.0	2,682.7	165.0	264.3	942.1	345.2	596.8	1,260.2	817.4
Feb.	6,196.5	4,075.7	3,124.9	2,691.3	168.1	265.5	950.8	344.6	606.2	1,281.9	839.0
Mar.	6,176.3	4,089.6	3,136.8	2,701.2	169.6	266.0	952.8	340.6	612.3	1,281.0	805.7
Apr.	6,174.4	4,103.1	3,143.3	2,709.1	170.4	263.9	959.8	342.3	617.5	1,264.2	807.1
May	6,160.2	4,114.5	3,157.3	2,719.6	172.6	265.0	957.2	332.2	624.9	1,234.6	811.2
June	6,106.3	4,120.6	3,165.9	2,722.5	173.2	270.2	954.7	330.8	623.9	1,238.6	747.1
July	6,069.0	4,135.9	3,176.7	2,731.5	175.2	269.9	959.2	332.6	626.7	1,201.4	731.7
Aug.	6,084.5	4,152.3	3,186.3	2,741.6	174.3	270.3	966.1	327.8	638.3	1,185.1	747.2
Sep.	6,076.7	4,167.7	3,200.9	2,757.6	174.3	269.1	966.8	323.2	643.6	1,194.6	714.3
Oct.	6,082.0	4,185.9	3,210.4	2,766.1	174.6	269.8	975.4	324.0	651.4	1,188.5	707.7
Nov.	6,088.7	4,211.0	3,227.4	2,777.0	178.7	271.6	983.6	321.5	662.1	1,177.2	700.5
Dec.	6,051.1	4,202.2	3,222.8	2,768.6	180.4	273.8	979.4	318.5	660.9	1,163.4	685.4
2018 Jan.	6,074.8	4,214.9	3,242.3	2,786.5	181.6	274.2	972.5	317.0	655.6	1,176.4	683.5
Feb.	6,051.9	4,220.1	3,253.3	2,799.4	183.1	270.8	966.8	311.4	655.4	1,195.1	636.8
Mar.	6,053.7	4,228.1	3,260.9	2,809.5	183.0	268.4	967.2	309.7	657.5	1,184.4	641.2
Apr.	6,046.4	4,233.3	3,267.7	2,816.0	184.4	267.4	965.6	310.5	655.0	1,178.5	634.6
May	6,148.1	4,248.4	3,280.8	2,824.1	186.8	269.8	967.6	306.5	661.1	1,226.7	673.0
June	6,120.9	4,264.2	3,297.3	2,838.8	187.5	271.0	966.9	304.3	662.7	1,201.8	654.9
July	6,089.3	4,274.2	3,307.9	2,849.4	187.0	271.5	966.3	304.9	661.4	1,194.2	620.9
Aug.	6,121.9	4,279.7	3,313.6	2,863.9	183.8	265.9	966.0	300.5	665.5	1,189.8	652.4
Sep.	6,119.7	4,295.4	3,331.0	2,880.3	184.8	265.9	964.4	297.5	666.9	1,194.5	629.8
Oct.	6,154.2	4,303.6	3,339.1	2,888.2	185.3	265.6	964.5	300.8	663.7	1,208.1	642.4
Nov.	6,176.6	4,323.5	3,356.8	2,905.6	188.1	263.0	966.7	299.8	666.9	1,202.7	650.5

***** Monetary financial institutions (MFIs) comprise banks (including building and loan associations), money market funds, and the European Central Bank and national central banks (the Eurosystem). **1** Source: ECB. **2** Including money market paper of enterprises. **3** Including Treasury bills and other money market paper issued by general government. **4** Euro currency in circulation (see also footnote 8 on p.12•). Excluding MFIs' cash in hand (in euro). The German contribution includes the

II. Overall monetary survey in the euro area

Liabilities											
	Deposits of non-banks (non-MFIs) in the euro area										
			Enterprises and households								
					With agreed maturities of			At agreed notice of [6]			
Currency in circulation [4]	Total	of which: in euro [5]	Total	Overnight	up to 1 year	over 1 year and up to 2 years	over 2 years	up to 3 months	over 3 months	End of year/month	
Euro area (€ billion) [1]											
1,069.9	11,797.6	11,048.0	11,134.9	5,680.6	936.9	307.6	2,018.8	2,123.8	67.2	2016	Oct.
1,071.2	11,883.1	11,108.4	11,213.1	5,780.3	926.8	303.3	2,014.3	2,121.8	66.6		Nov.
1,087.5	11,929.6	11,211.6	11,321.5	5,826.7	913.8	293.2	2,049.7	2,172.6	65.6		Dec.
1,075.6	11,985.1	11,191.6	11,306.4	5,823.9	914.2	286.6	2,034.5	2,182.1	65.0	2017	Jan.
1,078.5	11,994.0	11,210.5	11,330.1	5,849.1	919.5	284.5	2,028.8	2,183.6	64.6		Feb.
1,082.9	12,103.6	11,279.9	11,422.6	5,945.0	912.9	284.5	2,027.9	2,188.3	64.1		Mar.
1,089.7	12,141.3	11,323.3	11,456.5	6,022.2	888.7	278.2	2,013.7	2,190.1	63.7		Apr.
1,090.2	12,151.7	11,338.9	11,444.1	6,044.4	862.7	272.6	2,003.3	2,199.0	62.0		May
1,099.7	12,214.1	11,384.0	11,483.6	6,113.6	854.2	265.6	1,986.8	2,201.6	61.9		June
1,105.6	12,209.8	11,392.9	11,476.5	6,123.8	848.8	262.8	1,976.5	2,206.2	58.4		July
1,103.3	12,226.8	11,422.8	11,505.1	6,146.8	857.8	260.6	1,969.7	2,212.6	57.7		Aug.
1,104.2	12,271.6	11,432.3	11,519.7	6,196.9	843.3	256.2	1,956.4	2,210.0	56.8		Sep.
1,106.2	12,217.2	11,420.3	11,507.4	6,217.3	846.5	250.5	1,929.6	2,207.3	56.2		Oct.
1,107.1	12,249.3	11,471.5	11,544.7	6,291.5	832.2	245.9	1,912.8	2,206.7	55.5		Nov.
1,123.2	12,285.5	11,542.6	11,617.5	6,349.2	834.7	242.2	1,925.2	2,211.3	54.9		Dec.
1,108.0	12,318.4	11,528.3	11,610.5	6,348.8	840.6	236.7	1,915.0	2,213.6	55.8	2018	Jan.
1,108.3	12,329.9	11,524.5	11,603.2	6,352.6	831.3	232.1	1,915.9	2,216.1	55.1		Feb.
1,117.0	12,393.9	11,580.6	11,660.8	6,417.0	831.5	226.4	1,909.0	2,222.2	54.8		Mar.
1,121.2	12,401.2	11,610.7	11,680.4	6,455.0	817.5	222.3	1,907.1	2,224.2	54.4		Apr.
1,126.1	12,502.5	11,690.8	11,763.2	6,548.1	810.9	217.7	1,900.8	2,231.7	54.0		May
1,137.6	12,613.7	11,777.2	11,845.2	6,623.8	821.4	214.9	1,895.1	2,236.3	53.7		June
1,145.3	12,606.0	11,760.8	11,827.1	6,603.9	817.1	212.1	1,899.9	2,241.0	53.1		July
1,148.3	12,595.5	11,753.5	11,804.8	6,594.2	812.2	208.9	1,890.4	2,246.4	52.7		Aug.
1,150.4	12,662.5	11,780.5	11,833.6	6,657.5	796.4	205.9	1,877.7	2,243.7	52.3		Sep.
1,152.2	12,639.8	11,788.6	11,848.9	6,669.2	813.1	203.6	1,871.9	2,239.0	52.1		Oct.
1,157.4	12,719.4	11,861.9	11,913.1	6,750.5	802.9	201.0	1,865.9	2,241.5	51.3		Nov.
German contribution (€ billion)											
245.4	3,489.6	3,386.4	3,254.0	1,821.1	172.1	37.8	637.3	533.5	52.3	2016	Oct.
245.7	3,536.5	3,424.0	3,288.1	1,857.7	171.0	37.4	636.6	533.7	51.7		Nov.
248.1	3,517.1	3,419.8	3,284.1	1,851.0	171.5	38.4	635.6	536.3	51.3		Dec.
245.4	3,526.3	3,439.3	3,306.3	1,873.8	174.0	38.7	632.1	537.1	50.6	2017	Jan.
246.6	3,532.6	3,448.3	3,313.4	1,881.5	175.3	38.8	630.0	537.9	50.0		Feb.
247.7	3,549.3	3,449.2	3,318.1	1,886.4	177.4	39.9	628.4	536.5	49.5		Mar.
249.3	3,540.9	3,447.5	3,317.0	1,895.9	170.7	40.0	624.7	536.6	49.0		Apr.
248.6	3,566.1	3,465.8	3,327.4	1,910.5	167.5	40.2	624.1	536.4	48.7		May
249.5	3,590.5	3,482.0	3,339.9	1,928.7	165.5	40.3	621.4	535.7	48.3		June
251.6	3,583.1	3,472.8	3,333.0	1,927.8	162.6	40.3	619.5	537.9	44.9		July
250.4	3,600.7	3,483.1	3,338.6	1,938.3	159.0	40.3	619.3	537.5	44.1		Aug.
250.1	3,616.3	3,486.8	3,345.9	1,945.0	162.3	39.6	617.9	537.5	43.5		Sep.
250.9	3,606.4	3,490.8	3,352.9	1,958.5	158.8	38.6	616.2	538.0	42.7		Oct.
250.9	3,646.8	3,521.5	3,383.7	1,990.6	157.1	37.4	618.2	538.3	42.1		Nov.
252.9	3,647.9	3,515.8	3,378.5	1,976.2	162.0	37.7	620.4	540.7	41.5		Dec.
250.1	3,632.5	3,522.3	3,390.7	1,994.6	161.5	36.4	616.5	539.5	42.2	2018	Jan.
249.8	3,642.4	3,523.0	3,388.4	1,995.9	160.2	35.3	615.5	540.0	41.5		Feb.
248.3	3,652.2	3,524.1	3,389.6	1,998.1	164.6	34.2	612.1	539.4	41.0		Mar.
250.3	3,641.8	3,529.8	3,395.0	2,013.5	157.6	33.6	610.6	539.1	40.6		Apr.
250.2	3,693.8	3,568.4	3,425.0	2,048.0	154.6	33.0	610.2	539.0	40.3		May
252.7	3,716.5	3,574.0	3,423.0	2,039.4	165.5	32.6	607.2	538.5	39.8		June
256.0	3,694.1	3,571.0	3,429.7	2,053.1	161.2	32.2	605.8	538.0	39.4		July
256.4	3,703.1	3,568.1	3,417.3	2,051.8	153.7	34.0	601.1	537.7	38.9		Aug.
256.1	3,737.2	3,588.3	3,437.1	2,076.9	153.2	33.2	597.4	537.8	38.6		Sep.
256.3	3,730.6	3,595.8	3,453.9	2,092.2	155.1	33.6	596.9	538.0	38.1		Oct.
257.2	3,774.2	3,632.0	3,482.3	2,127.4	149.8	33.2	595.9	538.5	37.4		Nov.

volume of euro banknotes put into circulation by the Bundesbank in accordance with the accounting regime chosen by the Eurosystem (see also footnote 2 on banknote circulation in Table III.2). The volume of currency actually put into circulation by the Bundesbank can be calculated by adding to this total the item "Intra-Eurosystem liability/claim related to banknote issue" (see "Other liability items"). **5** Excluding central governments' deposits. **6** In Germany, only savings deposits.

II. Overall monetary survey in the euro area

2. Consolidated balance sheet of monetary financial institutions (MFIs) * (cont'd)

End of year/month	Liabilities (cont'd)												
	Deposits of non-banks (non-MFIs) in the euro area (cont'd)								Repo transactions with non-banks in the euro area		Money market fund shares (net) [3]	Debt securities	
	General government												
		Other general government											
				With agreed maturities of			At agreed notice of [2]						
	Central governments	Total	Overnight	up to 1 year	over 1 year and up to 2 years	over 2 years	up to 3 months	over 3 months	Total	of which: Enterprises and households		Total	of which: Denominated in euro
	Euro area (€ billion) [1]												
2016 Oct.	295.3	367.4	182.2	94.3	19.9	44.5	21.3	5.3	267.8	267.1	512.1	2,217.4	1,501.7
Nov.	300.4	369.6	178.7	98.8	21.1	44.2	21.6	5.2	264.9	264.2	519.5	2,233.8	1,503.4
Dec.	253.0	355.1	168.6	93.9	21.5	43.3	22.6	5.1	268.9	268.2	511.5	2,221.3	1,501.1
2017 Jan.	316.7	362.0	169.5	99.5	21.3	43.4	22.9	5.5	250.1	249.5	525.9	2,199.8	1,485.6
Feb.	299.9	364.1	175.0	96.2	20.2	44.1	23.1	5.4	241.7	241.0	521.9	2,211.1	1,491.1
Mar.	324.0	357.0	165.4	96.5	21.5	44.6	23.6	5.4	256.5	255.8	534.0	2,184.3	1,478.2
Apr.	318.6	366.2	176.4	92.4	23.7	44.7	23.5	5.5	250.4	249.7	529.6	2,156.2	1,465.1
May	332.1	375.5	181.6	94.5	25.3	45.2	24.2	4.7	238.5	237.8	524.9	2,164.5	1,489.6
June	352.5	378.0	181.2	95.7	26.6	45.8	24.0	4.7	221.7	221.0	504.1	2,148.0	1,477.8
July	345.0	388.3	191.0	95.2	26.7	46.2	24.4	4.8	197.4	196.8	517.0	2,126.1	1,469.2
Aug.	326.7	395.0	197.1	94.8	27.8	46.2	24.4	4.7	199.6	198.9	526.4	2,111.0	1,461.9
Sep.	362.5	389.5	193.2	91.9	28.1	47.5	24.1	4.7	206.6	205.9	522.1	2,092.5	1,446.5
Oct.	318.9	390.9	197.9	87.6	28.3	48.3	24.1	4.7	226.5	225.8	531.3	2,083.2	1,429.2
Nov.	310.2	394.4	197.6	89.5	29.8	49.0	23.8	4.6	243.4	242.8	527.6	2,096.5	1,444.2
Dec.	289.0	379.1	191.1	81.5	31.5	46.8	23.5	4.6	211.2	210.7	501.2	2,076.1	1,432.9
2018 Jan.	329.9	378.0	186.1	84.3	31.1	47.5	24.1	5.0	203.0	202.5	521.3	2,072.0	1,440.3
Feb.	343.9	382.8	191.5	83.4	30.4	47.8	24.8	4.8	198.5	198.0	510.0	2,074.2	1,431.7
Mar.	357.8	375.3	181.4	85.8	29.5	48.6	25.1	4.8	206.7	206.1	508.5	2,078.0	1,435.7
Apr.	337.9	383.0	190.3	84.7	28.4	49.7	25.1	4.7	227.6	227.1	519.7	2,085.4	1,436.9
May	345.0	394.3	196.4	87.2	29.8	51.0	25.2	4.7	253.0	252.5	507.4	2,097.6	1,439.5
June	366.4	402.2	199.3	91.7	29.9	51.9	24.8	4.7	247.4	246.8	498.2	2,095.4	1,439.3
July	374.2	404.6	203.1	88.4	30.9	52.8	24.8	4.7	254.0	253.5	508.7	2,076.7	1,433.4
Aug.	377.0	413.7	208.3	90.6	31.0	54.4	24.8	4.6	257.8	257.3	507.1	2,083.9	1,440.4
Sep.	414.1	414.8	210.8	87.8	32.4	54.8	24.4	4.6	247.2	246.7	487.6	2,109.9	1,457.9
Oct.	375.4	415.4	213.2	84.0	32.3	55.7	25.7	4.5	237.4	236.9	511.8	2,166.3	1,475.9
Nov.	382.8	423.5	218.9	85.2	33.2	56.3	25.7	4.3	268.8	268.4	508.6	2,162.8	1,469.9
	German contribution (€ billion)												
2016 Oct.	40.5	195.1	58.8	80.4	14.9	37.2	3.4	0.5	3.2	3.2	2.3	526.0	242.2
Nov.	47.4	201.0	59.5	84.2	16.1	37.3	3.3	0.6	3.0	3.0	2.3	542.1	251.4
Dec.	33.8	199.1	61.6	80.5	16.6	36.6	3.3	0.6	2.2	2.2	2.3	541.3	250.6
2017 Jan.	21.2	198.8	55.1	86.6	16.4	36.9	3.2	0.6	4.8	4.8	2.2	553.4	261.4
Feb.	17.5	201.8	61.5	83.2	15.7	37.7	3.1	0.6	4.5	4.5	2.2	556.7	262.6
Mar.	31.6	199.5	58.7	82.5	16.5	38.2	3.1	0.6	2.6	2.6	2.1	551.8	263.6
Apr.	25.0	198.9	59.0	79.4	18.8	38.2	3.0	0.6	3.5	3.5	2.1	546.7	264.9
May	32.7	206.1	61.6	81.6	20.6	38.7	3.1	0.6	2.4	2.4	2.1	542.6	263.2
June	39.8	210.9	63.4	82.6	22.0	39.3	3.0	0.6	1.8	1.8	2.1	542.7	266.0
July	42.3	207.8	60.3	81.5	22.6	39.8	3.0	0.7	3.3	3.3	2.1	534.5	264.9
Aug.	49.7	212.4	64.0	81.0	23.6	40.1	3.0	0.7	3.4	3.4	2.3	534.4	267.8
Sep.	59.5	210.9	63.2	78.5	24.3	41.2	3.0	0.7	2.6	2.6	2.3	529.1	264.0
Oct.	45.3	208.2	64.4	73.5	24.7	41.9	3.0	0.7	2.3	2.3	2.0	521.8	252.3
Nov.	51.7	211.4	65.5	73.0	26.2	43.1	2.9	0.7	2.6	2.6	2.0	518.3	251.1
Dec.	61.7	207.7	69.3	66.3	27.8	40.6	2.9	0.7	3.3	3.3	1.7	512.7	256.4
2018 Jan.	37.4	204.4	61.6	70.3	27.5	41.4	2.8	0.8	4.3	4.3	1.7	518.8	262.8
Feb.	46.7	207.4	66.3	69.2	26.8	41.5	3.0	0.6	3.8	3.8	2.0	522.7	263.8
Mar.	55.0	207.6	63.2	72.7	25.8	42.3	3.0	0.6	2.9	2.9	2.2	523.5	265.6
Apr.	39.7	207.0	63.1	72.5	24.4	43.3	3.0	0.6	2.4	2.4	2.1	524.1	270.0
May	51.4	217.4	68.6	74.9	25.7	44.5	3.1	0.6	1.6	1.6	1.9	536.8	274.3
June	69.1	224.5	70.7	79.2	25.6	45.3	3.1	0.6	1.3	1.3	2.0	531.3	274.8
July	48.1	216.4	63.4	76.6	26.5	46.2	3.1	0.6	1.8	1.8	1.9	526.6	277.0
Aug.	61.7	224.1	67.3	78.9	26.4	47.7	3.1	0.6	1.2	1.2	1.9	527.7	282.0
Sep.	73.9	226.2	69.6	76.9	27.8	48.3	3.1	0.6	1.3	1.3	1.9	536.3	287.6
Oct.	56.1	220.6	66.1	73.9	28.0	48.9	3.1	0.6	2.4	2.4	1.9	544.5	286.9
Nov.	65.7	226.3	69.4	74.8	28.7	49.7	3.1	0.7	1.3	1.3	2.2	544.7	290.3

***** Monetary financial institutions (MFIs) comprise banks (including building and loan associations), money market funds, and the European Central Bank and national central banks (the Eurosystem). **1** Source: ECB. **2** In Germany, only savings deposits. **3** Excluding holdings of MFIs; for the German contribution, excluding German MFIs' portfolios of securities issued by MFIs in the euro area. **4** In Germany, bank debt securities with maturities of up to one year are classed as money market paper. **5** Excluding liabilities arising from securities issued. **6** After deduction of inter-MFI participations. **7** The German contributions to the Eurosystem's monetary aggregates should on no account be interpreted as national monetary aggregates and are therefore not comparable with the erstwhile German money stocks M1, M2 or M3. **8** Including DEM banknotes still in circulation (see also footnote 4 on p. 10•). **9** For the German contribution, the difference between the volume of

II. Overall monetary survey in the euro area

Memo item:													
						Other liability items		Monetary aggregates [7] (from 2002 German contribution excludes currency in circulation)					
issued (net) [3]													
With maturities of													
up to 1 year [4]	over 1 year and up to 2 years	over 2 years	Liabilities to non-euro area residents [5]	Capital and reserves [6]	Excess of inter-MFI liabilities	Total [8]	of which: Intra-Eurosystem-liability/ claim related to banknote issue [9]	M1 [10]	M2 [11]	M3 [12]	Monetary capital formation [13]	Monetary liabilities of central governments (Post Office, Treasury) [14]	End of year/month
Euro area (€ billion) [1]													
48.4	39.6	2,129.4	4,286.1	2,683.4	– 28.5	4,241.7	–	7,043.7	10,568.3	11,241.5	6,948.5	131.8	2016 Oct.
48.9	38.6	2,146.3	4,327.8	2,662.6	– 56.1	4,255.9	–	7,146.0	10,660.0	11,336.8	6,939.2	136.4	Nov.
43.4	37.7	2,140.2	4,049.3	2,654.2	– 42.3	4,035.5	–	7,194.1	10,735.8	11,391.2	6,958.0	135.4	Dec.
38.9	41.4	2,119.5	4,252.5	2,646.2	– 16.2	3,878.0	–	7,183.7	10,734.7	11,414.4	6,914.2	139.1	2017 Jan.
43.7	42.8	2,124.6	4,383.6	2,696.4	– 20.3	3,951.5	–	7,218.4	10,769.9	11,448.5	6,963.9	140.1	Feb.
41.9	44.5	2,097.9	4,322.7	2,677.0	– 3.1	3,852.1	–	7,309.1	10,860.5	11,554.2	6,916.9	140.0	Mar.
29.3	41.1	2,085.8	4,405.4	2,662.9	1.0	3,864.2	–	7,406.4	10,927.1	11,601.9	6,876.2	142.1	Apr.
36.3	41.4	2,086.8	4,338.1	2,659.2	3.0	3,846.5	–	7,437.3	10,939.5	11,618.1	6,861.2	145.0	May
37.6	39.8	2,070.6	4,139.0	2,631.1	9.8	3,725.9	–	7,516.1	11,007.6	11,656.5	6,800.8	145.5	June
34.8	37.9	2,053.4	4,185.6	2,616.1	9.4	3,683.6	–	7,544.5	11,032.5	11,691.3	6,755.4	148.0	July
30.2	37.9	2,042.9	4,182.2	2,647.6	– 0.9	3,687.4	–	7,572.0	11,073.6	11,743.2	6,768.7	148.5	Aug.
39.4	38.3	2,014.8	4,159.3	2,650.6	17.0	3,538.1	–	7,620.8	11,098.3	11,764.0	6,730.9	150.4	Sep.
33.3	36.5	2,013.4	4,341.0	2,665.6	13.3	3,576.3	–	7,646.5	11,114.4	11,783.7	6,717.8	148.7	Oct.
37.1	36.8	2,022.6	4,291.1	2,657.3	45.9	3,572.0	–	7,724.4	11,175.5	11,852.7	6,701.8	151.3	Nov.
32.5	34.7	2,008.9	4,099.3	2,731.0	26.2	3,267.2	–	7,786.7	11,234.1	11,870.1	6,771.4	146.0	Dec.
25.3	29.3	2,017.4	4,415.8	2,714.9	– 44.3	3,027.4	–	7,768.2	11,221.3	11,867.7	6,755.6	148.1	2018 Jan.
32.5	27.8	2,013.9	4,506.6	2,708.2	– 28.8	2,892.8	–	7,777.5	11,218.0	11,862.4	6,745.8	147.5	Feb.
39.7	27.1	2,011.1	4,349.9	2,720.0	– 8.1	2,926.4	–	7,840.8	11,283.4	11,929.1	6,748.3	147.5	Mar.
40.5	27.2	2,017.7	4,496.1	2,720.7	10.2	2,933.4	–	7,892.7	11,317.1	11,984.8	6,754.2	148.4	Apr.
35.0	26.9	2,035.6	4,710.9	2,699.7	13.6	3,005.6	–	7,995.1	11,420.1	12,064.8	6,745.8	147.0	May
41.3	26.0	2,028.0	4,564.3	2,670.0	31.5	2,914.0	–	8,087.0	11,529.8	12,168.3	6,703.4	150.2	June
32.7	28.4	2,015.6	4,613.3	2,665.5	18.6	2,893.8	–	8,080.9	11,519.1	12,158.5	6,691.6	152.4	July
34.9	28.7	2,020.3	4,649.6	2,661.2	25.6	2,886.5	–	8,082.4	11,520.1	12,166.9	6,683.7	155.5	Aug.
36.7	26.4	2,046.9	4,573.0	2,660.2	27.2	2,851.5	–	8,152.8	11,567.3	12,187.6	6,696.5	157.9	Sep.
36.2	28.0	2,102.1	4,703.8	2,699.3	– 3.2	2,975.5	–	8,164.3	11,585.9	12,232.1	6,785.7	153.6	Oct.
34.6	26.1	2,102.2	4,663.0	2,706.5	17.8	3,019.2	–	8,260.0	11,673.2	12,315.0	6,786.4	156.9	Nov.
German contribution (€ billion)													
25.3	13.4	487.3	899.9	585.7	– 863.2	1,564.6	322.0	1,879.9	2,721.9	2,766.1	1,800.2	–	2016 Oct.
22.7	14.6	504.7	905.9	578.4	– 918.6	1,536.5	323.9	1,917.2	2,762.9	2,805.6	1,809.3	–	Nov.
23.1	14.2	504.0	878.8	580.3	– 897.1	1,506.3	327.3	1,912.6	2,759.2	2,801.0	1,808.4	–	Dec.
22.8	14.4	516.2	930.2	575.5	– 926.5	1,465.7	328.3	1,928.9	2,784.9	2,829.2	1,811.9	–	2017 Jan.
22.2	15.2	519.2	972.2	587.9	– 944.3	1,484.8	330.1	1,943.0	2,797.0	2,841.1	1,825.3	–	Feb.
19.5	15.9	516.4	979.6	586.5	– 957.7	1,462.2	331.9	1,945.1	2,801.0	2,841.1	1,819.5	–	Mar.
17.7	16.9	512.1	985.8	597.9	– 965.5	1,463.1	335.2	1,954.8	2,803.4	2,843.5	1,822.6	–	Apr.
18.4	16.8	507.4	957.7	595.0	– 967.6	1,461.9	338.1	1,972.1	2,821.5	2,861.2	1,814.4	–	May
19.3	16.4	507.0	946.6	591.5	– 981.1	1,412.1	342.8	1,992.1	2,841.2	2,880.9	1,808.1	–	June
18.8	16.2	499.5	926.1	589.1	– 975.5	1,406.4	345.0	1,988.1	2,835.9	2,876.2	1,793.6	–	July
18.5	15.8	500.0	894.5	597.2	– 970.2	1,422.2	348.6	2,002.3	2,846.8	2,886.8	1,801.4	–	Aug.
19.3	15.4	494.4	927.7	594.2	– 982.9	1,387.5	352.1	2,008.2	2,853.5	2,893.0	1,792.0	–	Sep.
18.6	15.7	487.5	913.6	596.3	– 946.7	1,386.3	354.2	2,023.0	2,859.6	2,898.2	1,785.4	–	Oct.
18.5	15.8	484.0	883.4	593.7	– 940.3	1,382.0	355.5	2,056.1	2,890.9	2,929.9	1,781.9	–	Nov.
17.7	14.8	480.2	921.3	668.6	– 999.6	1,295.2	359.3	2,045.5	2,882.9	2,920.4	1,852.1	–	Dec.
16.0	14.2	488.5	931.6	656.8	– 974.7	1,303.7	359.3	2,056.2	2,894.2	2,930.5	1,846.2	–	2018 Jan.
16.7	14.3	491.6	968.4	653.3	– 1,003.8	1,263.2	361.3	2,062.1	2,896.6	2,933.5	1,844.1	–	Feb.
16.0	13.9	493.6	953.5	657.7	– 1,016.5	1,278.1	368.2	2,061.3	2,901.1	2,936.2	1,847.4	–	Mar.
17.5	12.3	494.3	949.7	658.7	– 1,002.9	1,270.5	369.5	2,076.6	2,907.0	2,941.3	1,848.1	–	Apr.
19.0	13.1	504.7	997.9	662.3	– 1,044.2	1,297.9	374.9	2,116.6	2,946.8	2,982.4	1,862.6	–	May
17.0	12.5	501.8	996.0	666.2	– 1,070.1	1,277.7	378.5	2,110.1	2,954.5	2,987.3	1,860.9	–	June
16.7	11.9	498.0	967.9	665.4	– 1,019.3	1,250.8	381.6	2,116.5	2,954.1	2,986.4	1,855.4	–	July
18.3	12.0	497.4	966.5	672.6	– 1,024.8	1,273.6	386.9	2,119.1	2,953.0	2,986.4	1,858.4	–	Aug.
17.8	11.0	507.4	979.8	670.9	– 1,059.4	1,251.7	390.8	2,146.5	2,978.4	3,010.4	1,863.3	–	Sep.
20.2	11.0	513.2	952.8	676.1	– 1,031.2	1,277.1	394.6	2,158.3	2,990.0	3,025.5	1,873.8	–	Oct.
19.3	10.2	515.2	932.9	675.8	– 1,041.8	1,287.2	397.1	2,196.8	3,024.9	3,058.0	1,874.7	–	Nov.

euro banknotes actually issued by the Bundesbank and the amount disclosed in accordance with the accounting regime chosen by the Eurosystem (see also footnote 2 on banknote circulation in Table III.2). **10** Overnight deposits (excluding central governments' deposits), and (for the euro area) currency in circulation, central governments' overnight monetary liabilities, which are not included in the consolidated balance sheet. **11** M1 plus deposits with agreed maturities of up to two years and at agreed notice of up to three months (excluding central governments' deposits) and (for the euro area) central governments' monetary liabilities with such maturities. **12** M2 plus repo transactions, money market fund shares, money market paper and debt securities up to two years. **13** Deposits with agreed maturities of over two years and at agreed notice of over three months, debt securities with maturities of over two years, capital and reserves. **14** Non-existent in Germany.

II. Overall monetary survey in the euro area

3. Banking system's liquidity position *
Stocks

€ billion; period averages of daily positions

Reserve maintenance period ending in 1	Liquidity-providing factors					Liquidity-absorbing factors						
		Monetary policy operations of the Eurosystem										
	Net assets in gold and foreign currency	Main refinancing operations	Longer-term refinancing operations	Marginal lending facility	Other liquidity-providing operations 3	Deposit facility	Other liquidity-absorbing operations 4	Banknotes in circulation 5	Central government deposits	Other factors (net) 6	Credit institutions' current account balances (including minimum reserves) 7	Base money 8
Eurosystem 2												
2016 July	666.1	47.6	471.6	0.1	1,227.1	323.1	0.0	1,087.1	175.5	169.4	657.5	2,067.7
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	685.0	43.5	483.7	0.0	1,339.7	355.1	0.0	1,096.2	137.8	214.0	748.8	2,200.2
Oct.	687.8	37.4	503.5	0.1	1,447.0	387.3	0.0	1,094.7	168.3	248.0	777.4	2,259.4
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	687.4	34.0	511.8	0.2	1,570.2	439.4	0.0	1,103.1	159.7	277.6	823.9	2,366.3
2017 Jan.	674.7	34.6	548.9	0.2	1,670.8	434.4	0.0	1,119.1	143.1	313.6	919.0	2,472.6
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	662.4	29.0	554.3	0.3	1,787.5	479.2	0.0	1,110.8	160.3	322.2	960.9	2,550.9
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	678.6	18.5	707.4	0.3	1,905.3	550.0	0.0	1,118.4	182.0	378.8	1,081.1	2,749.4
June	683.1	13.7	767.4	0.2	1,995.0	593.7	0.0	1,126.0	163.6	397.4	1,178.7	2,898.5
July	656.9	9.4	767.4	0.2	2,076.1	595.3	0.0	1,136.3	229.8	379.4	1,169.2	2,900.8
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	639.0	5.5	768.6	0.3	2,150.2	611.4	0.0	1,142.5	181.8	385.1	1,242.7	2,996.7
Oct.	635.0	6.7	765.3	0.2	2,239.2	648.1	0.0	1,142.8	218.3	383.9	1,253.3	3,044.2
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	634.5	3.0	763.7	0.2	2,333.5	682.5	0.0	1,146.6	188.5	407.6	1,309.7	3,138.8
2018 Jan.	635.7	2.9	760.6	0.2	2,398.2	689.2	0.0	1,158.2	188.1	487.0	1,275.2	3,122.5
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	630.9	1.5	760.5	0.0	2,435.5	686.3	0.0	1,148.2	203.6	474.9	1,315.6	3,150.1
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	627.1	1.9	759.5	0.1	2,476.8	668.0	0.0	1,159.0	247.5	495.6	1,295.3	3,122.3
June	625.2	1.8	757.3	0.1	2,519.9	659.5	0.0	1,170.4	218.0	502.5	1,353.9	3,183.8
July	635.1	2.1	744.2	0.1	2,558.4	652.2	0.0	1,183.6	263.4	533.8	1,306.9	3,142.6
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	637.5	3.0	739.9	0.1	2,589.7	671.2	0.0	1,192.2	239.1	519.1	1,348.7	3,212.0
Oct.	625.2	6.9	727.8	0.1	2,622.8	631.8	0.0	1,194.3	283.1	504.4	1,369.0	3,195.1
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	625.1	6.8	726.4	0.1	2,642.3	635.9	0.0	1,202.4	240.2	542.9	1,379.4	3,217.7
Deutsche Bundesbank												
2016 July	163.3	2.7	44.7	0.0	263.4	89.8	0.0	257.4	47.2	– 117.0	196.6	543.9
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	168.3	1.9	44.0	0.0	288.2	90.8	0.0	258.7	36.2	– 112.6	229.3	578.9
Oct.	168.7	1.5	50.6	0.0	311.9	105.2	0.0	258.6	50.5	– 125.2	243.6	607.4
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	167.7	0.9	54.0	0.0	339.2	129.7	0.0	260.3	43.7	– 141.9	270.0	660.0
2017 Jan.	163.8	0.9	62.0	0.0	361.5	132.7	0.0	264.2	35.4	– 146.1	302.0	698.9
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	159.4	0.8	63.5	0.0	386.6	153.7	0.0	262.3	23.1	– 169.8	341.0	757.0
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	164.4	1.0	86.0	0.1	412.4	181.4	0.0	264.1	29.7	– 185.3	374.0	819.5
June	165.8	0.3	95.0	0.0	431.8	181.2	0.0	266.2	32.4	– 204.9	418.0	865.4
July	159.6	0.5	95.0	0.0	447.9	170.1	0.0	269.0	52.7	– 201.6	412.7	851.9
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	155.2	0.3	94.9	0.0	463.2	165.5	0.0	269.9	52.4	– 192.6	418.5	853.9
Oct.	154.8	0.3	94.9	0.0	481.5	171.0	0.0	269.4	65.9	– 197.6	422.7	863.2
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	154.2	0.5	94.8	0.0	501.4	187.5	0.0	270.3	56.0	– 218.6	455.8	913.6
2018 Jan.	155.5	0.9	93.3	0.0	514.7	204.4	0.0	272.8	54.9	– 192.2	424.5	901.7
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	151.5	0.6	93.4	0.0	522.9	207.9	0.0	271.0	56.8	– 221.3	453.9	932.8
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	150.7	1.1	93.3	0.0	530.6	190.8	0.0	273.8	61.1	– 191.3	440.9	905.5
June	150.1	1.1	93.1	0.0	540.6	200.3	0.0	277.4	59.2	– 217.9	466.0	943.6
July	151.9	0.4	91.8	0.0	547.6	196.8	0.0	280.0	69.4	– 194.1	439.6	916.4
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	152.1	0.4	91.5	0.0	556.2	192.9	0.0	282.0	65.2	– 178.9	439.0	913.9
Oct.	148.1	0.5	88.5	0.0	563.5	160.0	0.0	282.6	81.3	– 183.4	460.0	902.6
Nov.	.	.	.	.	.	.	0.0	.	.	.	.	.
Dec.	146.9	0.6	88.1	0.0	570.0	148.0	0.0	283.6	69.6	– 185.2	489.5	921.2

Discrepancies may arise from rounding. * The banking system's liquidity position is defined as the current account holdings in euro of euro area credit institutions with the Eurosystem. Amounts are derived from the consolidated financial statement of the Eurosystem and the financial statement of the Bundesbank. **1** Figures are daily averages for the reserve maintenance period ending in the month indicated. Following the changeover in the frequency of Governing Council monetary policy meetings to a six-week cycle, a reserve maintenance period no longer ends in every month. No figures are available in such cases. **2** Source: ECB. **3** Includes liquidity provided under the Eurosystem's asset purchase programmes. **4** From August 2009 includes liquidity absorbed as a result of the Eurosystem's foreign exchange swap operations. **5** From 2002 euro banknotes and other banknotes which have been issued by the national central banks of the Eurosystem and which are still in circulation. In accordance with the accounting procedure chosen by the Eurosystem for the issue of euro banknotes, a share of 8% of the total value of the euro banknotes in circulation is

II. Overall monetary survey in the euro area

Flows

Liquidity-providing factors					Liquidity-absorbing factors					Credit institutions' current account balances (including minimum reserves) [7]	Base money [8]	Reserve maintenance period ending in [1]
	Monetary policy operations of the Eurosystem											
Net assets in gold and foreign currency	Main refinancing operations	Longer-term refinancing operations	Marginal lending facility	Other liquidity-providing operations [3]	Deposit facility	Other liquidity-absorbing operations [4]	Banknotes in circulation [5]	Central government deposits	Other factors (net) [6]			
Eurosystem [2]												
+ 25.8	− 6.3	+ 15.3	− 0.1	+ 121.8	+ 14.1	± 0.0	+ 10.5	+ 51.6	+ 46.6	+ 33.7	+ 58.3	2016 July
+ 18.9	− 4.1	+ 12.1	− 0.1	+ 112.6	+ 32.0	± 0.0	+ 9.1	− 37.7	+ 44.6	+ 91.3	+ 132.5	Aug. Sep.
+ 2.8	− 6.1	+ 19.8	+ 0.1	+ 107.3	+ 32.2	± 0.0	− 1.5	+ 30.5	+ 34.0	+ 28.6	+ 59.2	Oct.
− 0.4	− 3.4	+ 8.3	+ 0.1	+ 123.2	+ 52.1	± 0.0	+ 8.4	− 8.6	+ 29.6	+ 46.5	+ 106.9	Nov. Dec.
− 12.7	+ 0.6	+ 37.1	± 0.0	+ 100.6	− 5.0	± 0.0	+ 16.0	− 16.6	+ 36.0	+ 95.1	+ 106.3	2017 Jan.
− 12.3	− 5.6	+ 5.4	+ 0.1	+ 116.7	+ 44.8	± 0.0	− 8.3	+ 17.2	+ 8.6	+ 41.9	+ 78.3	Feb. Mar.
+ 16.2	− 10.5	+ 153.1	± 0.0	+ 117.8	+ 70.8	± 0.0	+ 7.6	+ 21.7	+ 56.6	+ 120.2	+ 198.5	Apr. May
+ 4.5	− 4.8	+ 60.0	− 0.1	+ 89.7	+ 43.7	± 0.0	+ 7.6	− 18.4	+ 18.6	+ 97.6	+ 149.1	June
− 26.2	− 4.3	± 0.0	± 0.0	+ 81.1	+ 1.6	± 0.0	+ 10.3	+ 66.2	− 18.0	− 9.5	+ 2.3	July
− 17.9	− 3.9	+ 1.2	+ 0.1	+ 74.1	+ 16.1	± 0.0	+ 6.2	− 48.0	+ 5.7	+ 73.5	+ 95.9	Aug. Sep.
− 4.0	+ 1.2	− 3.3	− 0.1	+ 89.0	+ 36.7	± 0.0	+ 0.3	+ 36.5	− 1.2	+ 10.6	+ 47.5	Oct.
− 0.5	− 3.7	− 1.6	± 0.0	+ 94.3	+ 34.4	± 0.0	+ 3.8	− 29.8	+ 23.7	+ 56.4	+ 94.6	Nov. Dec.
+ 1.2	− 0.1	− 3.1	± 0.0	+ 64.7	+ 6.7	± 0.0	+ 11.6	− 0.4	+ 79.4	− 34.5	− 16.3	2018 Jan.
− 4.8	− 1.4	− 0.1	− 0.2	+ 37.3	− 2.9	± 0.0	− 10.0	+ 15.5	− 12.1	+ 40.4	+ 27.6	Feb. Mar.
− 3.8	+ 0.4	− 1.0	+ 0.1	+ 41.3	− 18.3	± 0.0	+ 10.8	+ 43.9	+ 20.7	− 20.3	− 27.8	Apr. May
− 1.9	− 0.1	− 2.2	± 0.0	+ 43.1	− 8.5	± 0.0	+ 11.4	− 29.5	+ 6.9	+ 58.6	+ 61.5	June
+ 9.9	+ 0.3	− 13.1	± 0.0	+ 38.5	− 7.3	± 0.0	+ 13.2	+ 45.4	+ 31.3	− 47.0	− 41.2	July
+ 2.4	+ 0.9	− 4.3	± 0.0	+ 31.3	+ 19.0	± 0.0	+ 8.6	− 24.3	− 14.7	+ 41.8	+ 69.4	Aug. Sep.
− 12.3	+ 3.9	− 12.1	± 0.0	+ 33.1	− 39.4	± 0.0	+ 2.1	+ 44.0	− 14.7	+ 20.3	− 16.9	Oct.
− 0.1	− 0.1	− 1.4	± 0.0	+ 19.5	+ 4.1	± 0.0	+ 8.1	− 42.9	+ 38.5	+ 10.4	+ 22.6	Nov. Dec.
Deutsche Bundesbank												
+ 6.9	− 0.6	− 0.6	− 0.0	+ 26.2	+ 2.6	± 0.0	+ 2.8	+ 6.1	+ 10.2	+ 10.1	+ 15.4	2016 July
+ 5.1	− 0.8	− 0.7	− 0.0	+ 24.8	+ 1.0	± 0.0	+ 1.3	− 11.0	+ 4.4	+ 32.7	+ 35.0	Aug. Sep.
+ 0.4	− 0.5	+ 6.6	+ 0.0	+ 23.7	+ 14.4	± 0.0	− 0.1	+ 14.3	− 12.6	+ 14.2	+ 28.5	Oct.
− 0.9	− 0.5	+ 3.3	+ 0.0	+ 27.3	+ 24.4	± 0.0	+ 1.7	− 6.8	− 16.7	+ 26.5	+ 52.6	Nov. Dec.
− 4.0	− 0.1	+ 8.1	− 0.0	+ 22.3	+ 3.0	± 0.0	+ 3.9	− 8.3	− 4.3	+ 31.9	+ 38.8	2017 Jan.
− 4.4	− 0.0	+ 1.4	+ 0.0	+ 25.1	+ 21.0	± 0.0	− 1.9	− 12.2	− 23.6	+ 39.0	+ 58.1	Feb. Mar.
+ 4.9	+ 0.1	+ 22.6	+ 0.0	+ 25.9	+ 27.7	± 0.0	+ 1.8	+ 6.6	− 15.6	+ 33.0	+ 62.5	Apr. May
+ 1.5	− 0.7	+ 9.0	− 0.1	+ 19.4	− 0.2	± 0.0	+ 2.1	+ 2.6	− 19.6	+ 44.0	+ 45.9	June
− 6.2	+ 0.2	+ 0.0	+ 0.0	+ 16.1	− 11.1	± 0.0	+ 2.8	+ 20.3	+ 3.3	− 5.3	− 13.6	July
− 4.4	− 0.2	− 0.1	+ 0.0	+ 15.4	− 4.6	± 0.0	+ 0.9	− 0.2	+ 9.0	+ 5.8	+ 2.1	Aug. Sep.
− 0.4	− 0.1	− 0.1	− 0.0	+ 18.3	+ 5.5	± 0.0	− 0.5	+ 13.5	− 5.0	+ 4.2	+ 9.2	Oct.
− 0.6	+ 0.2	− 0.0	− 0.0	+ 19.9	+ 16.5	± 0.0	+ 0.9	− 9.9	− 21.0	+ 33.1	+ 50.4	Nov. Dec.
+ 1.3	+ 0.4	− 1.6	− 0.0	+ 13.3	+ 16.9	± 0.0	+ 2.5	− 1.1	+ 26.4	− 31.3	− 11.9	2018 Jan.
− 4.0	− 0.3	+ 0.1	+ 0.0	+ 8.2	+ 3.5	± 0.0	− 1.7	+ 1.9	− 29.1	+ 29.4	+ 31.1	Feb. Mar.
− 0.8	+ 0.5	− 0.0	+ 0.0	+ 7.7	− 17.0	± 0.0	+ 2.8	+ 4.2	+ 30.0	− 13.0	− 27.3	Apr. May
− 0.6	+ 0.0	− 0.2	− 0.0	+ 10.0	+ 9.5	± 0.0	+ 3.6	− 1.8	− 26.6	+ 25.1	+ 38.1	June
+ 1.8	− 0.6	− 1.3	+ 0.0	+ 7.0	− 3.5	± 0.0	+ 2.6	+ 10.2	+ 23.9	− 26.4	− 27.2	July
+ 0.2	+ 0.0	− 0.3	− 0.0	+ 8.6	− 3.9	± 0.0	+ 2.0	− 4.2	+ 15.2	− 0.6	− 2.5	Aug. Sep.
− 4.0	+ 0.0	− 3.0	+ 0.0	+ 7.3	− 32.9	± 0.0	+ 0.6	+ 16.1	− 4.5	+ 21.1	− 11.2	Oct.
− 1.1	+ 0.1	− 0.5	+ 0.0	+ 6.6	− 12.0	± 0.0	+ 1.1	− 11.7	− 1.8	+ 29.5	+ 18.5	Nov. Dec.

allocated to the ECB on a monthly basis. The counterpart of this adjustment is shown under "Other factors". The remaining 92% of the value of the euro banknotes in circulation is allocated, likewise on a monthly basis, to the NCBs, with each NCB showing in its balance sheet the share of the euro banknotes issued corresponding to its paid-up share in the ECB's capital. The difference between the value of the euro banknotes allocated to an NCB and the value of the euro banknotes which that NCB has put into circulation is likewise shown under "Other factors". From 2003 euro banknotes only. **6** Remaining items in the consolidated financial statement of the Eurosystem and the financial statement of the Bundesbank. **7** Equal to the difference between the sum of liquidity-providing factors and the sum of liquidity-absorbing factors. **8** Calculated as the sum of the "Deposit facility", "Banknotes in circulation" and "Credit institutions' current account balances".

III. Consolidated financial statement of the Eurosystem

1. Assets *

€ billion

As at reporting date	Total assets	Gold and gold receivables	Claims on non-euro area residents denominated in foreign currency			Claims on euro area residents denominated in foreign currency	Claims on non-euro area residents denominated in euro		
			Total	Receivables from the IMF	Balances with banks, security investments, external loans and other external assets		Total	Balances with banks, security investments and loans	Claims arising from the credit facility under ERM II
Eurosystem [1]									
2018 June 22	4,585.6	374.0	305.5	72.0	233.5	21.8	16.3	16.3	–
29	4,592.5	373.2	317.8	73.7	244.1	18.6	17.4	17.4	–
July 6	4,593.3	373.2	314.3	73.7	240.6	22.0	16.7	16.7	–
13	4,599.9	373.2	312.6	73.8	238.8	22.9	15.9	15.9	–
20	4,605.0	373.2	313.5	73.9	239.6	22.9	18.0	18.0	–
27	4,612.0	373.2	314.2	73.8	240.4	24.0	17.3	17.3	–
Aug. 3	4,602.3	373.2	314.9	74.0	240.8	23.2	18.2	18.2	–
10	4,608.1	373.2	316.5	74.0	242.5	21.9	18.2	18.2	–
17	4,614.0	373.2	315.9	74.0	242.0	21.4	16.9	16.9	–
24	4,619.4	373.2	316.9	74.0	243.0	22.8	17.4	17.4	–
31	4,621.4	373.2	316.8	73.9	242.9	20.8	18.0	18.0	–
Sep. 7	4,634.0	373.2	317.0	74.0	243.0	20.7	19.2	19.2	–
14	4,638.8	373.2	317.8	74.0	243.8	20.7	19.3	19.3	–
21	4,645.8	373.2	318.1	73.9	244.2	20.3	18.4	18.4	–
28	4,619.8	355.5	319.4	73.8	245.6	18.4	20.0	20.0	–
2018 Oct. 5	4,625.0	355.5	320.0	73.8	246.2	18.5	17.7	17.7	–
12	4,632.9	355.5	320.7	73.8	246.9	18.2	19.4	19.4	–
19	4,628.3	355.5	320.0	73.8	246.2	19.6	18.7	18.7	–
26	4,624.8	355.5	318.7	73.8	244.9	19.4	19.5	19.5	–
Nov. 2	4,622.2	355.5	318.7	74.9	243.9	20.2	19.1	19.1	–
9	4,626.2	355.5	319.8	74.8	245.0	20.0	19.8	19.8	–
16	4,638.3	355.5	321.4	74.9	246.5	19.6	19.5	19.5	–
23	4,646.9	355.5	323.1	74.9	248.2	18.5	20.6	20.6	–
30	4,660.3	355.5	324.7	74.9	249.8	17.7	22.2	22.2	–
Dec. 7	4,663.0	355.5	326.1	74.9	251.2	17.2	22.2	22.2	–
14	4,668.1	355.5	325.4	73.8	251.5	17.5	20.9	20.9	–
21	4,674.9	355.5	328.4	76.2	252.2	20.7	20.9	20.9	–
28	4,669.0	355.5	329.2	76.3	252.8	20.6	20.3	20.3	–
2019 Jan. 4	4,694.4	389.8	329.0	76.9	252.0	16.3	20.9	20.9	–
Deutsche Bundesbank									
2018 June 22	1,793.2	116.5	49.1	18.8	30.3	0.0	1.7	1.7	–
29	1,823.0	116.3	50.8	19.2	31.6	0.0	1.8	1.8	–
July 6	1,744.4	116.3	50.9	19.2	31.7	0.1	1.3	1.3	–
13	1,743.6	116.3	50.7	19.2	31.5	0.0	1.0	1.0	–
20	1,744.8	116.3	50.7	19.2	31.5	0.1	3.1	3.1	–
27	1,745.0	116.3	51.1	19.2	31.9	0.1	1.5	1.5	–
Aug. 3	1,753.5	116.3	51.3	19.2	32.1	0.1	2.1	2.1	–
10	1,729.5	116.3	51.1	19.2	32.0	0.1	2.9	2.9	–
17	1,744.6	116.3	50.7	19.2	31.5	0.1	1.3	1.3	–
24	1,737.9	116.3	50.5	19.2	31.4	0.0	2.1	2.1	–
31	1,768.2	116.3	50.4	19.2	31.3	0.0	1.9	1.9	–
Sep. 7	1,741.9	116.3	50.4	19.2	31.2	0.0	3.7	3.7	–
14	1,739.5	116.3	50.4	19.2	31.3	0.0	3.5	3.5	–
21	1,753.9	116.3	50.6	19.2	31.4	0.0	3.1	3.1	–
28	1,817.3	116.3	50.3	19.2	31.1	0.0	4.4	4.4	–
2018 Oct. 5	1,762.5	110.8	51.3	19.1	32.1	0.0	2.1	2.1	–
12	1,749.4	110.8	51.3	19.1	32.2	0.0	3.3	3.3	–
19	1,763.5	110.8	51.2	19.1	32.1	0.0	3.0	3.0	–
26	1,766.4	110.8	50.6	19.1	31.5	0.0	3.5	3.5	–
Nov. 2	1,769.2	110.8	51.0	19.4	31.6	0.0	2.2	2.2	–
9	1,783.8	110.8	51.1	19.5	31.6	0.0	2.5	2.5	–
16	1,790.8	110.8	51.3	19.5	31.9	0.0	2.1	2.1	–
23	1,784.2	110.8	50.8	19.5	31.4	0.0	3.5	3.5	–
30	1,807.8	110.8	50.9	19.5	31.4	0.0	4.1	4.1	–
Dec. 7	1,785.4	110.8	50.8	19.5	31.3	0.0	4.3	4.3	–
14	1,797.0	110.8	50.4	19.1	31.3	0.0	2.5	2.5	–
21	1,808.6	110.8	50.9	19.7	31.1	1.6	2.7	2.7	–
28	1,822.3	110.8	50.9	19.7	31.1	1.6	1.1	1.1	–
2019 Jan. 4	1,794.5	121.4	51.6	19.9	31.7	0.0	2.4	2.4	–

***** The consolidated financial statement of the Eurosystem comprises the financial statement of the European Central Bank (ECB) and the financial statements of the national central banks of the euro area Member States (NCBs). The balance sheet items for foreign currency, securities, gold and financial instruments are valued at the end of the quarter. **1** Source: ECB.

III. Consolidated financial statement of the Eurosystem

Lending to euro area credit institutions related to monetary policy operations denominated in euro							Other claims on euro area credit institutions denominated in euro	Securities of euro area residents in euro			General government debt denominated in euro	Other assets	As at reporting date
Total	Main refinancing operations	Longer-term refinancing operations	Fine-tuning reverse operations	Structural reverse operations	Marginal lending facility	Credits related to margin calls		Total	Securities held for monetary policy purposes	Other securities			
Eurosystem [1]													
758.2	1.5	756.6	–	–	0.1	–	43.9	2,803.7	2,544.0	259.7	24.9	237.2	2018 June 22
744.8	2.7	742.0	–	–	0.1	–	39.2	2,806.1	2,547.0	259.1	24.5	250.9	29
744.3	2.3	742.0	–	–	0.1	–	37.9	2,810.7	2,551.8	258.9	24.5	249.8	July 6
744.0	1.9	742.0	–	–	0.1	–	32.8	2,822.1	2,563.0	259.1	24.5	251.9	13
744.0	2.0	742.0	–	–	0.1	–	30.8	2,827.4	2,568.6	258.8	24.5	250.7	20
742.6	2.0	740.5	–	–	0.1	–	29.4	2,835.4	2,577.2	258.2	24.5	251.4	27
743.3	2.5	740.5	–	–	0.3	–	30.3	2,827.4	2,572.4	255.0	24.5	247.2	Aug. 3
743.3	2.7	740.5	–	–	0.0	–	26.1	2,834.2	2,579.2	255.0	24.5	250.3	10
743.3	2.7	740.5	–	–	0.1	–	30.8	2,838.7	2,583.5	255.2	24.5	249.3	17
743.3	2.8	740.5	–	–	0.1	–	30.4	2,843.6	2,588.4	255.2	24.5	247.4	24
741.6	2.5	739.0	–	–	0.0	–	30.9	2,848.5	2,593.0	255.5	24.5	247.1	31
742.7	3.6	739.0	–	–	0.0	–	31.4	2,858.1	2,602.6	255.5	24.5	247.2	Sep. 7
743.3	4.2	739.0	–	–	0.1	–	31.5	2,863.2	2,607.7	255.5	24.5	245.4	14
744.0	5.0	739.0	–	–	0.0	–	33.7	2,868.7	2,613.6	255.1	24.5	244.8	21
732.1	6.4	725.5	–	–	0.1	–	29.8	2,869.2	2,615.1	254.1	24.4	251.0	28
732.8	7.2	725.5	–	–	0.1	–	28.4	2,877.5	2,623.2	254.2	24.4	250.4	2018 Oct. 5
732.8	7.3	725.5	–	–	0.1	–	29.6	2,879.5	2,625.9	253.6	24.4	252.7	12
733.4	7.9	725.5	–	–	0.0	–	34.2	2,877.3	2,626.2	251.1	24.4	245.3	19
733.4	7.7	725.5	–	–	0.2	–	30.8	2,879.8	2,630.0	249.8	24.4	243.4	26
734.3	8.0	726.2	–	–	0.1	–	26.9	2,878.7	2,629.9	248.8	24.4	244.3	Nov. 2
732.8	6.6	726.2	–	–	0.0	–	21.8	2,883.3	2,634.3	249.0	24.4	248.8	9
733.0	6.7	726.2	–	–	0.1	–	27.8	2,888.7	2,639.5	249.2	24.4	248.5	16
732.9	6.4	726.2	–	–	0.4	–	25.1	2,892.4	2,642.9	249.5	24.4	254.4	23
733.5	6.5	726.7	–	–	0.3	–	26.0	2,892.8	2,643.8	249.1	24.4	263.5	30
733.3	6.6	726.7	–	–	0.0	–	25.0	2,899.1	2,650.8	248.3	24.0	260.8	Dec. 7
733.8	7.1	726.7	–	–	0.1	–	25.2	2,903.5	2,655.6	247.9	24.0	262.4	14
733.5	9.6	723.8	–	–	0.0	–	25.4	2,909.0	2,660.0	249.0	24.0	257.6	21
733.5	9.6	723.8	–	–	0.1	–	19.9	2,907.4	2,658.5	248.9	24.0	258.7	28
732.1	8.2	723.8	–	–	0.1	–	29.1	2,892.6	2,645.7	246.9	23.9	260.8	2019 Jan. 4
Deutsche Bundesbank													
93.4	0.3	93.1	–	–	0.0	–	6.2	546.2	546.2	–	4.4	975.6	2018 June 22
92.0	0.4	91.6	–	–	0.0	–	3.8	546.8	546.8	–	4.4	1 007.0	29
91.9	0.3	91.6	–	–	–	–	6.4	543.7	543.7	–	4.4	929.4	July 6
92.1	0.5	91.6	–	–	0.0	–	6.2	547.0	547.0	–	4.4	926.0	13
92.1	0.5	91.6	–	–	–	–	6.3	549.5	549.5	–	4.4	922.2	20
92.1	0.6	91.5	–	–	0.0	–	6.2	552.3	552.3	–	4.4	921.0	27
92.1	0.5	91.5	–	–	0.1	–	6.0	552.2	552.2	–	4.4	929.0	Aug. 3
91.9	0.4	91.5	–	–	–	–	4.4	553.5	553.5	–	4.4	905.0	10
91.9	0.4	91.5	–	–	–	–	5.7	554.6	554.6	–	4.4	919.6	17
91.9	0.4	91.5	–	–	0.0	–	4.8	555.9	555.9	–	4.4	911.9	24
92.0	0.4	91.5	–	–	–	–	4.7	557.0	557.0	–	4.4	941.4	31
91.8	0.3	91.5	–	–	–	–	6.8	559.9	559.9	–	4.4	908.4	Sep. 7
92.2	0.7	91.5	–	–	–	–	5.7	558.9	558.9	–	4.4	908.1	14
92.0	0.5	91.5	–	–	0.0	–	6.9	561.1	561.1	–	4.4	919.4	21
88.5	0.5	87.9	–	–	0.1	–	3.5	564.4	564.4	–	4.4	985.3	28
88.5	0.5	87.9	–	–	–	–	5.0	564.7	564.7	–	4.4	935.7	2018 Oct. 5
88.6	0.6	87.9	–	–	–	–	6.7	562.3	562.3	–	4.4	922.0	12
88.5	0.5	87.9	–	–	0.0	–	7.3	562.7	562.7	–	4.4	935.5	19
88.2	0.3	87.9	–	–	0.0	–	6.8	564.9	564.9	–	4.4	937.1	26
88.4	0.3	88.1	–	–	0.0	–	5.8	566.8	566.8	–	4.4	939.8	Nov. 2
88.4	0.4	88.1	–	–	–	–	6.1	567.9	567.9	–	4.4	952.6	9
88.5	0.4	88.1	–	–	0.0	–	6.9	569.1	569.1	–	4.4	957.7	16
88.3	0.3	88.1	–	–	–	–	7.2	569.6	569.6	–	4.4	949.5	23
88.6	0.5	88.1	–	–	–	–	7.0	569.8	569.8	–	4.4	972.1	30
88.8	0.7	88.1	–	–	–	–	6.2	573.4	573.4	–	4.4	946.7	Dec. 7
89.5	1.4	88.1	–	–	0.0	–	6.4	571.9	571.9	–	4.4	961.0	14
89.6	1.9	87.6	–	–	0.0	–	4.3	573.3	573.3	–	4.4	971.1	21
89.6	1.9	87.6	–	–	0.1	–	0.6	573.3	573.3	–	4.4	989.9	28
90.3	2.6	87.6	–	–	–	–	6.2	567.2	567.2	–	4.4	951.0	2019 Jan. 4

III. Consolidated financial statement of the Eurosystem

2. Liabilities *

€ billion

As at reporting date		Total liabilities	Banknotes in circulation 1	Liabilities to euro area credit institutions related to monetary policy operations denominated in euro						Other liabilities to euro area credit institutions denominated in euro	Debt certificates issued	Liabilities to other euro area residents denominated in euro		
				Total	Current accounts (covering the minimum reserve system)	Deposit facility	Fixed-term deposits	Fine-tuning reverse operations	Deposits related to margin calls			Total	General government	Other liabilities
Eurosystem 3														
2018 June	22	4,585.6	1,175.0	1,954.5	1,311.9	642.4	–	–	0.2	8.1	–	402.9	263.6	139.3
	29	4,592.5	1,181.5	1,906.0	1,231.8	674.2	–	–	0.0	13.8	–	374.2	239.6	134.5
July	6	4,593.3	1,185.5	2,004.6	1,329.6	674.9	–	–	0.1	9.1	–	350.0	221.0	129.0
	13	4,599.9	1,187.3	1,992.4	1,324.1	668.3	–	–	0.0	6.4	–	377.2	243.9	133.3
	20	4,605.0	1,187.0	1,931.6	1,299.0	632.5	–	–	0.2	6.5	–	445.7	305.9	139.8
	27	4,612.0	1,188.6	1,949.7	1,314.5	635.1	–	–	0.1	6.4	–	441.4	301.9	139.4
Aug.	3	4,602.3	1,192.0	2,032.7	1,380.8	651.6	–	–	0.3	5.9	–	332.7	198.9	133.8
	10	4,608.1	1,192.9	2,035.9	1,354.1	681.6	–	–	0.1	4.4	–	335.1	215.1	120.0
	17	4,614.0	1,194.4	1,999.3	1,317.2	681.6	–	–	0.4	6.7	–	370.2	252.6	117.7
	24	4,619.4	1,190.3	1,979.4	1,314.9	663.8	–	–	0.7	5.8	–	398.2	280.3	117.8
	31	4,621.4	1,193.0	2,024.8	1,355.3	668.8	–	–	0.7	5.2	–	359.7	241.2	118.5
Sep.	7	4,634.0	1,193.7	2,048.0	1,356.4	691.4	–	–	0.2	8.4	–	350.6	224.9	125.7
	14	4,638.8	1,192.7	2,013.2	1,351.0	662.1	–	–	0.2	6.1	–	384.7	261.3	123.4
	21	4,645.8	1,191.8	1,987.9	1,333.5	654.5	–	–	0.0	9.7	–	420.2	292.7	127.5
	28	4,619.8	1,194.8	1,951.4	1,311.9	639.5	–	–	0.0	7.4	–	409.3	284.2	125.1
2018 Oct.	5	4,625.0	1,196.4	2,023.1	1,381.6	641.4	–	–	0.1	6.4	–	386.2	265.4	120.8
	12	4,632.9	1,195.7	2,033.7	1,378.9	654.7	–	–	0.0	7.0	–	383.3	261.7	121.6
	19	4,628.3	1,194.0	1,999.4	1,379.7	619.7	–	–	0.0	8.1	–	416.9	293.2	123.8
	26	4,624.8	1,195.4	1,997.1	1,405.5	591.5	–	–	0.1	6.3	–	412.8	288.2	124.6
Nov.	2	4,622.2	1,200.7	2,050.7	1,433.0	617.4	–	–	0.2	4.8	–	342.6	217.9	124.7
	9	4,626.2	1,198.6	2,054.1	1,403.2	650.8	–	–	0.2	5.7	–	338.8	213.9	124.9
	16	4,638.3	1,197.3	1,986.1	1,362.1	623.8	–	–	0.2	6.9	–	401.9	267.6	134.3
	23	4,646.9	1,197.2	1,982.3	1,353.3	628.8	–	–	0.2	6.8	–	408.2	279.2	129.0
	30	4,660.3	1,203.3	2,007.5	1,352.5	654.8	–	–	0.2	7.0	–	375.3	245.5	129.8
Dec.	7	4,663.0	1,209.6	2,029.9	1,375.5	654.2	–	–	0.2	9.6	–	348.2	216.7	131.5
	14	4,668.1	1,214.0	1,995.1	1,364.1	630.8	–	–	0.1	9.4	–	371.4	237.9	133.5
	21	4,674.9	1,227.9	1,978.6	1,364.7	613.9	–	–	0.0	10.7	–	327.5	201.8	125.7
	28	4,669.0	1,231.5	1,913.4	1,299.7	613.6	–	–	0.1	20.4	–	324.3	201.4	122.9
2019 Jan.	4	4,694.4	1,224.7	1,971.6	1,304.8	666.4	–	–	0.3	12.9	–	321.3	197.8	123.5
Deutsche Bundesbank														
2018 June	22	1,793.2	278.7	642.8	450.2	192.6	–	–	0.0	3.5	–	158.0	95.5	62.5
	29	1,823.0	277.9	653.5	439.1	214.4	–	–	0.0	4.4	–	133.6	71.2	62.4
July	6	1,744.4	279.4	649.0	440.6	208.4	–	–	0.0	3.9	–	105.7	43.9	61.9
	13	1,743.6	280.7	634.3	436.9	197.4	–	–	0.0	3.3	–	121.0	59.5	61.5
	20	1,744.8	281.4	616.2	433.2	183.0	–	–	0.0	3.9	–	137.6	72.3	65.3
	27	1,745.0	282.6	618.1	432.0	186.1	–	–	0.0	4.0	–	141.8	76.6	65.2
Aug.	3	1,753.5	281.1	649.1	465.3	183.7	–	–	0.0	3.7	–	108.4	45.3	63.0
	10	1,729.5	281.9	629.0	428.1	200.9	–	–	0.0	2.3	–	104.9	56.6	48.3
	17	1,744.6	283.3	621.5	425.5	196.0	–	–	0.0	4.3	–	120.7	72.2	48.5
	24	1,737.9	283.7	615.3	428.2	187.1	–	–	0.0	3.2	–	119.6	70.8	48.7
	31	1,768.2	280.6	661.0	457.6	203.4	–	–	0.0	3.0	–	107.9	58.5	49.3
Sep.	7	1,741.9	281.4	645.3	448.9	196.4	–	–	0.0	5.3	–	101.8	56.6	45.2
	14	1,739.5	282.0	598.0	419.7	178.3	–	–	0.0	3.9	–	140.2	94.8	45.4
	21	1,753.9	282.9	596.4	426.1	170.2	–	–	0.0	7.1	–	156.5	95.5	61.0
	28	1,817.3	281.0	644.0	473.4	170.6	–	–	0.0	3.9	–	143.2	76.6	66.5
2018 Oct.	5	1,762.5	282.1	629.3	466.6	162.7	–	–	0.0	3.5	–	138.4	72.1	66.3
	12	1,749.4	282.4	621.7	458.0	163.7	–	–	0.0	4.8	–	129.4	64.0	65.4
	19	1,763.5	282.6	619.8	460.1	159.6	–	–	0.0	5.6	–	146.1	87.4	58.6
	26	1,766.4	284.3	621.0	481.9	139.1	–	–	0.0	4.3	–	142.6	84.2	58.5
Nov.	2	1,769.2	282.5	652.4	500.8	151.6	–	–	0.0	2.9	–	106.8	48.8	57.9
	9	1,783.8	282.5	656.9	507.7	149.3	–	–	0.0	3.5	–	111.8	53.2	58.5
	16	1,790.8	282.7	637.5	497.4	140.1	–	–	0.0	4.1	–	138.1	79.1	59.0
	23	1,784.2	283.2	627.3	492.6	134.7	–	–	0.0	4.1	–	139.1	79.2	59.9
	30	1,807.8	283.0	658.0	500.3	157.7	–	–	0.0	4.0	–	128.1	64.9	63.3
Dec.	7	1,785.4	285.3	638.6	475.9	162.7	–	–	0.0	4.9	–	123.9	58.5	65.4
	14	1,797.0	287.4	597.9	455.6	142.3	–	–	0.0	4.5	–	163.8	99.5	64.3
	21	1,808.6	293.5	609.7	451.8	157.9	–	–	0.0	2.9	–	137.2	79.3	57.9
	28	1,822.3	293.5	593.9	440.3	153.6	–	–	0.0	5.9	–	123.1	65.1	57.9
2019 Jan.	4	1,794.5	295.9	616.6	456.1	160.5	–	–	0.1	7.5	–	101.0	38.8	62.3

***** The consolidated financial statement of the Eurosystem comprises the financial statement of the European Central Bank (ECB) and the financial statements of the national central banks of the euro area Member States (NCBs). The balance sheet items for foreign currency, securities, gold and financial instruments are valued at market rates at the end of the quarter. **1** In accordance with the accounting procedure chosen by the Eurosystem for the issue of euro banknotes, a share of 8% of the total value of the euro banknotes in circulation is allocated to the ECB on a monthly basis. The counterpart of this adjustment is disclosed as an "Intra-Eurosystem liability related to euro banknote issue". The remaining 92% of the value of the euro banknotes in circulation is allocated, likewise on a monthly

III. Consolidated financial statement of the Eurosystem

Liabilities to non-euro area residents denominated in euro	Liabilities to euro area residents in foreign currency	Liabilities to non-euro area residents denominated in foreign currency			Counterpart of special drawing rights allocated by the IMF	Other liabilities [2]	Intra-Eurosystem liability related to euro banknote issue [1]	Revaluation accounts	Capital and reserves	As at reporting date
		Total	Deposits, balances and other liabilities	Liabilities arising from the credit facility under ERM II						
Eurosystem [3]										
288.2	8.1	10.5	10.5	–	54.9	228.0	–	351.2	104.4	2018 June 22
348.0	4.5	10.5	10.5	–	56.1	233.0	–	360.4	104.4	29
276.5	6.2	10.5	10.5	–	56.1	229.9	–	360.4	104.4	July 6
269.9	4.8	10.8	10.8	–	56.1	230.0	–	360.4	104.4	13
267.2	4.8	11.5	11.5	–	56.1	229.7	–	360.4	104.4	20
257.1	6.8	11.3	11.3	–	56.1	229.8	–	360.4	104.4	27
269.1	6.4	11.3	11.3	–	56.1	231.3	–	360.4	104.4	Aug. 3
267.3	7.1	11.2	11.2	–	56.1	233.3	–	360.4	104.4	10
271.6	6.5	10.5	10.5	–	56.1	233.8	–	360.4	104.4	17
271.8	9.1	10.1	10.1	–	56.1	233.8	–	360.4	104.4	24
267.5	6.9	10.2	10.2	–	56.1	233.0	–	360.4	104.4	31
257.4	7.3	10.0	10.0	–	56.1	237.6	–	360.4	104.4	Sep. 7
265.7	6.8	11.0	11.0	–	56.1	237.6	–	360.4	104.4	14
258.3	6.2	11.3	11.3	–	56.1	239.4	–	360.4	104.4	21
301.8	4.4	11.0	11.0	–	56.0	237.0	–	342.3	104.4	28
256.7	4.7	11.8	11.8	–	56.0	237.0	–	342.3	104.4	2018 Oct. 5
255.9	5.4	11.5	11.5	–	56.0	237.7	–	342.3	104.4	12
255.6	5.4	11.8	11.8	–	56.0	234.3	–	342.3	104.4	19
263.4	5.5	10.1	10.1	–	56.0	231.4	–	342.3	104.4	26
269.6	5.2	10.0	10.0	–	56.0	235.9	–	342.3	104.4	Nov. 2
274.9	5.9	10.1	10.1	–	56.0	235.4	–	342.3	104.4	9
288.5	5.3	10.4	10.4	–	56.0	239.1	–	342.3	104.4	16
291.7	5.3	10.3	10.3	–	56.0	242.4	–	342.3	104.4	23
299.0	5.0	10.9	10.9	–	56.0	249.6	–	342.3	104.4	30
301.2	4.5	11.2	11.2	–	56.0	246.1	–	342.3	104.4	Dec. 7
311.9	4.7	11.0	11.0	–	56.0	247.9	–	342.3	104.4	14
364.0	4.8	11.1	11.1	–	56.0	247.6	–	342.3	104.4	21
412.3	4.3	10.8	10.8	–	56.0	249.2	–	342.3	104.4	28
364.1	4.3	10.4	10.4	–	56.5	248.1	–	376.2	104.4	2019 Jan. 4
Deutsche Bundesbank										
174.5	0.0	0.6	0.6	–	14.2	28.9	374.9	111.5	5.7	2018 June 22
213.3	–	0.3	0.3	–	14.6	28.3	378.5	112.9	5.7	29
165.4	0.0	0.4	0.4	–	14.6	28.9	378.5	112.9	5.7	July 6
163.4	0.0	0.3	0.3	–	14.6	28.9	378.5	112.9	5.7	13
164.8	0.0	0.3	0.3	–	14.6	29.0	378.5	112.9	5.7	20
157.3	0.0	0.6	0.6	–	14.6	29.0	378.5	112.9	5.7	27
166.5	0.0	0.9	0.9	–	14.6	29.3	381.6	112.9	5.7	Aug. 3
166.6	0.0	0.8	0.8	–	14.6	29.3	381.6	112.9	5.7	10
170.3	0.0	0.4	0.4	–	14.6	29.3	381.6	112.9	5.7	17
171.7	0.0	0.3	0.3	–	14.6	29.4	381.6	112.9	5.7	24
166.1	0.0	0.2	0.2	–	14.6	29.4	386.9	112.9	5.7	31
158.4	0.0	0.2	0.2	–	14.6	29.5	386.9	112.9	5.7	Sep. 7
165.8	0.0	0.2	0.2	–	14.6	29.5	386.9	112.9	5.7	14
160.7	0.0	0.4	0.4	–	14.6	29.8	386.9	112.9	5.7	21
191.2	0.0	0.2	0.2	–	14.6	29.8	390.8	112.9	5.7	28
160.3	0.0	1.0	1.0	–	14.5	29.4	390.8	107.5	5.7	2018 Oct. 5
162.0	0.0	0.9	0.9	–	14.5	29.6	390.8	107.5	5.7	12
160.5	0.0	0.7	0.7	–	14.5	29.7	390.8	107.5	5.7	19
165.9	0.0	0.0	0.0	–	14.5	29.8	390.8	107.5	5.7	26
172.2	0.0	0.1	0.1	–	14.5	30.1	394.6	107.5	5.7	Nov. 2
176.6	0.0	0.2	0.2	–	14.5	30.1	394.6	107.5	5.7	9
175.5	0.0	0.4	0.4	–	14.5	30.1	394.6	107.5	5.7	16
177.7	0.0	0.3	0.3	–	14.5	30.2	394.6	107.5	5.7	23
178.8	0.0	0.3	0.3	–	14.5	30.6	397.1	107.5	5.7	30
177.3	0.0	0.1	0.1	–	14.5	30.5	397.1	107.5	5.7	Dec. 7
188.1	0.0	– 0.0	– 0.0	–	14.5	30.6	397.1	107.5	5.7	14
209.7	0.0	– 0.0	– 0.0	–	14.5	30.9	397.1	107.5	5.7	21
250.2	0.0	– 0.0	– 0.0	–	14.5	30.9	397.1	107.5	5.7	28
211.7	0.0	–	–	–	14.7	31.2	391.9	118.5	5.7	2019 Jan. 4

basis, to the NCBs, with each NCB showing in its balance sheet the share of the euro banknotes issued corresponding to its paid-up share in the ECB's capital. The difference between the value of the euro banknotes allocated to the NCB according to the aforementioned accounting procedure and the value of euro banknotes put into circulation is also disclosed as an "Intra-Eurosystem claim/liability related to banknote issue". **2** For the Deutsche Bundesbank: including DEM banknotes still in circulation. **3** Source: ECB.

IV. Banks

1. Assets and liabilities of monetary financial institutions (excluding the Bundesbank) in Germany *

Assets

€ billion

Period	Balance sheet total [1]	Cash in hand	Lending to banks (MFIs) in the euro area							Lending to non-banks (non-MFIs) in the			
				to banks in the home country			to banks in other Member States				to non-banks in the home country		
												Enterprises and households	
			Total	Total	Loans	Securities issued by banks	Total	Loans	Securities issued by banks	Total	Total	Total	Loans
	End of year or month												
2009	7,436.1	17.2	2,480.5	1,813.2	1,218.4	594.8	667.3	449.5	217.8	3,638.3	3,187.9	2,692.9	2,357.5
2010	8,304.8	16.5	2,361.6	1,787.8	1,276.9	510.9	573.9	372.8	201.0	3,724.5	3,303.0	2,669.2	2,354.7
2011	8,393.3	16.4	2,394.4	1,844.5	1,362.2	482.2	550.0	362.3	187.7	3,673.5	3,270.5	2,709.4	2,415.1
2012	8,226.6	19.2	2,309.0	1,813.2	1,363.8	449.4	495.9	322.2	173.7	3,688.6	3,289.4	2,695.5	2,435.7
2013	7,528.9	18.7	2,145.0	1,654.8	1,239.1	415.7	490.2	324.6	165.6	3,594.3	3,202.1	2,616.3	2,354.0
2014	7,802.3	19.2	2,022.8	1,530.5	1,147.2	383.3	492.3	333.9	158.4	3,654.5	3,239.4	2,661.2	2,384.8
2015	7,665.2	19.5	2,013.6	1,523.8	1,218.0	305.8	489.8	344.9	144.9	3,719.9	3,302.5	2,727.4	2,440.0
2016	7,792.6	26.0	2,101.4	1,670.9	1,384.2	286.7	430.5	295.0	135.5	3,762.9	3,344.5	2,805.6	2,512.0
2017	7,710.8	32.1	2,216.3	1,821.1	1,556.3	264.8	395.2	270.1	125.2	3,801.7	3,400.7	2,918.8	2,610.1
2017 Feb.	7,944.8	23.9	2,225.4	1,783.3	1,497.9	285.4	442.1	307.6	134.5	3,774.5	3,347.6	2,819.5	2,525.6
Mar.	7,926.1	23.6	2,237.5	1,797.8	1,513.2	284.6	439.7	306.9	132.7	3,776.8	3,351.3	2,828.1	2,533.8
Apr.	7,954.6	24.7	2,276.6	1,847.6	1,563.1	284.6	428.9	298.2	130.8	3,780.1	3,357.1	2,836.6	2,541.1
May	7,947.0	25.6	2,286.5	1,864.4	1,579.4	285.0	422.1	290.1	132.0	3,782.1	3,360.7	2,847.3	2,552.6
June	7,849.7	27.3	2,245.7	1,830.9	1,548.9	282.1	414.8	284.2	130.6	3,780.7	3,364.7	2,859.4	2,559.7
July	7,818.7	26.6	2,258.5	1,840.3	1,560.2	280.0	418.2	289.0	129.2	3,787.1	3,370.5	2,867.1	2,567.3
Aug.	7,807.7	27.5	2,243.1	1,828.2	1,553.7	274.5	415.0	286.9	128.0	3,792.2	3,377.0	2,876.6	2,576.3
Sep.	7,811.3	28.4	2,262.7	1,847.3	1,578.3	269.0	415.4	288.4	127.0	3,799.4	3,385.3	2,890.2	2,589.5
Oct.	7,825.7	28.4	2,285.3	1,873.3	1,604.0	269.2	412.1	285.1	127.0	3,804.7	3,393.5	2,899.1	2,598.2
Nov.	7,849.9	28.0	2,312.8	1,901.5	1,633.0	268.5	411.3	285.5	125.8	3,818.1	3,411.2	2,919.0	2,612.6
Dec.	7,710.8	32.1	2,216.3	1,821.1	1,556.3	264.8	395.2	270.1	125.2	3,801.7	3,400.7	2,918.8	2,610.1
2018 Jan.	7,817.2	29.2	2,296.1	1,891.0	1,624.5	266.5	405.1	280.3	124.9	3,813.9	3,407.5	2,930.5	2,622.5
Feb.	7,790.8	29.6	2,298.1	1,892.3	1,627.0	265.2	405.9	280.6	125.2	3,814.1	3,406.5	2,938.1	2,633.4
Mar.	7,746.6	35.1	2,254.6	1,852.5	1,585.3	267.1	402.1	274.9	127.2	3,814.9	3,410.8	2,946.8	2,644.4
Apr.	7,781.1	33.8	2,300.8	1,892.1	1,625.1	267.0	408.7	280.6	128.0	3,818.5	3,417.4	2,956.1	2,650.7
May	7,882.8	35.0	2,314.0	1,900.7	1,630.1	270.6	413.3	284.6	128.6	3,823.8	3,418.9	2,963.0	2,656.6
June	7,804.7	35.0	2,266.6	1,853.0	1,584.7	268.2	413.6	285.5	128.1	3,832.7	3,430.8	2,979.9	2,672.2
July	7,784.2	34.7	2,276.2	1,852.8	1,585.7	267.1	423.4	295.9	127.5	3,840.0	3,437.3	2,987.0	2,679.3
Aug.	7,828.0	35.1	2,294.8	1,865.2	1,597.6	267.6	429.6	301.1	128.5	3,840.6	3,431.8	2,987.4	2,690.7
Sep.	7,799.9	35.8	2,267.8	1,846.4	1,577.7	268.7	421.4	291.0	130.4	3,854.6	3,447.2	3,006.3	2,708.5
Oct.	7,845.2	36.9	2,286.9	1,855.6	1,588.6	267.0	431.4	298.1	133.2	3,858.3	3,447.8	3,009.7	2,711.9
Nov.	7,880.4	36.8	2,303.5	1,872.8	1,605.2	267.6	430.8	295.9	134.8	3,874.4	3,460.7	3,023.7	2,727.7
	Changes [3]												
2010	– 136.3	– 0.7	– 111.6	– 15.6	58.5	– 74.1	– 95.9	– 80.9	– 15.1	96.4	126.0	– 13.7	0.7
2011	54.1	– 0.1	32.6	58.7	91.7	– 33.0	– 26.0	– 12.1	– 13.9	– 51.8	– 35.3	38.7	56.7
2012	– 129.2	2.9	– 81.9	– 28.4	3.0	– 31.4	– 53.5	– 39.7	– 13.8	27.5	27.7	17.0	28.8
2013	– 703.6	– 0.5	– 257.1	– 249.2	– 216.5	– 32.7	– 7.9	1.6	– 9.5	13.6	16.6	23.6	21.6
2014	206.8	0.4	– 126.2	– 128.6	– 95.3	– 33.4	2.4	7.2	– 4.8	55.1	40.0	52.3	36.8
2015	– 191.4	0.3	– 18.2	– 12.1	66.1	– 78.2	– 6.1	6.6	– 12.8	64.8	64.1	68.1	56.6
2016	184.3	6.5	120.3	178.4	195.3	– 16.8	– 58.1	– 49.2	– 8.8	57.5	53.4	88.8	81.0
2017	8.0	6.1	135.9	165.0	182.6	– 17.6	– 29.1	– 19.6	– 9.5	51.3	63.5	114.8	101.1
2017 Mar.	– 13.0	– 0.3	13.1	14.9	15.5	– 0.6	– 1.8	– 0.0	– 1.8	3.2	4.3	9.0	8.9
Apr.	40.0	1.1	41.0	50.7	50.5	0.2	– 9.7	– 7.8	– 1.9	4.7	6.8	9.4	8.2
May	8.8	0.9	12.6	18.0	17.1	0.9	– 5.4	– 6.8	1.4	4.0	4.6	9.0	9.9
June	– 85.4	1.7	– 38.0	– 31.5	– 29.2	– 2.3	– 6.5	– 5.2	– 1.4	0.5	5.3	13.2	8.0
July	– 14.3	– 0.7	14.5	10.5	12.2	– 1.7	4.0	5.2	– 1.2	8.6	7.1	8.9	8.6
Aug.	– 4.7	0.9	– 14.3	– 11.6	– 6.3	– 5.3	– 2.8	– 1.6	– 1.2	5.6	6.8	9.9	9.3
Sep.	4.8	0.9	21.8	21.5	26.0	– 4.5	0.3	1.2	– 0.9	6.9	7.1	12.0	13.5
Oct.	8.6	0.1	21.9	25.5	25.4	0.1	– 3.7	– 3.7	0.1	4.6	8.0	8.6	8.6
Nov.	33.4	– 0.4	28.9	28.8	29.4	– 0.6	0.0	1.2	– 1.1	14.8	18.7	19.0	13.5
Dec.	– 126.4	4.1	– 90.1	– 74.7	– 72.0	– 2.7	– 15.4	– 15.0	– 0.4	– 15.2	– 10.0	0.1	– 2.4
2018 Jan.	124.2	– 2.9	82.2	70.9	68.7	2.2	11.3	11.5	– 0.2	14.7	8.2	12.4	13.0
Feb.	6.3	0.3	0.5	0.6	2.0	– 1.4	– 0.1	– 0.4	0.3	0.2	– 0.7	7.7	10.7
Mar.	– 37.4	5.5	– 42.9	– 39.5	– 41.4	1.9	– 3.4	– 5.3	2.0	2.7	5.6	10.1	12.3
Apr.	28.9	– 1.3	45.6	39.7	39.9	– 0.2	5.9	5.1	0.9	4.0	7.1	9.8	6.3
May	85.0	1.3	12.4	9.1	5.7	3.4	3.4	2.8	0.5	12.9	9.4	15.3	14.3
June	– 77.2	– 0.1	– 47.4	– 47.7	– 45.4	– 2.3	0.3	0.9	– 0.5	9.9	12.8	17.9	16.4
July	– 14.4	– 0.3	10.5	0.3	1.3	– 1.0	10.1	10.7	– 0.6	7.8	6.8	5.9	6.1
Aug.	41.9	0.4	19.8	13.8	13.0	0.8	5.9	4.9	1.0	0.6	– 5.6	0.4	11.3
Sep.	– 30.4	0.8	– 27.3	– 18.9	– 19.9	1.0	– 8.4	– 10.4	1.9	14.2	15.9	19.2	18.2
Oct.	36.4	1.1	15.0	8.5	10.3	– 1.8	6.5	6.1	0.4	3.8	0.5	3.4	3.2
Nov.	36.0	– 0.1	16.9	17.5	16.6	0.9	– 0.6	– 2.2	1.6	16.5	13.3	14.4	16.1

* This table serves to supplement the "Overall monetary survey" in Section II. Unlike the other tables in Section IV, this table includes – in addition to the figures reported by banks (including building and loan associations) – data from money market funds. **1** See footnote 1 in Table IV.2. **2** Including debt securities arising from the

IV. Banks

euro area											Claims on non-euro area residents			
				to non-banks in other Member States										
	General government				Enterprises and households		General government							
Securities	Total	Loans	Securities [2]	Total	Total	of which: Loans	Total	Loans	Securities		Total	of which: Loans	Other assets [1]	Period
End of year or month														
335.4	495.0	335.1	160.0	450.4	322.2	162.9	128.2	23.5	104.7		1,062.6	821.1	237.5	2009
314.5	633.8	418.4	215.3	421.6	289.2	164.2	132.4	24.8	107.6		1,021.0	792.7	1,181.1	2010
294.3	561.1	359.8	201.2	403.1	276.9	161.2	126.2	32.6	93.6		995.1	770.9	1,313.8	2011
259.8	594.0	350.3	243.7	399.2	275.1	158.1	124.1	30.4	93.7		970.3	745.0	1,239.4	2012
262.3	585.8	339.2	246.6	392.3	267.6	144.6	124.6	27.8	96.9		921.2	690.5	849.7	2013
276.4	578.2	327.9	250.4	415.0	270.0	142.7	145.0	31.9	113.2		1,050.1	805.0	1,055.8	2014
287.4	575.1	324.5	250.6	417.5	276.0	146.4	141.5	29.4	112.1		1,006.5	746.3	905.6	2015
293.6	538.9	312.2	226.7	418.4	281.7	159.5	136.7	28.5	108.2		1,058.2	802.3	844.1	2016
308.7	481.9	284.3	197.6	401.0	271.8	158.3	129.1	29.8	99.3		991.9	745.3	668.9	2017
294.0	528.0	311.6	216.5	427.0	289.4	165.6	137.6	28.6	109.0		1,095.4	843.6	825.5	2017 Feb.
294.3	523.2	307.1	216.1	425.5	290.8	167.2	134.7	29.0	105.7		1,097.1	847.5	791.1	Mar.
295.5	520.5	307.9	212.6	423.0	287.1	167.8	135.8	29.9	105.9		1,080.7	832.2	792.5	Apr.
294.6	513.4	298.9	214.6	421.4	288.5	166.8	132.9	28.9	103.9		1,056.3	808.0	796.5	May
299.7	505.4	296.4	208.9	416.0	283.4	162.6	132.6	29.9	102.6		1,064.9	817.0	731.1	June
299.8	503.4	298.3	205.1	416.6	285.0	164.1	131.7	29.9	101.8		1,028.5	780.9	717.9	July
300.4	500.4	293.4	207.0	415.2	283.8	165.2	131.4	30.0	101.4		1,011.0	765.3	733.9	Aug.
300.7	495.1	289.0	206.1	414.1	283.0	167.9	131.1	29.8	101.3		1,021.2	776.3	699.6	Sep.
301.0	494.4	289.2	205.3	411.2	281.6	167.7	129.6	30.4	99.2		1,014.2	768.9	693.0	Oct.
306.4	492.2	287.3	205.0	406.8	276.8	164.2	130.0	29.8	100.2		1,005.3	759.4	685.6	Nov.
308.7	481.9	284.3	197.6	401.0	271.8	158.3	129.1	29.8	99.3		991.9	745.3	668.9	Dec.
308.0	477.0	282.8	194.2	406.4	278.6	163.9	127.8	29.7	98.0		1,009.1	758.2	668.9	2018 Jan.
304.7	468.4	277.4	191.0	407.6	280.5	165.9	127.1	29.6	97.5		1,026.5	775.9	622.5	Feb.
302.4	463.9	275.5	188.4	404.1	278.3	164.9	125.9	29.8	96.1		1,016.8	763.8	625.3	Mar.
305.4	461.2	276.2	185.0	401.2	275.1	165.1	126.0	29.9	96.2		1,009.2	757.3	618.9	Apr.
306.4	455.9	272.3	183.6	404.9	280.2	167.4	124.8	29.8	95.0		1,052.9	799.1	657.1	May
307.7	450.8	270.0	180.8	402.0	278.4	166.4	123.6	29.9	93.7		1,032.5	777.4	637.9	June
307.7	450.3	270.8	179.5	402.7	281.2	169.9	121.5	29.7	91.8		1,028.8	770.8	604.5	July
296.8	444.3	266.4	178.0	408.9	286.1	173.1	122.8	29.7	93.1		1,021.0	762.2	636.6	Aug.
297.8	440.9	263.4	177.5	407.4	283.7	171.7	123.6	29.6	94.0		1,028.7	770.3	613.1	Sep.
297.8	438.1	265.4	172.7	410.5	287.6	176.1	122.9	31.0	91.9		1,037.4	780.7	625.6	Oct.
296.0	437.0	264.5	172.5	413.7	290.8	177.8	122.9	30.9	92.1		1,032.1	777.3	633.7	Nov.
Changes [3]														
– 14.3	139.7	83.4	56.3	– 29.6	– 36.4	0.2	6.8	3.1	3.7		– 74.1	– 61.9	– 46.3	2010
– 18.0	– 74.0	– 59.1	– 14.9	– 16.6	– 13.8	– 5.5	– 2.7	8.0	– 10.7		– 39.5	– 34.9	112.9	2011
– 11.8	10.7	– 10.5	21.2	– 0.2	– 0.7	– 1.5	0.5	– 2.2	2.7		– 15.5	– 17.7	– 62.2	2012
2.0	– 7.0	– 10.9	3.9	– 3.0	– 3.4	– 9.3	0.5	– 2.6	3.1		– 38.8	– 47.2	– 420.8	2013
15.5	– 12.3	– 15.1	2.9	15.1	0.4	– 4.0	14.6	0.9	13.8		83.6	72.0	194.0	2014
11.5	– 3.9	– 4.2	0.3	0.7	4.4	1.8	– 3.7	– 1.0	– 2.8		– 88.3	– 101.0	– 150.1	2015
7.8	– 35.4	– 12.1	– 23.3	4.0	8.2	14.6	– 4.2	– 0.9	– 3.3		51.4	55.0	– 51.4	2016
13.7	– 51.3	– 22.8	– 28.5	– 12.2	– 3.4	4.0	– 8.7	0.1	– 8.9		– 12.3	– 6.7	– 173.1	2017
0.2	– 4.7	– 4.4	– 0.3	– 1.2	1.7	2.1	– 2.9	0.4	– 3.3		5.5	7.5	– 34.5	2017 Mar.
1.2	– 2.6	0.8	– 3.4	– 2.1	– 3.3	1.1	1.2	0.9	0.3		– 8.2	– 7.4	1.4	Apr.
– 0.8	– 4.4	– 6.4	2.0	– 0.6	2.3	– 0.1	– 3.0	– 1.0	– 2.0		– 12.7	– 13.1	4.0	May
5.2	– 7.9	– 2.3	– 5.6	– 4.8	– 3.5	– 2.7	– 1.3	0.1	– 1.3		15.6	15.3	– 65.2	June
0.3	– 1.7	2.0	– 3.7	1.4	2.4	2.4	– 1.0	– 0.2	– 0.8		– 24.4	– 24.9	– 12.3	July
0.6	– 3.0	– 4.9	1.9	– 1.2	– 0.8	1.5	– 0.4	0.0	– 0.4		– 12.9	– 11.3	16.0	Aug.
– 1.5	– 4.9	– 4.2	– 0.7	– 0.2	0.2	2.4	– 0.4	– 0.2	– 0.2		8.3	9.0	– 33.1	Sep.
0.1	– 0.7	0.2	– 0.9	– 3.4	– 1.8	– 0.4	– 1.6	0.6	– 2.2		– 11.3	– 11.3	– 6.6	Oct.
5.6	– 0.4	– 0.1	– 0.3	– 3.9	– 4.3	– 3.1	0.4	– 0.6	1.0		– 2.5	– 3.6	– 7.3	Nov.
2.5	– 10.1	– 2.8	– 7.2	– 5.2	– 4.3	– 5.4	– 0.8	0.0	– 0.9		– 8.3	– 9.5	– 16.9	Dec.
– 0.6	– 4.1	– 0.8	– 3.3	6.5	7.7	6.3	– 1.2	– 0.1	– 1.2		29.4	24.6	0.7	2018 Jan.
– 3.0	– 8.4	– 5.2	– 3.3	1.0	1.7	1.7	– 0.7	– 0.2	– 0.5		10.6	11.1	– 5.4	Feb.
– 2.2	– 4.5	– 1.9	– 2.6	– 2.9	– 1.6	– 0.4	– 1.3	0.1	– 1.4		– 5.5	– 8.2	2.8	Mar.
3.5	– 2.6	0.7	– 3.3	– 3.1	– 3.3	0.0	0.1	0.1	0.0		– 13.2	– 11.9	– 6.2	Apr.
0.9	– 5.8	– 4.3	– 1.5	3.5	4.6	1.8	– 1.2	– 0.1	– 1.1		30.9	29.9	27.5	May
1.5	– 5.0	– 2.3	– 2.8	– 2.9	– 1.4	– 0.6	– 1.5	– 0.1	– 1.4		– 20.4	– 21.8	– 19.2	June
– 0.2	0.9	2.2	– 1.3	0.9	3.1	3.7	– 2.2	– 0.2	– 2.0		– 0.7	– 3.8	– 31.6	July
– 10.9	– 6.0	– 4.5	– 1.5	6.2	4.9	3.1	1.3	0.0	1.2		– 11.0	– 11.5	32.1	Aug.
1.1	– 3.4	– 2.9	– 0.4	– 1.6	– 1.9	– 1.6	0.3	– 0.1	0.5		5.4	5.9	– 23.5	Sep.
0.2	– 2.9	1.9	– 4.8	3.3	4.5	4.1	– 1.2	1.4	– 2.6		4.0	3.5	12.6	Oct.
– 1.7	– 1.1	– 0.8	– 0.2	3.2	3.2	1.4	0.0	– 0.1	0.1		– 5.3	– 3.4	8.0	Nov.

exchange of equalisation claims. **3** Statistical breaks have been eliminated from the flow figures (see also footnote * in Table II.1).

IV. Banks

1. Assets and liabilities of monetary financial institutions (excluding the Bundesbank) in Germany *
Liabilities

€ billion

Period	Balance sheet total [1]	Deposits of banks (MFIs) in the euro area			Deposits of non-banks (non-MFIs) in the euro area									
						Deposits of non-banks in the home country							Deposits of non-banks	
			of banks					With agreed maturities		At agreed notice				
		Total	in the home country	in other Member States	Total	Total	Over-night	Total	of which: up to 2 years	Total	of which: up to 3 months	Total	Over-night
	End of year or month													
2009	7,436.1	1,589.7	1,355.6	234.0	2,818.0	2,731.3	997.8	1,139.1	356.4	594.4	474.4	63.9	17.7
2010	8,304.8	1,495.8	1,240.1	255.7	2,925.8	2,817.6	1,089.1	1,110.3	304.6	618.2	512.5	68.4	19.3
2011	8,393.3	1,444.8	1,210.3	234.5	3,033.4	2,915.1	1,143.3	1,155.8	362.6	616.1	515.3	78.8	25.9
2012	8,226.6	1,371.0	1,135.9	235.1	3,091.4	2,985.2	1,294.9	1,072.8	320.0	617.6	528.4	77.3	31.2
2013	7,528.9	1,345.4	1,140.3	205.1	3,130.5	3,031.5	1,405.3	1,016.2	293.7	610.1	532.4	81.3	33.8
2014	7,802.3	1,324.0	1,112.3	211.7	3,197.7	3,107.4	1,514.3	985.4	298.1	607.7	531.3	79.7	34.4
2015	7,665.2	1,267.8	1,065.9	201.9	3,307.1	3,215.1	1,670.2	948.4	291.5	596.4	534.5	80.8	35.3
2016	7,792.6	1,205.2	1,033.2	172.0	3,411.3	3,318.5	1,794.8	935.3	291.2	588.5	537.0	84.2	37.2
2017	7,710.8	1,233.6	1,048.6	184.9	3,529.1	3,411.1	1,936.6	891.7	274.2	582.8	541.0	108.6	42.5
2017 Feb.	7,944.8	1,245.6	1,055.3	190.3	3,435.3	3,336.9	1,812.7	935.8	295.0	588.5	538.3	89.6	41.7
Mar.	7,926.1	1,259.8	1,077.3	182.5	3,433.9	3,334.5	1,813.5	934.4	296.4	586.6	537.0	91.2	39.6
Apr.	7,954.6	1,254.1	1,075.4	178.8	3,452.0	3,352.3	1,840.8	925.4	290.7	586.2	536.9	91.2	41.7
May	7,947.0	1,259.3	1,079.9	179.4	3,463.2	3,360.6	1,848.6	926.4	292.7	585.7	536.8	93.5	44.2
June	7,849.7	1,235.2	1,054.2	181.0	3,477.7	3,362.0	1,865.6	911.8	290.3	584.6	536.2	107.1	44.8
July	7,818.7	1,239.8	1,062.3	177.5	3,470.9	3,353.4	1,862.3	907.6	287.9	583.4	538.2	107.5	45.8
Aug.	7,807.7	1,243.3	1,065.8	177.4	3,486.1	3,368.4	1,880.5	905.5	285.7	582.4	537.9	108.3	47.5
Sep.	7,811.3	1,256.2	1,071.9	184.3	3,494.8	3,371.4	1,886.8	902.8	284.3	581.8	537.9	114.7	50.7
Oct.	7,825.7	1,272.0	1,081.9	190.1	3,505.8	3,388.0	1,912.7	893.9	277.3	581.5	538.4	109.2	46.3
Nov.	7,849.9	1,275.5	1,081.0	194.5	3,542.9	3,417.4	1,939.9	896.5	276.9	581.0	538.6	113.6	52.1
Dec.	7,710.8	1,233.6	1,048.6	184.9	3,529.1	3,411.1	1,936.6	891.7	274.2	582.8	541.0	108.6	42.5
2018 Jan.	7,817.2	1,249.4	1,060.8	188.6	3,539.8	3,419.1	1,944.5	892.2	276.8	582.4	539.7	110.6	46.4
Feb.	7,790.8	1,246.9	1,058.2	188.8	3,536.8	3,416.5	1,945.4	888.9	273.3	582.1	540.4	109.7	47.1
Mar.	7,746.6	1,238.1	1,057.5	180.6	3,537.7	3,413.3	1,944.1	888.1	274.7	581.2	539.9	115.3	48.7
Apr.	7,781.1	1,233.9	1,053.5	180.4	3,551.3	3,430.7	1,967.4	882.9	270.2	580.4	539.6	108.8	46.7
May	7,882.8	1,232.4	1,037.1	195.3	3,582.2	3,462.4	1,998.3	884.0	271.4	580.1	539.5	109.4	47.7
June	7,804.7	1,224.7	1,035.7	189.0	3,582.9	3,463.7	1,991.4	893.1	281.1	579.2	539.1	109.0	44.0
July	7,784.2	1,228.5	1,042.2	186.3	3,584.2	3,462.9	1,997.6	887.1	277.5	578.2	538.6	108.8	44.5
Aug.	7,828.0	1,229.6	1,043.7	185.9	3,595.2	3,474.5	2,014.0	882.9	276.6	577.6	538.3	106.9	45.1
Sep.	7,799.9	1,220.4	1,034.2	186.2	3,594.0	3,473.8	2,017.5	879.0	273.7	577.3	538.4	108.8	48.2
Oct.	7,845.2	1,227.0	1,034.3	192.7	3,614.3	3,494.1	2,039.3	877.8	273.4	577.0	538.6	108.8	47.3
Nov.	7,880.4	1,244.5	1,046.8	197.7	3,646.1	3,527.4	2,074.8	875.8	271.5	576.8	539.1	106.2	47.1
	Changes [4]												
2010	– 136.3	– 75.2	– 99.4	24.2	72.3	59.7	88.7	– 53.0	– 52.2	24.0	38.3	– 4.4	2.2
2011	54.1	– 48.4	– 28.8	– 19.6	102.1	97.4	52.4	47.6	58.8	– 2.6	1.3	4.8	6.5
2012	– 129.2	– 68.7	– 70.0	1.3	57.8	67.1	156.1	– 90.4	– 50.2	1.5	14.1	– 1.4	5.4
2013	– 703.6	– 106.2	– 73.9	– 32.3	39.1	47.8	111.5	– 56.3	– 26.6	– 7.3	4.0	2.6	3.3
2014	206.8	– 28.4	– 32.2	3.9	62.7	71.6	106.0	– 32.1	3.1	– 2.4	– 2.4	– 2.5	– 0.0
2015	– 191.4	– 62.1	– 50.3	– 11.9	104.1	104.8	153.2	– 37.0	– 10.1	– 11.3	4.2	– 0.4	– 0.3
2016	184.3	– 31.6	– 2.2	– 29.4	105.7	105.2	124.3	– 11.1	1.4	– 8.0	2.4	2.7	1.9
2017	8.0	30.6	14.8	15.8	124.2	107.7	145.8	– 32.5	– 15.3	– 5.6	1.5	16.4	5.8
2017 Mar.	– 13.0	14.8	22.2	– 7.4	– 1.0	– 2.1	1.1	– 1.3	1.5	– 1.9	– 1.4	1.6	– 2.1
Apr.	40.0	– 4.4	– 1.3	– 3.1	19.1	18.7	27.8	– 8.7	– 5.5	– 0.5	– 0.0	0.2	2.2
May	8.8	6.7	5.3	1.5	12.7	9.5	8.7	1.3	2.2	– 0.5	– 0.1	2.5	2.6
June	– 85.4	– 22.2	– 24.3	2.1	15.3	11.1	17.5	– 5.4	– 2.3	– 1.0	– 0.7	4.7	0.7
July	– 14.3	5.3	8.9	– 3.5	– 5.3	– 7.4	– 2.4	– 3.9	– 2.1	– 1.2	– 0.4	0.7	1.1
Aug.	– 4.7	4.1	3.8	0.3	15.8	15.5	18.5	– 1.9	– 2.1	– 1.1	– 0.3	0.9	1.7
Sep.	4.8	3.0	– 3.8	6.7	8.4	2.9	6.1	– 2.6	– 1.5	– 0.6	0.0	6.4	3.2
Oct.	8.6	15.2	9.8	5.5	10.3	16.0	25.5	– 9.1	– 7.1	– 0.3	0.5	– 5.6	– 4.4
Nov.	33.4	4.6	– 0.3	4.9	37.9	30.2	27.9	2.8	– 0.2	– 0.5	0.2	4.6	5.9
Dec.	– 126.4	– 36.9	– 27.7	– 9.2	– 13.1	– 5.7	– 3.0	– 4.6	– 2.6	1.9	2.4	– 4.9	– 9.6
2018 Jan.	124.2	17.6	13.1	4.5	12.2	9.1	8.7	0.9	3.2	– 0.5	0.2	2.4	4.0
Feb.	6.3	– 3.6	– 3.2	– 0.4	– 4.0	– 3.5	0.2	– 3.5	– 3.7	– 0.2	0.4	– 1.1	0.7
Mar.	– 37.4	– 8.3	– 0.5	– 7.9	1.3	– 2.8	– 1.1	– 0.8	1.5	– 0.9	– 0.5	5.7	1.6
Apr.	28.9	– 4.5	– 3.8	– 0.6	13.5	17.5	22.8	– 4.6	– 4.0	– 0.8	– 0.3	– 6.6	– 2.0
May	85.0	– 3.5	– 17.3	13.9	29.2	30.2	29.9	0.7	0.8	– 0.3	– 0.1	0.4	0.9
June	– 77.2	– 7.8	– 1.5	– 6.3	0.7	1.2	– 6.9	9.0	9.7	– 0.9	– 0.4	– 0.4	– 3.8
July	– 14.4	4.7	7.2	– 2.5	1.8	– 0.4	6.5	– 5.9	– 3.5	– 1.0	– 0.5	– 0.1	0.5
Aug.	41.9	2.0	2.6	– 0.6	10.7	11.3	16.1	– 4.2	– 0.9	– 0.6	– 0.2	– 2.0	0.6
Sep.	– 30.4	– 9.6	– 9.7	0.1	– 1.2	– 0.7	3.6	– 4.0	– 3.1	– 0.3	0.0	1.9	3.1
Oct.	36.4	5.4	– 0.4	5.9	19.1	19.3	21.1	– 1.5	– 0.5	– 0.3	0.2	– 0.2	– 1.0
Nov.	36.0	17.5	12.5	5.0	31.9	33.4	35.4	– 1.9	– 1.9	– 0.1	0.5	– 2.6	– 0.2

* This table serves to supplement the "Overall monetary survey" in Section II. Unlike the other tables in Section IV, this table includes – in addition to the figures reported by banks (including building and loan associations) – data from money market funds. **1** See footnote 1 in Table IV.2. **2** Excluding deposits of central

IV. Banks

in other Member States [2]				Deposits of central governments				Debt securities issued [3]					
With agreed maturities		At agreed notice											
Total	of which: up to 2 years	Total	of which: up to 3 months	Total	of which: domestic central governments	Liabilities arising from repos with non-banks in the euro area	Money market fund shares issued [3]	Total	of which: with maturities of up to 2 years [3]	Liabilities to non-euro area residents	Capital and reserves	Other Liabilities [1]	Period
End of year or month													
43.7	17.0	2.5	2.0	22.8	22.2	80.5	11.4	1,500.5	146.3	565.6	454.8	415.6	2009
46.4	16.1	2.8	2.2	39.8	38.7	86.7	9.8	1,407.8	82.3	636.0	452.6	1,290.2	2010
49.6	18.4	3.3	2.5	39.5	37.9	97.1	6.2	1,345.7	75.7	561.5	468.1	1,436.6	2011
42.3	14.7	3.8	2.8	28.9	25.9	80.4	7.3	1,233.1	56.9	611.4	487.3	1,344.7	2012
44.0	16.9	3.5	2.7	17.6	16.0	6.7	4.1	1,115.2	39.0	479.5	503.0	944.5	2013
42.0	15.9	3.3	2.7	10.6	10.5	3.4	3.5	1,077.6	39.6	535.3	535.4	1,125.6	2014
42.2	16.0	3.3	2.8	11.3	9.6	2.5	3.5	1,017.7	48.3	526.2	569.3	971.1	2015
43.9	15.8	3.1	2.6	8.6	7.9	2.2	2.4	1,030.3	47.2	643.4	591.5	906.3	2016
63.2	19.7	2.9	2.6	9.4	8.7	3.3	2.1	994.5	37.8	603.4	686.0	658.8	2017
44.8	18.0	3.0	2.6	8.8	7.7	4.5	2.3	1,050.8	48.0	734.1	588.5	883.7	2017 Feb.
48.6	19.9	3.0	2.6	8.3	7.9	2.6	2.2	1,045.7	45.9	730.2	594.1	857.6	Mar.
46.6	18.3	3.0	2.6	8.5	7.6	3.5	2.2	1,042.1	43.9	749.0	598.3	853.4	Apr.
46.4	17.2	3.0	2.6	9.1	7.8	2.4	2.1	1,042.5	44.6	724.9	603.2	849.4	May
59.3	20.1	3.0	2.6	8.6	7.9	1.8	2.2	1,039.2	44.8	689.8	610.2	793.5	June
58.8	19.1	3.0	2.6	10.0	7.9	3.3	2.2	1,029.2	43.9	684.2	606.2	782.9	July
57.8	18.3	3.0	2.6	9.4	7.9	3.4	2.4	1,024.7	42.6	643.1	608.1	796.7	Aug.
61.0	20.5	2.9	2.6	8.7	8.0	2.6	2.4	1,015.2	42.2	669.5	612.4	758.2	Sep.
59.9	18.3	2.9	2.6	8.6	7.9	2.3	2.2	1,008.9	40.7	667.9	612.7	753.9	Oct.
58.6	16.7	2.9	2.6	11.8	8.3	2.6	2.2	1,004.7	40.1	664.4	609.8	747.9	Nov.
63.2	19.7	2.9	2.6	9.4	8.7	3.3	2.1	994.5	37.8	603.4	686.0	658.8	Dec.
61.3	18.9	2.9	2.6	10.0	8.9	4.3	2.1	1,002.6	35.4	682.4	666.5	670.0	2018 Jan.
59.7	18.2	2.9	2.6	10.7	8.8	3.8	2.1	1,006.3	36.0	690.3	678.6	625.9	Feb.
63.8	22.6	2.9	2.6	9.1	8.3	2.9	2.3	1,014.0	35.2	641.0	675.0	635.6	Mar.
59.2	18.0	2.9	2.5	11.7	8.4	2.4	2.2	1,016.6	34.7	672.9	677.3	624.6	Apr.
58.8	16.8	2.9	2.5	10.4	8.8	1.6	2.0	1,031.1	36.4	707.2	679.7	646.6	May
62.2	21.7	2.9	2.5	10.2	9.3	1.3	2.1	1,022.2	33.7	670.8	680.2	620.5	June
61.5	19.0	2.9	2.5	12.4	10.0	1.8	2.0	1,016.9	33.1	681.9	682.2	586.7	July
58.9	16.4	2.8	2.5	13.9	10.6	1.2	2.0	1,021.2	35.0	690.5	684.5	603.8	Aug.
57.8	17.4	2.8	2.5	11.5	9.2	1.3	2.0	1,034.7	33.9	681.7	687.2	578.7	Sep.
58.6	17.2	2.8	2.5	11.4	9.7	2.4	2.0	1,044.7	36.2	666.9	687.8	600.0	Oct.
56.3	15.0	2.8	2.5	12.5	10.0	1.3	2.4	1,048.2	34.4	643.3	688.2	606.5	Nov.
Changes [4]													
– 6.8	– 5.8	0.3	0.3	17.0	16.5	6.2	– 1.6	– 106.7	– 63.2	54.4	– 7.1	– 78.6	2010
– 2.2	1.7	0.5	0.3	– 0.1	– 0.7	10.0	– 3.7	– 76.9	– 6.6	– 80.5	13.7	137.8	2011
– 7.2	– 3.6	0.5	0.3	– 7.9	– 9.2	– 19.6	1.2	– 107.0	– 18.6	54.2	21.0	– 68.5	2012
– 0.5	2.2	– 0.3	– 0.1	– 11.3	– 10.0	4.1	– 3.2	– 104.9	– 17.6	– 134.1	18.9	– 417.1	2013
– 2.3	– 1.2	– 0.2	– 0.1	– 6.4	– 4.8	– 3.4	– 0.6	– 63.7	– 0.2	35.9	26.1	178.3	2014
– 0.1	0.0	0.0	0.1	– 0.4	– 1.9	– 1.0	– 0.0	– 86.8	7.7	– 30.3	28.0	– 143.2	2015
1.1	0.0	– 0.3	– 0.1	– 2.2	– 1.2	– 0.3	– 1.1	8.6	– 1.3	116.1	26.4	– 39.5	2016
10.8	4.2	– 0.1	– 0.0	– 0.0	– 0.0	1.1	– 0.3	– 3.3	– 8.5	– 16.1	34.1	– 162.3	2017
3.7	2.0	– 0.0	– 0.0	– 0.6	0.3	– 1.9	– 0.1	– 2.8	– 2.0	– 2.2	6.2	– 26.1	2017 Mar.
– 1.9	– 1.6	– 0.0	0.0	0.2	– 0.3	0.9	– 0.0	1.4	– 1.8	22.7	5.6	– 5.3	Apr.
– 0.1	– 1.0	0.0	0.0	0.6	0.2	– 1.1	– 0.0	7.8	0.9	– 18.5	7.0	– 5.7	May
4.0	2.9	– 0.0	– 0.0	– 0.5	0.1	– 0.6	0.1	1.0	0.3	– 31.9	8.9	– 56.0	June
– 0.5	– 0.9	– 0.0	– 0.0	1.4	– 0.0	1.4	– 0.0	– 3.1	– 0.7	– 0.1	– 1.9	– 10.6	July
– 0.9	– 0.8	– 0.0	– 0.0	– 0.6	– 0.1	0.1	0.2	– 1.7	– 1.2	– 39.0	2.7	13.0	Aug.
3.2	2.2	– 0.0	– 0.0	– 0.8	0.0	– 0.7	0.0	– 10.2	– 0.5	25.3	4.7	– 25.6	Sep.
– 1.2	– 2.2	– 0.0	0.0	– 0.1	– 0.2	– 0.3	– 0.3	– 9.6	– 1.6	– 3.8	– 0.5	– 2.6	Oct.
– 1.3	– 1.5	– 0.0	– 0.0	3.0	0.3	0.3	0.0	– 0.2	– 0.5	– 0.6	– 1.5	– 7.1	Nov.
4.7	3.0	0.0	0.0	– 2.4	0.3	0.7	– 0.0	– 7.3	– 2.3	– 59.2	5.6	– 16.1	Dec.
– 1.5	– 0.8	– 0.0	– 0.0	0.6	0.2	1.0	– 0.0	15.8	– 2.2	84.0	– 17.5	11.0	2018 Jan.
– 1.7	– 0.8	– 0.0	– 0.0	0.6	– 0.1	– 0.5	– 0.0	– 0.5	0.6	5.0	10.8	– 1.0	Feb.
4.1	4.4	– 0.0	– 0.0	– 1.6	– 0.4	– 0.9	0.2	9.4	– 0.8	– 48.1	– 3.0	12.1	Mar.
– 4.6	– 4.6	– 0.0	– 0.0	2.7	0.1	– 0.5	– 0.1	– 0.9	– 0.3	28.0	1.7	– 8.4	Apr.
– 0.5	– 1.4	– 0.0	– 0.0	– 1.4	0.3	– 0.8	– 0.2	7.3	1.4	29.3	0.1	23.6	May
3.3	4.9	– 0.0	– 0.0	– 0.1	0.5	– 0.4	0.1	– 9.2	– 2.7	– 36.6	0.4	– 24.3	June
– 0.6	– 2.7	– 0.0	– 0.0	2.2	0.7	0.6	– 0.1	– 3.6	– 0.6	12.3	2.6	– 32.6	July
– 2.6	– 2.6	– 0.0	– 0.0	1.4	0.6	– 0.6	– 0.0	2.8	1.9	7.5	2.3	17.3	Aug.
– 1.2	0.9	– 0.0	– 0.0	– 2.4	– 1.3	0.1	– 0.0	11.8	– 1.1	– 10.0	2.2	– 23.7	Sep.
0.8	– 0.3	0.0	0.0	– 0.0	0.5	1.0	0.1	5.5	2.2	– 18.1	– 0.7	24.1	Oct.
– 2.3	– 2.2	– 0.0	– 0.0	1.1	0.3	– 1.0	0.3	3.2	– 2.0	– 23.6	0.6	7.1	Nov.

governments. **3** In Germany, debt securities with maturities of up to one year are classed as money market paper; up to the January 2002 Monthly Report they were published together with money market fund shares. **4** Statistical breaks have been eliminated from the flow figures (see also footnote * in Table II.1).

IV. Banks

2. Principal assets and liabilities of banks (MFIs) in Germany, by category of banks*

€ billion

End of month	Number of reporting institutions	Balance sheet total 1	Cash in hand and credit balances with central banks	Lending to banks (MFIs)			Lending to non-banks (non-MFIs)						
				Total	of which:		Total	of which:				Participating interests	Other assets 1
					Balances and loans	Securities issued by banks		Loans		Bills	Securities issued by non-banks		
								for up to and including 1 year	for more than 1 year				
All categories of banks													
2018 June	1,615	7,851.0	485.4	2,415.9	1,938.6	474.0	4,094.1	352.3	3,043.9	0.6	689.6	117.9	737.7
July	1,604	7,830.5	498.7	2,401.5	1,923.5	474.5	4,108.4	357.9	3,055.8	0.5	685.9	117.6	704.3
Aug.	1,601	7,875.6	497.7	2,411.7	1,931.3	476.8	4,117.2	355.9	3,070.1	0.5	682.6	111.3	737.7
Sep.	1,591	7,848.1	518.2	2,377.8	1,893.6	480.6	4,126.4	355.9	3,079.5	0.5	683.4	110.6	715.1
Oct.	1,583	7,893.2	560.9	2,336.7	1,854.7	478.4	4,156.9	367.3	3,104.8	0.5	677.7	110.6	728.0
Nov.	1,580	7,927.5	550.1	2,358.2	1,873.0	482.3	4,173.7	368.0	3,124.0	0.6	674.7	110.1	735.2
Commercial banks 6													
2018 Oct.	263	3,130.7	362.1	931.7	853.4	77.6	1,272.0	206.6	860.0	0.4	202.6	48.1	516.8
Nov.	263	3,134.4	348.5	935.7	856.7	78.3	1,277.5	207.6	867.1	0.4	200.4	48.1	524.6
Big banks 7													
2018 Oct.	4	1,834.3	157.1	550.8	518.9	31.9	616.2	119.5	384.1	0.1	111.0	42.5	467.8
Nov.	4	1,836.7	148.0	555.9	524.0	31.9	615.5	118.9	387.3	0.1	107.9	42.5	474.9
Regional banks and other commercial banks													
2018 Oct.	149	893.0	98.9	187.2	143.5	43.3	560.2	56.6	418.9	0.3	83.9	5.0	41.7
Nov.	149	905.5	101.1	192.6	148.3	43.9	564.0	56.9	421.5	0.3	85.0	5.0	42.7
Branches of foreign banks													
2018 Oct.	110	403.4	106.1	193.7	190.9	2.5	95.6	30.5	57.0	0.0	7.7	0.7	7.3
Nov.	110	392.2	99.3	187.2	184.4	2.5	98.0	31.7	58.3	0.1	7.5	0.7	7.1
Landesbanken													
2018 Oct.	8	899.6	61.7	279.2	210.3	68.1	464.5	55.9	347.5	0.0	58.9	10.2	84.0
Nov.	8	899.2	63.1	279.5	209.6	69.5	465.5	56.5	349.1	0.1	57.3	10.2	80.9
Savings banks													
2018 Oct.	385	1,232.7	46.3	174.7	60.9	113.6	980.7	49.0	771.1	0.0	160.5	14.1	17.0
Nov.	385	1,241.7	48.4	178.7	63.9	114.6	983.2	47.9	775.0	0.0	160.2	14.1	17.4
Credit cooperatives													
2018 Oct.	878	924.6	21.1	170.6	63.4	106.5	696.6	33.5	551.0	0.0	111.9	17.1	19.1
Nov.	875	932.2	21.0	174.3	66.6	107.1	700.4	33.4	554.2	0.0	112.6	17.1	19.4
Mortgage banks													
2018 Oct.	11	224.5	3.6	28.3	17.9	10.4	186.0	2.7	161.9	–	21.3	0.1	6.4
Nov.	11	226.3	3.6	28.1	18.0	10.2	187.5	2.5	163.9	–	21.1	0.1	7.0
Building and loan associations													
2018 Oct.	20	233.8	1.4	55.1	39.2	16.0	172.3	1.2	145.3	.	25.9	0.3	4.6
Nov.	20	233.6	1.1	55.0	39.1	15.9	172.6	1.2	145.7	.	25.8	0.3	4.6
Banks with special, development and other central support tasks													
2018 Oct.	18	1,247.3	64.6	697.1	609.6	86.2	384.8	18.5	268.1	–	96.5	20.6	80.1
Nov.	18	1,260.0	64.5	706.9	619.2	86.7	387.0	18.9	269.0	–	97.3	20.1	81.4
Memo item: Foreign banks 8													
2018 Oct.	144	1,113.2	164.2	365.2	329.3	35.3	493.4	77.1	330.5	0.3	84.8	3.2	87.3
Nov.	144	1,118.8	162.4	365.3	328.7	35.9	498.2	78.0	335.0	0.4	84.3	3.3	89.7
of which: Banks majority-owned by foreign banks 9													
2018 Oct.	34	709.8	58.0	171.5	138.3	32.8	397.8	46.6	273.5	0.3	77.1	2.5	80.0
Nov.	34	726.6	63.1	178.1	144.3	33.5	400.2	46.3	276.7	0.3	76.8	2.6	82.6

***** Assets and liabilities of monetary financial institutions (MFIs) in Germany. The assets and liabilities of foreign branches, of money market funds (which are also classified as MFIs) and of the Bundesbank are not included. For the definitions of the respective items, see the footnotes to Table IV.3. **1** Owing to the Act Modernising Accounting Law *(Gesetz zur Modernisierung des Bilanzrechts)* of 25 May 2009, derivative financial instruments in the trading portfolio (trading portfolio derivatives) within the meaning of Section 340e(3) sentence 1 of the German Commercial Code *(Handelsgesetzbuch)* read in conjunction with Section 35(1) number 1a of the Credit Institution Accounting Regulation *(Verordnung über die Rechnungslegung der Kreditinstitute)* are classified under "Other assets and liabilities" as of the December 2010 reporting date. Trading portfolio derivatives are listed separately in Statistical Supplement 1 to the Monthly Report – Banking statistics, in Tables I.1 to I.3. **2** For building and loan associations: including deposits under savings and loan contracts (see Table IV.12). **3** Included in time deposits. **4** Excluding deposits under savings and

IV. Banks

Deposits of banks (MFIs)			Deposits of non-banks (non-MFIs)										
	of which:			of which:									
					Time deposits 2			Savings deposits 4					
Total	Sight deposits	Time deposits	Total	Sight deposits	for up to and including 1 year	for more than 1 year 2	Memo item: Liabilities arising from repos 3	Total	of which: At 3 months' notice	Bank savings bonds	Bearer debt securities out-standing 5	Capital including published reserves, partici-pation rights capital, funds for general banking risks	Other liabi-lities 1	End of month
All categories of banks														
1,747.3	554.8	1,192.5	3,732.2	2,119.8	293.7	687.7	61.7	586.4	545.5	44.5	1,119.0	522.7	729.7	2018 June
1,749.9	539.0	1,210.9	3,746.3	2,132.1	296.1	688.8	72.9	585.4	544.9	44.0	1,110.8	524.8	698.7	July
1,752.7	521.6	1,231.0	3,763.8	2,149.5	298.9	687.2	83.4	584.7	544.6	43.5	1,116.1	524.5	718.6	Aug.
1,745.1	543.8	1,201.3	3,752.1	2,155.7	283.9	685.3	66.8	584.3	544.6	43.0	1,126.6	526.3	698.0	Sep.
1,735.3	524.9	1,210.5	3,775.0	2,174.5	286.9	687.1	72.3	584.0	544.8	42.5	1,140.4	526.5	715.8	Oct.
1,739.4	526.0	1,213.5	3,795.6	2,212.2	269.5	688.1	61.7	583.9	545.3	41.8	1,143.7	527.1	721.7	Nov.
Commercial banks 6														
840.1	367.7	472.4	1,502.7	949.9	167.5	268.9	60.0	99.1	92.4	17.4	160.8	182.1	445.0	2018 Oct.
830.8	368.3	462.5	1,511.0	967.9	158.4	268.7	51.5	99.0	92.4	17.0	160.9	182.5	449.1	Nov.
Big banks 7														
445.9	165.9	280.0	761.1	453.8	104.4	117.1	59.8	82.3	76.8	3.5	121.5	106.7	399.1	2018 Oct.
442.4	167.5	274.9	763.6	464.3	95.4	118.1	51.3	82.3	76.8	3.5	121.7	106.7	402.2	Nov.
Regional banks and other commercial banks														
168.2	65.8	102.4	582.9	384.9	38.9	128.7	0.2	16.5	15.5	13.8	39.0	66.8	36.1	2018 Oct.
174.4	69.9	104.4	588.4	392.4	38.5	127.6	0.2	16.4	15.4	13.5	38.8	66.8	37.0	Nov.
Branches of foreign banks														
226.1	136.0	90.0	158.7	111.2	24.3	23.1	–	0.2	0.2	0.0	0.3	8.5	9.8	2018 Oct.
214.0	130.9	83.1	159.0	111.3	24.5	23.0	–	0.2	0.2	0.0	0.4	9.0	10.0	Nov.
Landesbanken														
265.8	67.6	198.2	293.7	133.6	55.3	92.0	9.0	12.3	12.2	0.5	200.1	50.8	89.2	2018 Oct.
268.0	63.8	204.2	290.5	135.4	48.8	93.6	6.9	12.3	12.2	0.3	200.8	50.8	89.1	Nov.
Savings banks														
129.1	3.8	125.4	932.7	598.1	14.4	14.9	–	287.4	263.7	18.0	14.6	114.9	41.4	2018 Oct.
128.2	2.9	125.3	942.8	608.5	14.4	14.9	–	287.2	263.8	17.8	14.4	114.9	41.4	Nov.
Credit cooperatives														
116.0	1.0	115.0	688.7	450.3	34.3	14.3	–	184.8	176.1	5.1	9.6	79.2	31.0	2018 Oct.
116.9	1.1	115.8	695.3	457.4	33.6	14.2	–	185.0	176.5	5.1	9.7	79.3	31.0	Nov.
Mortgage banks														
44.0	3.1	40.9	75.2	3.1	2.9	69.1	–	–	–	.	89.5	8.7	7.1	2018 Oct.
43.9	3.2	40.7	75.0	3.0	3.0	68.9	–	–	–	.	91.2	8.8	7.4	Nov.
Building and loan associations														
25.0	3.9	21.1	181.9	3.4	2.5	175.5	–	0.4	0.4	0.1	3.3	11.6	11.9	2018 Oct.
24.8	3.8	21.0	182.0	3.3	2.3	175.8	–	0.5	0.4	0.1	3.3	11.6	12.0	Nov.
Banks with special, development and other central support tasks														
315.3	77.8	237.5	100.2	36.2	10.0	52.4	3.3	–	–	.	662.4	79.2	90.2	2018 Oct.
326.8	82.8	244.0	99.0	36.6	9.0	51.9	3.2	–	–	.	663.4	79.2	91.6	Nov.
***Memo item:* Foreign banks 8**														
405.8	212.3	193.5	541.9	388.0	49.4	78.1	7.2	20.2	19.8	6.2	26.0	52.2	87.4	2018 Oct.
397.9	208.8	189.1	552.5	396.8	51.0	78.5	6.6	20.1	19.6	6.1	27.2	52.6	88.6	Nov.
***of which:* Banks majority-owned by foreign banks 9**														
179.8	76.3	103.5	383.2	276.8	25.1	55.0	7.2	20.0	19.6	6.2	25.7	43.6	77.6	2018 Oct.
183.9	77.9	106.1	393.6	285.6	26.5	55.5	6.6	19.9	19.4	6.1	26.8	43.6	78.6	Nov.

loan associations: Including deposits under savings and loan contracts (see Table IV.12). **3** Included in time deposits. **4** Excluding deposits under savings and loan contracts (see also footnote 2). **5** Including subordinated negotiable bearer debt securities; excluding non-negotiable bearer debt securities. **6** Commercial banks comprise the sub-groups "Big banks", "Regional banks and other commercial banks" and "Branches of foreign banks". **7** Deutsche Bank AG, Dresdner Bank AG (up to Nov. 2009), Commerzbank AG, UniCredit Bank AG (formerly Bayerische Hypo- und Vereinsbank AG) and Deutsche Postbank AG. **8** Sum of the banks majority-owned by foreign banks and included in other categories of banks and the category "Branches (with dependent legal status) of foreign banks". **9** Separate presentation of the banks majority-owned by foreign banks included in other banking categories.

IV. Banks

3. Assets and liabilities of banks (MFIs) in Germany vis-à-vis residents *

€ billion

Period	Cash in hand (euro area banknotes and coins)	Credit balances with the Bundesbank	Lending to domestic banks (MFIs)						Lending to domestic non-banks (non-MFIs)				
			Total	Credit balances and loans	Bills	Negotiable money market paper issued by banks	Securities issued by banks	Memo item: Fiduciary loans	Total	Loans	Bills	Treasury bills and negotiable money market paper issued by non-banks	Securities issued by non-banks [1]
													End of year or month *
2008	17.4	102.6	1,861.7	1,298.1	0.0	55.7	507.8	2.0	3,071.1	2,698.9	1.2	3.1	367.9
2009	16.9	78.9	1,711.5	1,138.0	–	31.6	541.9	2.2	3,100.1	2,691.8	0.8	4.0	403.5
2010	16.0	79.6	1,686.3	1,195.4	–	7.5	483.5	1.8	3,220.9	2,770.4	0.8	27.9	421.8
2011	15.8	93.8	1,725.6	1,267.9	–	7.1	450.7	2.1	3,197.8	2,774.6	0.8	6.4	415.9
2012	18.5	134.3	1,655.0	1,229.1	–	2.4	423.5	2.4	3,220.4	2,785.5	0.6	2.2	432.1
2013	18.5	85.6	1,545.6	1,153.1	0.0	1.7	390.8	2.2	3,131.6	2,692.6	0.5	1.2	437.2
2014	18.9	81.3	1,425.9	1,065.6	0.0	2.1	358.2	1.7	3,167.3	2,712.2	0.4	0.7	454.0
2015	19.2	155.0	1,346.6	1,062.6	0.0	1.7	282.2	1.7	3,233.9	2,764.0	0.4	0.4	469.0
2016	25.8	284.0	1,364.9	1,099.8	0.0	0.8	264.3	2.0	3,274.3	2,823.8	0.3	0.4	449.8
2017	31.9	392.5	1,407.5	1,163.4	0.0	0.7	243.4	1.9	3,332.6	2,894.0	0.4	0.7	437.5
2017 June	27.0	417.8	1,391.1	1,130.4	0.0	1.2	259.4	1.7	3,296.8	2,855.9	0.2	1.1	439.6
July	26.4	420.0	1,398.0	1,139.4	0.0	1.4	257.2	1.7	3,302.5	2,865.2	0.3	1.0	436.0
Aug.	27.3	421.3	1,384.2	1,131.4	0.0	1.4	251.3	1.7	3,308.9	2,869.4	0.2	0.8	438.5
Sep.	28.1	409.2	1,416.1	1,168.3	0.0	1.3	246.5	1.7	3,317.6	2,878.2	0.3	0.7	438.4
Oct.	28.1	472.7	1,378.5	1,130.6	0.0	0.9	247.0	1.7	3,326.1	2,887.0	0.3	0.8	438.0
Nov.	27.7	457.1	1,422.2	1,175.1	0.0	0.8	246.3	1.8	3,343.7	2,899.6	0.2	1.2	442.6
Dec.	31.9	392.5	1,407.5	1,163.4	0.0	0.7	243.4	1.9	3,332.6	2,894.0	0.4	0.7	437.5
2018 Jan.	29.0	448.1	1,421.7	1,176.0	0.0	0.7	245.1	2.5	3,339.3	2,904.9	0.3	1.0	433.1
Feb.	29.3	460.7	1,409.5	1,165.3	0.0	0.8	243.3	2.9	3,338.3	2,910.6	0.2	1.2	426.4
Mar.	34.8	440.7	1,389.5	1,143.5	0.0	0.9	245.2	3.2	3,342.5	2,919.6	0.3	1.0	421.7
Apr.	33.5	464.4	1,405.8	1,159.9	0.0	0.8	245.1	3.6	3,348.5	2,926.7	0.2	1.6	420.0
May	34.8	475.7	1,398.4	1,153.4	0.0	1.0	244.1	4.1	3,350.0	2,928.6	0.2	2.3	418.8
June	34.7	437.6	1,388.9	1,146.3	0.0	1.0	241.6	4.5	3,361.8	2,941.9	0.2	1.8	417.7
July	34.4	456.8	1,369.6	1,128.2	0.0	1.1	240.3	4.8	3,368.0	2,949.9	0.2	2.2	415.6
Aug.	34.8	455.2	1,383.7	1,141.5	0.0	1.2	241.0	5.3	3,368.5	2,956.8	0.2	1.6	409.9
Sep.	35.6	471.0	1,349.1	1,105.9	0.0	1.3	241.9	5.9	3,384.0	2,971.7	0.2	1.8	410.2
Oct.	36.6	505.8	1,323.8	1,082.0	0.0	1.4	240.3	6.1	3,384.4	2,977.1	0.2	0.6	406.6
Nov.	36.5	496.8	1,350.3	1,107.7	0.0	1.3	241.3	6.0	3,397.3	2,992.0	0.2	0.8	404.3
													Changes *
2009	– 0.5	– 23.6	– 147.2	– 157.3	– 0.0	– 24.1	+ 34.3	+ 0.2	+ 25.7	– 11.2	– 0.4	+ 1.4	+ 35.9
2010	– 0.9	+ 0.6	– 19.3	+ 61.5	± 0.0	– 24.0	– 56.8	– 0.3	+ 130.5	+ 78.7	+ 0.0	+ 23.8	+ 28.0
2011	– 0.2	+ 14.2	+ 47.3	+ 80.5	–	– 0.4	– 32.8	– 0.1	– 30.6	– 3.2	+ 0.0	– 21.5	– 5.9
2012	+ 2.7	+ 40.5	– 68.6	– 37.5	–	– 4.6	– 26.5	+ 0.1	+ 21.0	+ 9.8	– 0.2	– 4.3	+ 15.7
2013	+ 0.0	– 48.8	– 204.1	– 170.6	+ 0.0	– 0.7	– 32.7	– 0.2	+ 4.4	+ 0.3	– 0.1	– 0.6	+ 4.8
2014	+ 0.4	– 4.3	– 119.3	– 87.1	+ 0.0	+ 0.4	– 32.6	+ 0.1	+ 36.7	+ 20.6	– 0.1	– 0.6	+ 16.8
2015	+ 0.3	+ 73.7	– 80.7	– 4.3	– 0.0	– 0.4	– 75.9	– 0.1	+ 68.9	+ 54.1	– 0.0	– 0.3	+ 15.1
2016	+ 6.5	+129.1	+ 48.1	+ 66.9	–	– 0.9	– 17.9	+ 0.4	+ 43.7	+ 62.8	– 0.1	– 0.1	– 18.9
2017	+ 6.1	+108.4	+ 50.3	+ 70.4	– 0.0	+ 0.0	– 20.1	– 0.1	+ 57.0	+ 70.2	+ 0.0	+ 0.4	– 13.6
2017 June	+ 1.7	– 8.2	– 23.5	– 20.9	–	+ 0.1	– 2.7	– 0.0	+ 4.0	+ 4.6	+ 0.0	– 0.6	– 0.0
July	– 0.7	+ 2.2	+ 6.9	+ 9.0	–	+ 0.2	– 2.2	–	+ 5.6	+ 9.4	+ 0.0	– 0.2	– 3.6
Aug.	+ 0.9	+ 1.3	– 13.8	– 8.0	–	+ 0.0	– 5.9	+ 0.0	+ 6.4	+ 4.1	– 0.0	– 0.2	+ 2.6
Sep.	+ 0.8	– 12.1	+ 34.1	+ 38.3	– 0.0	– 0.1	– 4.1	– 0.0	+ 7.3	+ 8.8	+ 0.1	– 0.0	– 1.5
Oct.	+ 0.1	+ 63.5	– 37.6	– 37.6	+ 0.0	– 0.4	+ 0.5	+ 0.0	+ 8.6	+ 8.8	– 0.0	+ 0.0	– 0.3
Nov.	– 0.4	– 15.6	+ 43.7	+ 44.4	–	– 0.0	– 0.7	+ 0.1	+ 17.7	+ 12.7	– 0.0	+ 0.4	+ 4.6
Dec.	+ 4.1	– 64.6	– 10.3	– 7.3	– 0.0	– 0.2	– 2.9	+ 0.1	– 11.1	– 5.6	+ 0.1	– 0.5	– 5.1
2018 Jan.	– 2.9	+ 55.6	+ 13.7	+ 12.1	–	+ 0.0	+ 1.7	+ 0.6	+ 6.9	+ 11.0	– 0.1	+ 0.3	– 4.4
Feb.	+ 0.3	+ 12.7	– 12.3	– 10.7	+ 0.0	+ 0.1	– 1.7	+ 0.4	– 1.0	+ 5.6	– 0.1	+ 0.2	– 6.7
Mar.	+ 5.5	– 20.0	– 19.9	– 21.9	–	+ 0.1	+ 1.9	+ 0.3	+ 4.2	+ 9.1	+ 0.1	– 0.2	– 4.7
Apr.	– 1.3	+ 23.6	+ 16.8	+ 16.9	+ 0.0	– 0.0	– 0.0	+ 0.4	+ 6.4	+ 7.1	– 0.0	+ 0.7	– 1.3
May	+ 1.3	+ 11.4	– 5.8	– 4.9	–	+ 0.1	– 1.1	+ 0.5	+ 10.4	+ 10.8	– 0.0	+ 0.7	– 1.2
June	– 0.1	– 38.1	– 9.5	– 7.1	–	+ 0.0	– 2.4	+ 0.4	+ 11.8	+ 13.3	+ 0.0	– 0.5	– 1.0
July	– 0.3	+ 19.3	– 19.3	– 18.1	–	+ 0.1	– 1.3	+ 0.3	+ 6.2	+ 8.0	– 0.0	+ 0.4	– 2.1
Aug.	+ 0.4	– 1.6	+ 15.6	+ 14.8	–	+ 0.1	+ 0.7	+ 0.5	+ 0.7	+ 7.1	– 0.0	– 0.6	– 5.8
Sep.	+ 0.8	+ 16.0	– 34.6	– 35.7	–	+ 0.1	+ 0.9	+ 0.4	+ 15.5	+ 14.9	+ 0.0	+ 0.2	+ 0.4
Oct.	+ 1.1	+ 34.7	– 25.4	– 23.8	+ 0.0	+ 0.1	– 1.7	+ 0.1	+ 0.5	+ 5.4	– 0.0	– 1.2	– 3.6
Nov.	– 0.1	– 9.0	+ 26.6	+ 25.7	–	– 0.1	+ 1.0	– 0.1	+ 12.9	+ 14.9	+ 0.0	+ 0.2	– 2.2

***** See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Excluding debt securities arising from the exchange of equalisation claims (see also footnote 2). **2** Including debt securities arising from the exchange of equalisation claims. **3** Including liabilities arising from registered debt securities, registered money market paper and non-negotiable bearer debt securities; including subordinated liabilities. **4** Including liabilities arising from monetary policy

IV. Banks

Equalisation claims [2]	Memo item: Fiduciary loans	Participating interests in domestic banks and enterprises	Deposits of domestic banks (MFIs) [3] Total	Sight deposits [4]	Time deposits [4]	Redis-counted bills [5]	Memo item: Fiduciary loans	Deposits of domestic non-banks (non-MFIs) Total	Sight deposits	Time deposits [6]	Savings deposits [7]	Bank savings bonds [8]	Memo item: Fiduciary loans	Period
End of year or month *														
–	47.2	111.2	1,582.5	138.5	1,444.0	0.0	41.6	2,781.4	834.6	1,276.1	535.2	135.4	32.3	2008
–	43.9	106.1	1,355.1	128.9	1,226.2	0.0	35.7	2,829.7	1,029.5	1,102.6	594.5	103.2	43.4	2009
–	33.7	96.8	1,238.3	135.3	1,102.6	0.0	13.8	2,935.2	1,104.4	1,117.1	618.2	95.4	37.5	2010
–	36.3	94.6	1,210.5	114.8	1,095.3	0.0	36.1	3,045.5	1,168.3	1,156.2	616.1	104.8	36.5	2011
–	34.8	90.0	1,135.5	132.9	1,002.6	0.0	36.3	3,090.2	1,306.5	1,072.5	617.6	93.6	34.9	2012
–	31.6	92.3	1,140.3	125.6	1,014.7	0.0	33.2	3,048.7	1,409.9	952.0	610.1	76.6	32.9	2013
–	26.5	94.3	1,111.9	127.8	984.0	0.0	11.7	3,118.2	1,517.8	926.7	607.8	66.0	30.9	2014
–	20.4	89.6	1,065.6	131.1	934.5	0.0	6.1	3,224.7	1,673.7	898.4	596.5	56.1	29.3	2015
–	19.1	91.0	1,032.9	129.5	903.3	0.1	5.6	3,326.7	1,798.2	889.6	588.5	50.4	28.8	2016
–	19.1	88.1	1,048.2	110.7	937.4	0.0	5.1	3,420.9	1,941.0	853.2	582.9	43.7	30.0	2017
–	19.7	88.4	1,053.9	125.6	928.3	0.0	5.5	3,370.3	1,869.2	869.8	584.7	46.6	29.8	2017 June
–	19.6	88.5	1,061.7	125.0	936.6	0.0	5.4	3,361.5	1,866.0	866.0	583.5	46.0	29.9	July
–	19.6	88.9	1,065.1	121.2	943.9	0.0	5.4	3,376.5	1,884.2	864.4	582.4	45.4	30.0	Aug.
–	19.5	88.1	1,071.5	120.2	951.3	0.0	5.3	3,380.7	1,891.7	861.9	581.8	45.3	30.0	Sep.
–	19.4	87.9	1,081.0	122.8	958.2	0.0	5.3	3,396.5	1,916.8	853.4	581.5	44.8	29.9	Oct.
–	19.4	88.1	1,079.8	125.9	953.9	0.0	5.3	3,426.8	1,944.0	857.5	581.0	44.3	30.1	Nov.
–	19.1	88.1	1,048.2	110.7	937.4	0.0	5.1	3,420.9	1,941.0	853.2	582.9	43.7	30.0	Dec.
–	18.9	88.2	1,060.1	116.0	944.1	0.0	5.0	3,428.9	1,949.3	854.1	582.4	42.9	30.4	2018 Jan.
–	19.0	88.5	1,056.6	110.3	946.4	0.0	5.0	3,425.8	1,949.6	851.6	582.2	42.3	30.9	Feb.
–	18.9	88.5	1,056.3	118.6	937.7	0.0	5.0	3,421.8	1,948.0	850.7	581.3	41.8	31.5	Mar.
–	18.8	89.2	1,052.8	118.2	934.6	0.0	5.0	3,439.5	1,971.4	846.3	580.5	41.3	31.9	Apr.
–	18.8	93.8	1,035.9	107.1	928.9	0.0	5.0	3,471.4	2,002.6	847.7	580.2	40.9	32.4	May
–	18.7	94.0	1,034.3	122.0	912.2	0.0	4.9	3,473.1	1,996.6	856.7	579.3	40.6	32.6	June
–	18.5	94.4	1,041.4	118.8	922.6	0.0	4.9	3,473.2	2,002.6	852.3	578.2	40.0	32.8	July
–	18.4	88.0	1,042.8	117.3	925.5	0.0	4.8	3,485.0	2,020.0	847.9	577.6	39.5	33.1	Aug.
–	18.3	87.9	1,033.4	117.1	916.2	0.0	4.8	3,482.9	2,022.5	844.0	577.3	39.1	33.9	Sep.
–	17.9	87.9	1,032.9	111.3	921.6	0.0	4.8	3,504.0	2,044.7	843.7	577.0	38.6	33.7	Oct.
–	17.9	87.7	1,045.8	115.5	930.3	0.0	4.7	3,537.4	2,079.6	843.0	576.9	37.9	33.7	Nov.
Changes *														
–	– 4.2	+ 0.7	– 225.4	– 9.7	– 215.7	– 0.0	– 5.7	+ 59.7	+ 211.4	– 179.3	+ 59.3	– 31.6	– 0.9	2009
–	– 2.1	– 9.2	– 96.5	+ 22.3	– 119.1	– 0.0	– 0.2	+ 77.8	+ 76.0	– 18.9	+ 24.0	– 3.3	– 1.7	2010
–	– 1.1	– 2.2	– 25.0	– 20.0	– 5.1	– 0.0	+ 0.1	+ 111.2	+ 63.7	+ 40.9	– 2.6	+ 9.3	– 1.1	2011
–	– 1.3	– 4.1	– 70.8	+ 21.5	– 91.9	– 0.0	+ 0.2	+ 42.2	+ 138.7	– 86.7	+ 1.5	– 11.2	– 1.6	2012
–	– 3.3	+ 2.4	– 79.4	– 24.1	– 55.3	+ 0.0	– 3.4	+ 40.2	+ 118.4	– 53.9	– 7.4	– 17.0	– 1.7	2013
–	– 1.9	+ 2.0	– 29.0	+ 2.2	– 31.2	– 0.0	– 0.6	+ 69.7	+ 107.9	– 25.3	– 2.4	– 10.6	– 2.0	2014
–	– 2.1	– 4.3	– 46.6	+ 3.3	– 50.0	+ 0.0	– 1.3	+ 106.5	+ 156.2	– 28.3	– 11.3	– 10.1	– 1.6	2015
–	– 1.3	+ 1.5	– 1.7	+ 0.3	– 2.0	+ 0.0	– 0.5	+ 104.7	+ 124.5	– 6.9	– 7.9	– 5.0	– 0.5	2016
–	– 0.0	– 1.6	+ 11.0	– 18.4	+ 29.4	– 0.0	– 0.5	+ 103.1	+ 142.8	– 27.5	– 5.6	– 6.7	+ 0.4	2017
–	– 0.4	+ 0.0	– 24.6	– 16.1	– 8.5	+ 0.0	– 0.0	+ 10.9	+ 17.0	– 4.6	– 1.0	– 0.4	– 0.6	2017 June
–	– 0.0	+ 0.1	+ 7.8	– 0.5	+ 8.3	–	– 0.0	– 8.8	– 3.1	– 3.8	– 1.2	– 0.7	+ 0.2	July
–	– 0.0	+ 0.4	+ 3.5	– 3.9	+ 7.3	+ 0.0	– 0.1	+ 15.0	+ 18.2	– 1.6	– 1.1	– 0.6	+ 0.1	Aug.
–	– 0.1	– 0.3	– 3.3	– 1.0	– 2.3	–	– 0.1	+ 4.3	+ 7.5	– 2.5	– 0.6	– 0.1	– 0.1	Sep.
–	– 0.1	– 0.1	+ 9.5	+ 2.6	+ 6.9	–	+ 0.0	+ 15.7	+ 25.1	– 8.5	– 0.3	– 0.5	– 0.0	Oct.
–	– 0.0	+ 0.1	– 1.0	+ 3.1	– 4.2	–	+ 0.0	+ 30.3	+ 27.2	+ 4.0	– 0.5	– 0.5	+ 0.1	Nov.
–	– 0.3	+ 0.5	– 27.3	– 15.0	– 12.2	– 0.0	– 0.2	– 5.9	– 3.0	– 4.2	+ 1.9	– 0.6	– 0.1	Dec.
–	– 0.1	– 0.0	+ 11.9	+ 5.2	+ 6.7	+ 0.0	– 0.1	+ 7.6	+ 8.0	+ 0.9	– 0.4	– 0.8	+ 0.4	2018 Jan.
–	– 0.0	+ 0.4	– 3.5	– 5.8	+ 2.3	–	+ 0.0	– 3.1	+ 0.3	– 2.5	– 0.3	– 0.6	+ 0.5	Feb.
–	– 0.1	+ 0.0	– 0.3	+ 8.3	– 8.7	+ 0.0	– 0.0	– 4.0	– 1.7	– 0.9	– 0.9	– 0.5	+ 0.5	Mar.
–	– 0.1	+ 0.7	– 3.0	+ 0.3	– 3.2	– 0.0	– 0.0	+ 18.6	+ 23.4	– 3.5	– 0.8	– 0.5	+ 0.4	Apr.
–	+ 0.0	+ 4.6	– 16.9	– 11.2	– 5.7	+ 0.0	– 0.0	+ 31.9	+ 31.3	+ 1.4	– 0.3	– 0.5	+ 0.5	May
–	– 0.1	+ 0.2	– 1.6	+ 15.0	– 16.6	–	– 0.1	+ 1.8	– 6.0	+ 9.1	– 0.9	– 0.4	+ 0.3	June
–	– 0.2	+ 0.4	+ 7.7	– 2.7	+ 10.4	+ 0.0	– 0.1	+ 0.1	+ 6.1	– 4.4	– 1.0	– 0.6	+ 0.2	July
–	+ 0.0	– 6.0	+ 2.8	– 1.5	+ 4.2	– 0.0	– 0.0	+ 11.9	+ 17.3	– 4.3	– 0.6	– 0.5	+ 0.5	Aug.
–	– 0.1	– 0.0	– 9.5	– 0.2	– 9.3	–	– 0.0	– 1.9	+ 2.7	– 3.9	– 0.3	– 0.4	+ 0.6	Sep.
–	– 0.4	– 0.1	– 0.5	– 5.8	+ 5.3	+ 0.0	– 0.0	+ 21.2	+ 22.2	– 0.2	– 0.3	– 0.5	– 0.2	Oct.
–	– 0.0	– 0.2	+ 13.0	+ 4.2	+ 8.8	+ 0.0	– 0.0	+ 33.4	+ 34.8	– 0.5	– 0.1	– 0.7	– 0.0	Nov.

operations with the Bundesbank. **5** Own acceptances and promissory notes outstanding. **6** Since the inclusion of building and loan associations in January 1999, including deposits under savings and loan contracts (see Table IV.12). **7** Excluding deposits under savings and loan contracts (see also footnote 8). **8** Including liabilities arising from non-negotiable bearer debt securities.

IV. Banks

4. Assets and liabilities of banks (MFIs) in Germany vis-à-vis non-residents *

€ billion

Period	Cash in hand (non-euro area banknotes and coins)	Lending to foreign banks (MFIs)							Lending to foreign non-banks (non-MFIs)					
		Total	Credit balances and loans, bills			Negotiable money market paper issued by banks	Securities issued by banks	Memo item: Fiduciary loans	Total	Loans and bills			Treasury bills and negotiable money market paper issued by non-banks	Securities issued by non-banks
			Total	Short-term	Medium and long-term					Total	Short-term	Medium and long-term		
	End of year or month *													
2008	0.3	1,446.6	1,131.6	767.2	364.3	15.6	299.5	1.9	908.4	528.9	151.4	377.5	12.9	366.6
2009	0.3	1,277.4	986.1	643.5	342.6	6.2	285.0	2.9	815.7	469.6	116.9	352.7	9.8	336.3
2010	0.5	1,154.1	892.7	607.7	285.1	2.1	259.3	1.8	773.8	461.4	112.6	348.8	10.1	302.3
2011	0.6	1,117.6	871.0	566.3	304.8	4.6	241.9	2.6	744.4	455.8	102.0	353.8	8.5	280.1
2012	0.8	1,046.0	813.5	545.5	268.1	5.4	227.0	2.6	729.0	442.2	105.1	337.1	9.0	277.8
2013	0.2	1,019.7	782.4	546.6	235.8	7.2	230.1	2.5	701.0	404.9	100.3	304.6	8.2	287.8
2014	0.2	1,125.2	884.8	618.7	266.1	7.9	232.5	1.1	735.1	415.2	94.4	320.8	6.5	313.5
2015	0.3	1,066.9	830.7	555.9	274.7	1.2	235.0	1.0	751.5	424.3	83.8	340.5	7.5	319.7
2016	0.3	1,055.9	820.6	519.8	300.7	0.5	234.9	1.0	756.2	451.6	90.1	361.4	5.0	299.6
2017	0.3	963.8	738.2	441.0	297.2	0.7	225.0	2.3	723.9	442.2	93.3	348.9	4.2	277.5
2017 June	0.3	1,043.5	812.2	515.4	296.8	2.3	229.0	1.9	756.2	461.8	102.5	359.3	6.3	288.1
July	0.3	1,018.5	788.2	493.2	295.0	2.3	227.9	2.1	751.5	458.0	102.6	355.4	6.1	287.4
Aug.	0.2	1,000.5	772.3	478.4	293.9	2.2	226.0	2.1	743.9	454.3	104.0	350.3	6.0	283.6
Sep.	0.3	1,007.0	780.1	484.7	295.4	1.9	225.1	2.1	743.3	457.8	107.9	349.9	6.7	278.8
Oct.	0.3	996.7	769.4	473.5	295.9	1.9	225.3	2.1	739.9	457.9	104.8	353.1	6.5	275.6
Nov.	0.3	988.3	761.0	467.6	293.4	1.4	225.9	2.2	736.5	454.9	105.5	349.3	6.4	275.2
Dec.	0.3	963.8	738.2	441.0	297.2	0.7	225.0	2.3	723.9	442.2	93.3	348.9	4.2	277.5
2018 Jan.	0.3	985.4	758.1	466.7	291.4	1.8	225.5	2.2	735.1	450.6	105.6	345.0	5.5	279.1
Feb.	0.3	999.3	770.8	477.7	293.1	2.1	226.3	2.3	742.5	459.1	111.5	347.7	6.2	277.2
Mar.	0.3	993.3	759.8	469.7	290.0	2.2	231.3	2.4	736.2	456.1	108.7	347.4	6.5	273.6
Apr.	0.3	1,003.7	769.6	478.3	291.3	2.3	231.8	2.4	730.1	453.9	105.2	348.7	6.8	269.4
May	0.3	1,030.6	796.6	501.0	295.6	2.3	231.7	2.5	749.9	470.2	112.9	357.2	5.3	274.4
June	0.3	1,027.1	792.4	501.1	291.2	2.3	232.4	2.5	732.4	454.6	97.7	356.9	5.9	271.8
July	0.2	1,031.9	795.4	502.7	292.7	2.3	234.2	2.6	740.4	464.1	103.9	360.2	6.1	270.2
Aug.	0.2	1,027.9	789.8	496.9	292.9	2.3	235.8	2.6	748.7	469.5	107.6	362.0	6.5	272.7
Sep.	0.3	1,028.7	787.7	496.7	291.1	2.3	238.6	2.7	742.5	464.0	102.4	361.6	5.3	273.2
Oct.	0.3	1,013.0	772.7	492.7	280.0	2.1	238.1	2.8	772.5	495.4	115.8	379.6	6.0	271.1
Nov.	0.3	1,007.9	765.4	491.4	274.0	1.5	241.0	2.9	776.4	500.3	117.6	382.7	5.8	270.3
	Changes *													
2009	– 0.0	– 170.0	– 141.3	– 122.5	– 18.8	– 10.3	– 18.4	– 0.2	– 72.8	– 43.8	– 31.7	– 12.1	– 3.3	– 25.7
2010	+ 0.1	– 141.5	– 116.2	– 47.3	– 68.9	– 4.8	– 20.4	– 0.2	– 62.0	– 24.5	– 12.6	– 11.9	+ 0.4	– 38.0
2011	+ 0.1	– 48.4	– 32.6	– 45.3	+ 12.7	+ 2.5	– 18.4	+ 0.0	– 38.9	– 13.6	– 12.8	– 0.9	– 1.6	– 23.6
2012	+ 0.1	– 70.1	– 56.8	– 23.1	– 33.7	+ 0.9	– 14.1	– 0.1	– 9.4	– 7.5	+ 8.3	– 15.9	+ 0.6	– 2.5
2013	– 0.5	– 22.7	– 26.9	– 1.3	– 25.6	+ 1.8	+ 2.4	– 0.0	– 21.2	– 33.1	– 5.8	– 27.2	– 0.7	+ 12.6
2014	– 0.0	+ 86.1	+ 80.1	+ 63.2	+ 16.8	+ 0.7	+ 5.3	– 0.6	+ 5.7	– 10.2	– 12.8	+ 2.7	– 1.8	+ 17.7
2015	+ 0.1	– 91.8	– 86.0	– 82.2	– 3.8	– 6.7	+ 0.8	– 0.1	– 6.1	– 9.2	– 6.5	– 2.7	+ 1.1	+ 2.0
2016	+ 0.0	– 25.5	– 14.5	– 38.2	+ 23.7	– 0.7	– 10.3	– 0.0	+ 17.4	+ 28.9	+ 10.1	+ 18.8	– 3.0	– 8.5
2017	+ 0.0	– 57.2	– 48.7	– 61.5	+ 12.8	+ 0.0	– 8.5	+ 0.6	– 4.7	+ 13.0	+ 8.6	+ 4.4	+ 0.7	– 18.4
2017 June	– 0.0	+ 11.0	+ 12.7	+ 10.9	+ 1.9	+ 0.1	– 1.9	+ 0.0	– 12.8	– 11.8	– 9.3	– 2.5	+ 1.2	– 2.2
July	– 0.0	– 16.8	– 16.1	– 18.2	+ 2.1	+ 0.0	– 0.7	+ 0.1	+ 0.1	+ 0.2	+ 0.7	– 0.6	– 0.2	+ 0.1
Aug.	– 0.0	– 19.5	– 17.7	– 15.3	– 2.4	– 0.1	– 1.8	+ 0.0	– 0.5	+ 3.0	+ 3.8	– 0.7	– 0.0	– 3.5
Sep.	+ 0.1	+ 5.0	+ 6.5	+ 5.6	+ 0.8	– 0.4	– 1.1	– 0.0	– 0.8	+ 2.1	+ 3.4	– 1.4	+ 0.7	– 3.5
Oct.	+ 0.0	– 13.4	– 13.6	– 12.3	– 1.3	+ 0.1	+ 0.2	+ 0.0	– 5.3	– 1.5	– 3.4	+ 2.0	– 0.2	– 3.6
Nov.	– 0.0	– 3.2	– 3.4	– 3.4	– 0.1	– 0.5	+ 0.7	+ 0.0	– 0.8	– 0.9	+ 1.0	– 1.9	– 0.0	+ 0.1
Dec.	– 0.0	– 21.1	– 19.6	– 25.1	+ 5.5	– 0.7	– 0.8	+ 0.1	– 10.7	– 11.1	– 11.9	+ 0.8	– 2.2	+ 2.5
2018 Jan.	+ 0.0	+ 30.6	+ 28.8	+ 29.7	– 0.9	+ 1.1	+ 0.7	– 0.1	+ 15.8	+ 12.3	+ 12.8	– 0.6	+ 1.3	+ 2.3
Feb.	– 0.0	+ 8.4	+ 7.4	+ 8.2	– 0.8	+ 0.3	+ 0.7	+ 0.1	+ 4.9	+ 6.5	+ 5.4	+ 1.1	+ 0.7	– 2.3
Mar.	– 0.0	– 3.1	– 8.3	– 6.3	– 2.0	+ 0.0	+ 5.1	+ 0.1	– 5.1	– 2.1	– 2.6	+ 0.5	+ 0.4	– 3.4
Apr.	+ 0.0	+ 6.0	+ 5.4	+ 6.6	– 1.2	+ 0.2	+ 0.5	+ 0.0	– 8.2	– 4.1	– 3.9	– 0.3	+ 0.2	– 4.3
May	– 0.0	+ 16.9	+ 17.3	+ 17.3	– 0.0	– 0.0	– 0.4	+ 0.0	+ 14.7	+ 12.1	+ 7.0	+ 5.1	– 1.5	+ 4.2
June	+ 0.0	– 4.0	– 4.7	– 0.0	– 4.7	– 0.0	+ 0.8	+ 0.1	– 17.4	– 15.4	– 15.2	– 0.3	+ 0.6	– 2.6
July	– 0.0	+ 7.0	+ 5.1	+ 2.7	+ 2.4	+ 0.0	+ 1.8	+ 0.1	+ 9.2	+ 10.4	+ 6.4	+ 4.0	+ 0.1	– 1.4
Aug.	– 0.0	– 6.4	– 7.9	– 7.2	– 0.8	+ 0.0	+ 1.6	+ 0.1	+ 7.3	+ 4.7	+ 3.5	+ 1.1	+ 0.4	+ 2.3
Sep.	+ 0.0	– 1.2	– 3.9	– 1.2	– 2.8	– 0.0	+ 2.8	+ 0.1	– 7.6	– 6.8	– 5.5	– 1.3	– 1.1	+ 0.3
Oct.	– 0.0	– 7.7	– 6.9	– 4.5	– 2.4	– 0.2	– 0.6	+ 0.0	+ 12.8	+ 14.8	+ 10.5	+ 4.3	+ 0.6	– 2.6
Nov.	+ 0.0	– 4.9	– 6.5	– 0.9	– 5.6	– 0.6	+ 2.1	+ 0.1	+ 5.3	+ 5.4	+ 2.0	+ 3.5	– 0.2	+ 0.1

* See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked.

IV. Banks

Memo item: Fiduciary loans	Participating interests in foreign banks and enterprises	Deposits of foreign banks (MFIs)						Deposits of foreign non-banks (non-MFIs)						Period
		Total	Sight deposits	Time deposits (including bank savings bonds)			Memo item: Fiduciary loans	Total	Sight deposits	Time deposits (including savings deposits and bank savings bonds)			Memo item: Fiduciary loans	
				Total	Short-term	Medium and long-term				Total	Short-term	Medium and long-term		
End of year or month *														
25.5	45.1	703.3	218.1	485.1	362.3	122.9	0.3	286.1	92.2	193.9	95.1	98.8	2.5	2008
32.1	45.4	652.6	213.6	439.0	307.4	131.6	0.2	216.3	78.1	138.2	73.7	64.5	1.9	2009
15.6	48.8	741.7	258.7	483.0	349.3	133.6	0.1	227.6	84.8	142.7	76.7	66.0	1.5	2010
32.9	45.0	655.7	242.6	413.1	289.4	123.7	0.1	225.9	92.3	133.6	66.9	66.6	1.3	2011
32.6	46.4	691.1	289.4	401.7	284.6	117.0	0.1	237.6	107.2	130.3	69.1	61.2	1.2	2012
30.8	39.0	515.7	222.6	293.2	196.0	97.2	0.1	257.8	118.1	139.7	76.8	62.9	1.0	2013
14.0	35.6	609.2	277.1	332.1	242.7	89.4	0.1	221.0	113.0	107.9	47.8	60.1	0.7	2014
13.1	30.5	611.9	323.4	288.5	203.8	84.7	0.1	201.1	102.6	98.5	49.3	49.2	0.7	2015
13.1	28.7	696.1	374.4	321.6	234.2	87.5	0.0	206.2	100.3	105.9	55.2	50.8	0.7	2016
12.1	24.3	659.0	389.6	269.4	182.4	87.0	0.0	241.2	109.4	131.8	68.1	63.8	0.3	2017
12.5	24.4	720.3	463.2	257.1	170.1	87.0	0.0	259.9	123.7	136.1	75.7	60.4	0.6	2017 June
12.5	24.4	692.4	441.0	251.4	165.5	85.9	0.0	282.5	137.7	144.8	84.4	60.5	0.6	July
12.4	24.4	648.0	389.2	258.9	174.0	84.9	0.0	286.0	133.1	152.9	92.5	60.4	0.5	Aug.
12.4	24.8	691.5	430.5	261.0	176.6	84.3	0.0	279.1	133.5	145.7	84.3	61.4	0.5	Sep.
12.3	24.8	687.6	433.6	254.0	169.4	84.7	0.0	282.8	132.3	150.5	87.9	62.6	0.4	Oct.
12.4	24.7	694.2	428.8	265.4	179.7	85.7	0.0	284.4	140.6	143.8	81.7	62.1	0.4	Nov.
12.1	24.3	659.0	389.6	269.4	182.4	87.0	0.0	241.2	109.4	131.8	68.1	63.8	0.3	Dec.
12.0	24.2	711.8	450.8	261.0	172.7	88.3	0.0	275.0	130.5	144.6	82.2	62.3	0.3	2018 Jan.
12.1	23.7	715.7	441.2	274.5	185.5	89.0	0.0	279.6	134.8	144.8	85.5	59.3	0.3	Feb.
12.2	24.0	668.6	385.6	283.0	196.4	86.5	0.0	272.9	126.3	146.6	87.8	58.8	0.3	Mar.
12.3	23.6	685.3	410.6	274.7	188.3	86.4	0.0	282.6	138.4	144.2	85.2	59.0	0.3	Apr.
12.2	23.7	730.1	452.6	277.4	188.0	89.4	0.0	285.8	140.5	145.4	86.9	58.5	0.3	May
12.1	23.7	713.1	432.8	280.3	187.1	93.1	0.0	259.1	123.3	135.8	78.9	56.9	0.3	June
11.9	23.0	708.4	420.2	288.2	197.2	91.0	0.0	273.1	129.4	143.7	84.1	59.6	0.3	July
11.9	23.1	709.8	404.3	305.5	217.7	87.8	0.0	278.8	129.5	149.2	90.1	59.1	0.3	Aug.
11.8	22.4	711.7	426.7	285.0	197.3	87.7	0.0	269.3	133.2	136.1	79.2	56.9	0.1	Sep.
11.8	22.5	702.4	413.6	288.9	200.1	88.8	0.0	271.0	129.8	141.2	82.8	58.4	0.1	Oct.
11.8	22.3	693.6	410.5	283.1	194.4	88.7	0.0	258.1	132.6	125.5	67.7	57.8	0.2	Nov.
Changes *														
– 3.2	+ 0.1	– 81.4	– 2.1	– 79.3	– 57.5	– 21.7	– 0.2	– 33.5	– 13.3	– 20.1	– 17.0	– 3.1	– 0.6	2009
+ 0.2	+ 1.4	+ 895.4	+ 42.0	+ 542.4	+ 38.1	+ 136.8	– 0.1	– 1.6	+ 6.0	– 7.6	– 3.3	– 4.4	– 0.4	2010
– 0.1	– 3.9	– 88.8	– 13.8	– 75.0	– 61.8	– 13.1	– 0.0	– 9.3	+ 6.4	– 15.7	– 10.4	– 5.3	– 0.2	2011
– 0.3	+ 1.5	+ 38.2	+ 51.7	– 13.5	– 7.5	– 6.0	– 0.0	+ 12.6	+ 15.2	– 2.6	+ 2.5	– 5.1	– 0.1	2012
– 1.8	– 7.2	– 174.0	– 75.6	– 98.4	– 83.1	– 15.4	– 0.0	+ 13.5	+ 9.6	+ 3.9	+ 6.9	– 3.0	– 0.2	2013
+ 0.1	– 3.8	+ 76.3	+ 47.8	+ 28.5	+ 39.0	– 10.5	– 0.0	– 43.6	– 8.3	– 35.3	– 30.7	– 4.6	+ 0.2	2014
– 0.6	– 6.1	– 15.4	+ 40.6	– 56.0	– 48.6	– 7.4	– 0.0	– 26.5	– 13.9	– 12.6	+ 0.3	– 13.0	– 0.0	2015
– 0.1	– 1.5	+ 82.7	+ 51.0	+ 31.7	+ 27.0	+ 4.7	– 0.0	+ 3.5	– 3.1	+ 6.7	+ 5.9	+ 0.8	– 0.0	2016
– 1.0	– 4.1	– 15.5	+ 25.3	– 40.8	– 43.2	+ 2.4	± 0.0	+ 31.8	+ 11.0	+ 20.8	+ 15.6	+ 5.2	– 0.4	2017
– 0.3	– 0.2	– 9.0	+ 0.6	– 9.6	– 10.5	+ 0.9	–	– 17.8	– 10.0	– 7.8	– 9.0	+ 1.2	– 0.0	2017 June
– 0.0	+ 0.0	– 23.9	– 19.7	– 4.2	– 3.7	– 0.5	+ 0.0	+ 24.0	+ 14.4	+ 9.6	+ 9.3	+ 0.3	– 0.0	July
– 0.1	+ 0.0	– 42.9	– 51.2	+ 8.3	+ 9.1	– 0.8	– 0.0	+ 4.6	– 4.0	+ 8.6	+ 8.5	+ 0.0	– 0.1	Aug.
– 0.0	+ 0.4	+ 42.4	+ 41.0	+ 1.5	+ 2.1	– 0.7	–	– 7.2	+ 0.2	– 7.4	– 8.4	+ 0.9	+ 0.0	Sep.
– 0.1	– 0.0	– 5.9	+ 2.4	– 8.3	– 8.3	+ 0.0	–	+ 3.0	– 1.4	+ 4.4	+ 3.4	+ 1.1	– 0.1	Oct.
+ 0.1	– 0.0	+ 9.4	– 3.6	+ 13.0	+ 11.6	+ 1.4	–	+ 2.3	+ 8.6	– 6.2	– 5.9	– 0.4	– 0.0	Nov.
– 0.3	– 0.4	– 33.3	– 38.4	+ 5.1	+ 3.5	+ 1.5	–	– 42.5	– 31.0	– 11.6	– 13.4	+ 1.8	– 0.1	Dec.
– 0.1	– 0.0	+ 57.4	+ 63.5	– 6.1	– 5.0	– 1.1	–	+ 35.0	+ 21.4	+ 13.6	+ 14.4	– 0.8	– 0.0	2018 Jan.
+ 0.1	– 0.5	+ 1.1	– 10.9	+ 12.0	+ 11.7	+ 0.3	– 0.0	+ 3.9	+ 4.0	– 0.2	+ 3.0	– 3.2	+ 0.0	Feb.
+ 0.1	+ 0.3	– 45.8	– 55.0	+ 9.1	+ 11.5	– 2.3	–	– 6.4	– 8.3	+ 1.9	+ 2.3	– 0.4	– 0.0	Mar.
+ 0.1	– 0.5	+ 13.1	+ 22.9	– 9.8	– 9.3	– 0.5	+ 0.0	+ 9.1	+ 11.9	– 2.8	– 2.9	+ 0.0	+ 0.0	Apr.
– 0.0	+ 0.1	+ 39.7	+ 40.1	– 0.4	– 2.7	+ 2.3	–	+ 1.9	+ 1.4	+ 0.5	+ 1.2	– 0.7	+ 0.0	May
– 0.2	–	– 17.3	– 19.9	+ 2.7	– 1.0	+ 3.7	–	– 26.8	– 17.2	– 9.6	– 8.0	– 1.6	–	June
– 0.1	– 0.6	– 3.0	– 12.2	+ 9.2	+ 9.1	+ 0.1	–	+ 13.9	+ 6.3	+ 7.6	+ 5.4	+ 2.2	–	July
– 0.1	+ 0.1	– 0.1	– 16.4	+ 16.3	+ 20.0	– 3.7	–	+ 5.7	– 0.1	+ 5.8	+ 5.8	– 0.1	– 0.0	Aug.
– 0.0	– 0.7	+ 0.9	+ 22.1	– 21.2	– 20.9	– 0.3	–	– 9.8	+ 3.6	– 13.3	– 11.2	– 2.2	– 0.2	Sep.
+ 0.0	+ 0.0	– 12.5	– 14.5	+ 2.0	+ 1.4	+ 0.6	–	+ 0.7	– 3.8	+ 4.5	+ 3.1	+ 1.4	+ 0.0	Oct.
– 0.0	– 0.2	– 8.2	– 2.8	– 5.4	– 5.4	– 0.0	–	– 12.7	+ 2.9	– 15.6	– 15.0	– 0.6	+ 0.0	Nov.

IV. Banks

5. Lending by banks (MFIs) in Germany to domestic non-banks (non-MFIs) *

€ billion

Period	Lending to domestic non-banks, total		Short-term lending							Medium and long-term	
				to enterprises and households			to general government				to enterprises
	including negotiable money market paper, securities, equalisation claims	excluding negotiable money market paper, securities, equalisation claims	Total	Total	Loans and bills	Negotiable money market paper	Total	Loans	Treasury bills	Total	Total
	End of year or month *										
2008	3,071.1	2,700.1	373.0	337.5	335.3	2.2	35.5	34.5	1.0	2,698.1	2,257.8
2009	3,100.1	2,692.6	347.3	306.3	306.2	0.1	41.0	37.1	3.9	2,752.8	2,299.7
2010	3,220.9	2,771.3	428.0	283.0	282.8	0.2	145.0	117.2	27.7	2,793.0	2,305.6
2011	3,197.8	2,775.4	383.3	316.5	316.1	0.4	66.8	60.7	6.0	2,814.5	2,321.9
2012	3,220.4	2,786.1	376.1	316.8	316.3	0.5	59.3	57.6	1.7	2,844.3	2,310.9
2013	3,131.6	2,693.2	269.1	217.7	217.0	0.6	51.4	50.8	0.6	2,862.6	2,328.6
2014	3,167.3	2,712.6	257.5	212.7	212.1	0.6	44.8	44.7	0.1	2,909.8	2,376.8
2015	3,233.9	2,764.4	255.5	207.8	207.6	0.2	47.8	47.5	0.2	2,978.3	2,451.4
2016	3,274.3	2,824.2	248.6	205.7	205.4	0.3	42.9	42.8	0.1	3,025.8	2,530.0
2017	3,332.6	2,894.4	241.7	210.9	210.6	0.3	30.7	30.3	0.4	3,090.9	2,640.0
2017 June	3,296.8	2,856.1	251.1	214.1	213.5	0.6	37.0	36.5	0.5	3,045.7	2,577.7
July	3,302.5	2,865.5	249.4	210.2	209.5	0.7	39.2	38.8	0.3	3,053.1	2,589.2
Aug.	3,308.9	2,869.6	242.8	207.6	207.0	0.6	35.2	35.0	0.2	3,066.1	2,601.2
Sep.	3,317.6	2,878.5	246.2	214.1	213.5	0.6	32.2	32.0	0.2	3,071.3	2,608.7
Oct.	3,326.1	2,887.3	248.0	215.3	214.7	0.6	32.7	32.6	0.2	3,078.1	2,616.7
Nov.	3,343.7	2,899.8	248.0	215.4	214.9	0.5	32.6	31.9	0.7	3,095.6	2,636.3
Dec.	3,332.6	2,894.4	241.7	210.9	210.6	0.3	30.7	30.3	0.4	3,090.9	2,640.0
2018 Jan.	3,339.3	2,905.2	249.7	217.4	216.8	0.6	32.3	31.9	0.4	3,089.6	2,645.2
Feb.	3,338.3	2,910.8	247.6	219.8	219.3	0.6	27.8	27.1	0.6	3,090.7	2,650.4
Mar.	3,342.5	2,919.9	253.5	225.6	224.9	0.7	27.9	27.6	0.2	3,089.0	2,653.3
Apr.	3,348.5	2,926.9	254.0	223.0	222.1	0.9	31.0	30.3	0.7	3,094.5	2,664.6
May	3,350.0	2,928.9	254.5	226.6	225.4	1.2	27.9	26.8	1.1	3,095.5	2,667.7
June	3,361.8	2,942.2	257.0	229.8	228.9	0.9	27.2	26.3	0.9	3,104.7	2,681.4
July	3,368.0	2,950.1	256.7	225.4	224.7	0.7	31.3	29.8	1.5	3,111.3	2,692.5
Aug.	3,368.5	2,957.0	250.5	223.9	223.1	0.8	26.6	25.7	0.9	3,118.0	2,700.6
Sep.	3,384.0	2,971.9	255.9	232.3	231.6	0.7	23.6	22.5	1.1	3,128.1	2,711.1
Oct.	3,384.4	2,977.3	252.6	228.0	227.4	0.6	24.6	24.7	– 0.1	3,131.8	2,718.7
Nov.	3,397.3	2,992.2	251.7	227.9	227.4	0.5	23.9	23.6	0.3	3,145.6	2,732.7
	Changes *										
2009	+ 25.7	– 11.6	– 26.1	– 31.5	– 30.0	– 1.5	+ 5.5	+ 2.5	+ 2.9	+ 51.8	+ 36.6
2010	+ 130.5	+ 78.7	+ 80.4	– 23.4	– 23.5	+ 0.1	+ 103.8	+ 80.1	+ 23.7	+ 50.1	+ 14.9
2011	– 30.6	– 3.2	– 45.2	+ 33.6	+ 33.3	+ 0.2	– 78.7	– 57.0	– 21.7	+ 14.6	+ 9.4
2012	+ 21.0	+ 9.6	– 9.7	– 1.6	– 1.7	+ 0.1	– 8.2	– 3.8	– 4.3	+ 30.7	+ 10.9
2013	+ 4.4	+ 0.1	– 13.8	– 5.8	– 6.3	+ 0.5	– 8.0	– 7.0	– 1.1	+ 18.2	+ 17.6
2014	+ 36.7	+ 20.5	– 11.6	– 4.5	– 4.5	– 0.0	– 7.1	– 6.5	– 0.6	+ 48.3	+ 52.5
2015	+ 68.9	+ 54.1	+ 1.6	– 1.3	– 0.9	– 0.4	+ 2.9	+ 2.8	+ 0.1	+ 67.2	+ 73.9
2016	+ 43.7	+ 62.7	– 5.2	– 0.3	– 0.4	+ 0.1	– 4.9	– 4.8	– 0.2	+ 48.9	+ 79.8
2017	+ 57.0	+ 70.2	– 6.5	+ 5.6	+ 5.6	+ 0.0	– 12.1	– 12.4	+ 0.3	+ 63.5	+ 103.4
2017 June	+ 4.0	+ 4.6	+ 1.9	+ 3.3	+ 3.6	– 0.3	– 1.4	– 1.1	– 0.3	+ 2.1	+ 8.8
July	+ 5.6	+ 9.4	– 1.8	– 3.9	– 4.0	+ 0.1	+ 2.2	+ 2.4	– 0.2	+ 7.4	+ 11.4
Aug.	+ 6.4	+ 4.1	– 6.6	– 2.6	– 2.5	– 0.1	– 4.0	– 3.8	– 0.1	+ 13.0	+ 12.0
Sep.	+ 7.3	+ 8.9	+ 3.5	+ 6.5	+ 6.5	– 0.0	– 3.0	– 3.0	– 0.0	+ 3.9	+ 5.8
Oct.	+ 8.6	+ 8.8	+ 1.8	+ 1.2	+ 1.2	+ 0.0	+ 0.6	+ 0.6	+ 0.0	+ 6.8	+ 8.0
Nov.	+ 17.7	+ 12.6	+ 0.1	+ 0.2	+ 0.3	– 0.1	– 0.1	– 0.6	+ 0.5	+ 17.6	+ 17.8
Dec.	– 11.1	– 5.5	– 6.4	– 4.5	– 4.3	– 0.2	– 1.9	– 1.6	– 0.3	– 4.7	+ 3.6
2018 Jan.	+ 6.9	+ 11.0	+ 8.0	+ 6.5	+ 6.1	+ 0.3	+ 1.6	+ 1.6	– 0.1	– 1.2	+ 4.7
Feb.	– 1.0	+ 5.5	– 2.1	+ 2.4	+ 2.5	– 0.1	– 4.5	– 4.8	+ 0.3	+ 1.1	+ 5.0
Mar.	+ 4.2	+ 9.2	+ 5.9	+ 5.8	+ 5.7	+ 0.2	+ 0.1	+ 0.5	– 0.4	– 1.7	+ 2.9
Apr.	+ 6.4	+ 7.0	+ 0.5	– 2.6	– 2.8	+ 0.2	+ 3.1	+ 2.6	+ 0.5	+ 5.9	+ 11.7
May	+ 10.4	+ 10.8	+ 0.5	+ 3.6	+ 3.3	+ 0.3	– 3.1	– 3.5	+ 0.4	+ 9.9	+ 12.4
June	+ 11.8	+ 13.3	+ 2.5	+ 3.2	+ 3.5	– 0.3	– 0.7	– 0.5	– 0.2	+ 9.3	+ 13.6
July	+ 6.2	+ 7.9	– 0.3	– 4.5	– 4.3	– 0.2	+ 4.2	+ 3.6	+ 0.6	+ 6.5	+ 9.9
Aug.	+ 0.7	+ 7.1	– 6.2	– 1.5	– 1.5	+ 0.0	– 4.7	– 4.1	– 0.6	+ 6.9	+ 8.2
Sep.	+ 15.5	+ 14.9	+ 5.6	+ 8.6	+ 8.7	– 0.0	– 3.1	– 3.3	+ 0.2	+ 9.9	+ 10.3
Oct.	+ 0.5	+ 5.3	– 4.8	– 5.8	– 5.7	– 0.1	+ 1.1	+ 2.2	– 1.1	+ 5.2	+ 9.1
Nov.	+ 12.9	+ 14.9	– 0.9	– 0.1	+ 0.0	– 0.1	– 0.8	– 1.1	+ 0.3	+ 13.8	+ 14.0

***** See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Excluding debt securities arising from the exchange of equalisation claims (see also footnote 2). **2** Including debt securities arising from the exchange of equalisation claims.

IV. Banks

lending												
prises and households					to general government							
Loans						Loans						
Total	Medium-term	Long-term	Securities	Memo item: Fiduciary loans	Total	Total	Medium-term	Long-term	Securities [1]	Equalisation claims [2]	Memo item: Fiduciary loans	Period
End of year or month *												
2,022.0	222.0	1,800.0	235.8	42.8	440.3	308.2	29.7	278.5	132.1	–	4.5	2008
2,051.3	242.7	1,808.6	248.4	39.6	453.1	298.0	32.2	265.8	155.1	–	4.3	2009
2,070.0	238.1	1,831.8	235.7	30.7	487.3	301.2	36.1	265.1	186.1	–	3.1	2010
2,099.5	247.9	1,851.7	222.4	32.7	492.6	299.1	41.1	258.0	193.5	–	3.6	2011
2,119.5	249.7	1,869.8	191.4	31.4	533.4	292.7	39.4	253.3	240.7	–	3.5	2012
2,136.9	248.0	1,888.9	191.7	28.9	534.0	288.4	38.8	249.7	245.6	–	2.7	2013
2,172.7	251.7	1,921.0	204.2	24.4	532.9	283.1	33.5	249.6	249.8	–	2.1	2014
2,232.4	256.0	1,976.3	219.0	18.3	527.0	277.0	27.9	249.0	250.0	–	2.1	2015
2,306.5	264.1	2,042.4	223.4	17.3	495.8	269.4	23.9	245.5	226.4	–	1.8	2016
2,399.5	273.5	2,125.9	240.6	17.4	450.9	254.0	22.5	231.5	196.9	–	1.7	2017
2,346.1	267.4	2,078.7	231.6	18.0	468.0	260.0	23.0	237.0	208.1	–	1.6	2017 June
2,357.7	268.3	2,089.4	231.5	18.0	463.9	259.4	23.1	236.3	204.5	–	1.6	July
2,369.2	269.4	2,099.8	232.0	18.0	464.9	258.4	22.9	235.5	206.5	–	1.6	Aug.
2,376.0	269.6	2,106.3	232.7	17.9	462.7	257.0	22.4	234.6	205.7	–	1.6	Sep.
2,383.4	270.9	2,112.5	233.2	17.8	461.4	256.6	22.7	234.0	204.8	–	1.6	Oct.
2,397.7	274.4	2,123.3	238.6	17.8	459.3	255.4	22.8	232.6	204.0	–	1.6	Nov.
2,399.5	273.5	2,125.9	240.6	17.4	450.9	254.0	22.5	231.5	196.9	–	1.7	Dec.
2,405.7	274.8	2,130.8	239.5	17.4	444.4	250.9	22.0	228.9	193.6	–	1.5	2018 Jan.
2,414.1	275.1	2,139.0	236.3	17.5	440.3	250.3	21.9	228.4	190.1	–	1.5	Feb.
2,419.5	275.2	2,144.2	233.8	17.4	435.8	247.9	22.1	225.8	187.9	–	1.6	Mar.
2,428.6	277.1	2,151.5	236.0	17.3	430.0	245.9	21.9	224.1	184.0	–	1.5	Apr.
2,431.2	270.8	2,160.4	236.6	17.3	427.7	245.5	21.9	223.6	182.2	–	1.5	May
2,443.3	275.3	2,168.0	238.1	17.2	423.4	243.7	21.0	222.7	179.7	–	1.5	June
2,454.6	277.7	2,176.9	237.9	17.0	418.7	241.0	20.3	220.8	177.7	–	1.5	July
2,467.5	279.3	2,188.2	233.1	17.0	417.4	240.6	21.1	219.5	176.8	–	1.3	Aug.
2,476.9	280.1	2,196.8	234.1	16.9	417.1	241.0	20.5	220.5	176.1	–	1.3	Sep.
2,484.5	279.7	2,204.9	234.1	16.6	413.1	240.7	20.2	220.5	172.5	–	1.3	Oct.
2,500.3	284.2	2,216.1	232.4	16.6	412.9	240.9	20.0	220.9	171.9	–	1.3	Nov.
Changes *												
+ 23.5	+ 17.3	+ 6.3	+ 13.1	– 3.9	+ 15.2	– 7.6	+ 2.5	– 10.2	+ 22.8	–	– 0.2	2009
+ 18.6	– 4.0	+ 22.6	– 3.8	– 1.7	+ 35.2	+ 3.5	+ 3.5	– 0.0	+ 31.7	–	– 0.3	2010
+ 22.6	+ 2.2	+ 20.4	– 13.2	– 1.0	+ 5.2	– 2.1	+ 4.9	– 7.0	+ 7.3	–	– 0.2	2011
+ 21.6	+ 1.5	+ 20.1	– 10.7	– 1.1	+ 19.8	– 6.6	– 1.9	– 4.7	+ 26.4	–	– 0.2	2012
+ 17.7	– 0.1	+ 17.8	– 0.1	– 2.5	+ 0.6	– 4.3	– 0.7	– 3.6	+ 4.9	–	– 0.8	2013
+ 39.9	+ 5.6	+ 34.3	+ 12.5	– 1.8	– 4.1	– 8.5	– 5.1	– 3.4	+ 4.3	–	– 0.2	2014
+ 59.0	+ 4.5	+ 54.6	+ 14.8	– 2.1	– 6.6	– 6.9	– 4.8	– 2.0	+ 0.2	–	+ 0.0	2015
+ 75.1	+ 9.7	+ 65.4	+ 4.7	– 0.9	– 30.9	– 7.3	– 4.0	– 3.3	– 23.6	–	– 0.4	2016
+ 87.6	+ 9.4	+ 78.2	+ 15.8	+ 0.1	– 39.9	– 10.6	– 1.3	– 9.3	– 29.4	–	– 0.1	2017
+ 3.4	+ 1.2	+ 2.2	+ 5.4	– 0.3	– 6.7	– 1.3	– 0.3	– 1.0	– 5.4	–	– 0.1	2017 June
+ 11.4	+ 1.0	+ 10.4	– 0.1	– 0.0	– 4.0	– 0.4	+ 0.1	– 0.5	– 3.6	–	+ 0.0	July
+ 11.5	+ 1.1	+ 10.4	+ 0.5	– 0.0	+ 1.0	– 1.1	– 0.3	– 0.8	+ 2.0	–	– 0.0	Aug.
+ 6.6	+ 0.2	+ 6.4	– 0.8	– 0.1	– 2.0	– 1.2	– 0.4	– 0.8	– 0.8	–	– 0.0	Sep.
+ 7.4	+ 1.3	+ 6.1	+ 0.6	– 0.1	– 1.2	– 0.3	+ 0.2	– 0.5	– 0.9	–	– 0.0	Oct.
+ 12.4	+ 3.5	+ 9.0	+ 5.4	– 0.0	– 0.3	+ 0.5	+ 0.1	+ 0.4	– 0.8	–	–	Nov.
+ 1.7	– 0.9	+ 2.5	+ 2.0	– 0.4	– 8.3	– 1.3	– 0.3	– 1.0	– 7.1	–	+ 0.1	Dec.
+ 5.7	+ 1.6	+ 4.2	– 1.0	– 0.0	– 5.9	– 2.5	– 0.5	– 2.0	– 3.4	–	– 0.1	2018 Jan.
+ 8.2	+ 0.3	+ 8.0	– 3.2	– 0.0	– 3.9	– 0.4	– 0.1	– 0.3	– 3.5	–	– 0.0	Feb.
+ 5.4	+ 0.2	+ 5.2	– 2.5	– 0.1	– 4.6	– 2.4	+ 0.1	– 2.5	– 2.2	–	+ 0.0	Mar.
+ 9.1	+ 1.8	+ 7.3	+ 2.5	– 0.1	– 5.8	– 1.9	– 0.2	– 1.8	– 3.9	–	– 0.0	Apr.
+ 11.8	+ 2.6	+ 9.3	+ 0.6	– 0.0	– 2.6	– 0.8	+ 0.1	– 0.8	– 1.8	–	+ 0.0	May
+ 12.1	+ 4.5	+ 7.6	+ 1.5	– 0.1	– 4.3	– 1.8	– 0.9	– 0.8	– 2.6	–	– 0.1	June
+ 10.1	+ 2.5	+ 7.6	– 0.2	– 0.2	– 3.4	– 1.4	– 0.7	– 0.7	– 1.9	–	– 0.0	July
+ 13.1	+ 1.6	+ 11.5	– 4.9	– 0.0	– 1.3	– 0.4	+ 0.8	– 1.2	– 0.9	–	+ 0.0	Aug.
+ 9.2	+ 0.5	+ 8.7	+ 1.1	– 0.1	– 0.4	+ 0.3	– 0.6	+ 0.9	– 0.7	–	– 0.0	Sep.
+ 9.2	+ 1.0	+ 8.2	– 0.0	– 0.3	– 3.9	– 0.3	– 0.3	+ 0.0	– 3.6	–	– 0.0	Oct.
+ 15.8	+ 4.6	+ 11.2	– 1.7	– 0.0	– 0.3	+ 0.3	– 0.1	+ 0.4	– 0.5	–	– 0.0	Nov.

IV. Banks

6. Lending by banks (MFIs) in Germany to domestic enterprises and households, housing loans, sectors of economic activity *

€ billion

Period	Lending to domestic enterprises and households (excluding holdings of negotiable money market paper and excluding securities portfolios) [1]													
		of which:				Lending to enterprises and self-employed persons								
			Housing loans											
	Total	Mortgage loans, total	Total	Mortgage loans secured by residential real estate	Other housing loans	Total	of which: Housing loans	Manufacturing	Electricity, gas and water supply; refuse disposal, mining and quarrying	Construction	Wholesale and retail trade; repair of motor vehicles and motorcycles	Agriculture, forestry, fishing and aquaculture	Transportation and storage; post and telecommunications	Financial intermediation (excluding MFIs) and insurance companies
	Lending, total													**End of year or quarter ***
2016	2,512.0	1,259.7	1,276.6	1,016.5	260.1	1,347.5	354.1	125.1	104.7	62.2	128.2	50.6	57.0	139.7
2017 Sep.	2,589.5	1,296.7	1,315.7	1,046.9	268.8	1,392.7	366.5	131.8	109.7	67.1	133.3	50.9	53.0	146.0
Dec.	2,610.1	1,304.3	1,326.6	1,053.0	273.6	1,403.1	368.5	131.3	112.6	67.3	133.3	50.2	51.5	147.9
2018 Mar.	2,644.4	1,317.6	1,338.2	1,061.5	276.7	1,429.5	373.4	136.0	115.2	69.4	137.5	50.1	51.2	151.4
June	2,672.2	1,333.8	1,357.5	1,074.2	283.3	1,445.5	380.1	139.2	114.2	71.9	136.5	50.5	51.0	152.8
Sep.	2,708.5	1,349.5	1,377.7	1,086.8	290.9	1,476.9	389.6	140.5	115.9	73.0	138.8	53.5	50.8	157.0
	Short-term lending													
2016	205.5	–	6.9	–	6.9	174.3	3.7	29.7	4.4	11.8	43.2	3.6	4.4	29.3
2017 Sep.	213.5	–	6.5	–	6.5	183.5	3.6	33.8	4.0	14.0	45.2	3.9	4.3	28.1
Dec.	210.6	–	6.5	–	6.5	180.8	3.6	32.3	4.0	13.6	45.2	3.4	4.0	27.4
2018 Mar.	224.9	–	6.8	–	6.8	195.3	3.8	36.6	5.0	14.9	48.4	3.5	4.2	29.1
June	228.9	–	7.1	–	7.1	199.2	4.0	36.7	4.8	16.6	47.3	3.9	4.2	28.5
Sep.	231.6	–	7.4	–	7.4	201.9	4.3	37.3	4.2	16.6	48.7	4.2	4.0	29.4
	Medium-term lending													
2016	264.1	–	34.5	–	34.5	186.4	13.5	23.6	5.5	10.5	17.2	4.5	11.2	41.8
2017 Sep.	269.6	–	33.9	–	33.9	190.2	13.6	23.1	5.1	11.2	18.2	4.4	10.4	45.6
Dec.	273.5	–	34.0	–	34.0	193.1	14.0	23.6	5.1	11.3	18.2	4.3	10.3	46.7
2018 Mar.	275.2	–	34.0	–	34.0	194.0	14.4	23.3	5.0	11.7	18.6	4.2	10.4	47.0
June	275.3	–	34.7	–	34.7	195.1	15.0	25.5	4.4	11.8	18.2	4.2	10.4	47.5
Sep.	280.1	–	35.6	–	35.6	199.4	15.6	24.9	4.4	12.2	18.3	4.4	11.1	48.0
	Long-term lending													
2016	2,042.4	1,259.7	1,235.1	1,016.5	218.6	986.8	336.9	71.8	94.8	39.9	67.7	42.5	41.4	68.6
2017 Sep.	2,106.3	1,296.7	1,275.3	1,046.9	228.3	1,018.9	349.3	74.9	100.5	41.9	69.9	42.6	38.3	72.2
Dec.	2,125.9	1,304.3	1,286.1	1,053.0	233.1	1,029.2	351.0	75.4	103.5	42.4	70.0	42.4	37.2	73.8
2018 Mar.	2,144.2	1,317.6	1,297.3	1,061.5	235.8	1,040.2	355.2	76.1	105.2	42.8	70.4	42.3	36.7	75.3
June	2,168.0	1,333.8	1,315.7	1,074.2	241.5	1,051.1	361.1	77.0	105.0	43.5	71.0	42.4	36.4	76.8
Sep.	2,196.9	1,349.5	1,334.6	1,086.8	247.8	1,075.6	369.7	78.4	107.4	44.2	71.8	44.9	35.7	79.6
	Lending, total													**Change during quarter ***
2017 Q3	+ 29.5	+ 15.3	+ 17.8	+ 12.6	+ 5.2	+ 14.5	+ 5.7	+ 0.1	+ 1.1	+ 1.2	+ 2.4	+ 0.4	– 1.7	+ 2.0
Q4	+ 18.7	+ 9.7	+ 12.7	+ 7.8	+ 4.9	+ 8.9	+ 4.1	– 0.4	+ 1.0	+ 0.2	+ 0.2	– 0.6	– 1.5	+ 1.5
2018 Q1	+ 33.6	+ 10.6	+ 11.1	+ 8.1	+ 3.0	+ 26.0	+ 4.8	+ 4.7	+ 1.7	+ 2.0	+ 4.2	+ 0.3	– 0.3	+ 2.4
Q2	+ 37.0	+ 15.4	+ 17.8	+ 11.8	+ 6.0	+ 23.1	+ 6.6	+ 4.1	– 0.6	+ 2.9	– 0.6	+ 1.1	+ 0.1	+ 1.6
Q3	+ 35.2	+ 12.9	+ 19.4	+ 11.1	+ 8.3	+ 19.3	+ 6.0	+ 1.3	+ 0.3	+ 1.0	+ 2.3	+ 0.9	– 0.3	+ 4.1
	Short-term lending													
2017 Q3	– 0.1	–	– 0.2	–	– 0.2	+ 0.2	+ 0.0	– 0.9	– 0.7	+ 0.3	+ 1.8	– 0.2	– 0.3	+ 0.0
Q4	– 2.8	–	– 0.0	–	– 0.0	– 2.6	+ 0.0	– 1.4	– 0.0	– 0.4	– 0.0	– 0.4	– 0.3	– 0.8
2018 Q1	+ 14.3	–	+ 0.3	–	+ 0.3	+ 14.4	+ 0.3	+ 4.1	+ 0.9	+ 1.3	+ 3.3	+ 0.4	+ 0.1	+ 1.7
Q2	+ 4.0	–	+ 0.3	–	+ 0.3	+ 4.0	+ 0.1	+ 0.3	– 0.2	+ 1.7	– 1.3	+ 0.4	+ 0.1	– 0.6
Q3	+ 2.8	–	+ 0.3	–	+ 0.3	+ 2.3	+ 0.2	+ 0.5	– 0.7	+ 0.0	+ 1.7	+ 0.1	– 0.2	+ 0.9
	Medium-term lending													
2017 Q3	+ 2.4	–	+ 0.2	–	+ 0.2	+ 1.5	+ 0.3	– 0.2	+ 0.2	+ 0.3	+ 0.0	+ 0.1	– 0.3	+ 1.3
Q4	+ 3.9	–	+ 0.1	–	+ 0.1	+ 2.8	+ 0.3	+ 0.5	– 0.1	+ 0.1	– 0.0	– 0.1	– 0.1	+ 1.1
2018 Q1	+ 2.0	–	+ 0.0	–	+ 0.0	+ 1.2	+ 0.4	– 0.2	– 0.1	+ 0.4	+ 0.4	– 0.0	– 0.1	+ 0.1
Q2	+ 8.9	–	+ 0.6	–	+ 0.6	+ 7.3	+ 0.6	+ 3.0	– 0.4	+ 0.4	+ 0.2	+ 0.1	+ 0.3	+ 0.6
Q3	+ 4.6	–	+ 0.9	–	+ 0.9	+ 3.6	+ 0.5	– 0.6	– 0.1	+ 0.3	– 0.2	+ 0.1	+ 0.6	+ 0.5
	Long-term lending													
2017 Q3	+ 27.2	+ 15.3	+ 17.8	+ 12.6	+ 5.2	+ 12.8	+ 5.4	+ 1.3	+ 1.7	+ 0.7	+ 0.5	+ 0.4	– 1.2	+ 0.7
Q4	+ 17.6	+ 9.7	+ 12.6	+ 7.8	+ 4.8	+ 8.7	+ 3.8	+ 0.5	+ 1.1	+ 0.5	+ 0.3	– 0.1	– 1.1	+ 1.1
2018 Q1	+ 17.4	+ 10.6	+ 10.8	+ 8.1	+ 2.7	+ 10.3	+ 4.2	+ 0.7	+ 0.9	+ 0.4	+ 0.5	– 0.1	– 0.4	+ 0.6
Q2	+ 24.1	+ 15.4	+ 16.9	+ 11.8	+ 5.1	+ 11.7	+ 5.8	+ 0.8	+ 0.1	+ 0.7	+ 0.6	+ 0.6	– 0.3	+ 1.6
Q3	+ 27.8	+ 12.9	+ 18.2	+ 11.1	+ 7.1	+ 13.5	+ 5.3	+ 1.4	+ 1.1	+ 0.6	+ 0.8	+ 0.6	– 0.7	+ 2.7

* Excluding lending by foreign branches. Breakdown of lending by building and loan associations by areas and sectors estimated. Statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional; subsequent alterations, which appear in the following Monthly Report, are

IV. Banks

Services sector (including the professions)				Memo items:		Lending to employees and other individuals					Lending to non-profit institutions		
	of which:							Other lending					
									of which:				
Total	Housing enterprises	Holding companies	Other real estate activities	Lending to self-employed persons [2]	Lending to craft enterprises	Total	Housing loans	Total	Instalment loans [3]	Debit balances on wage, salary and pension accounts	Total	of which: Housing loans	Period
End of year or quarter *												**Lending, total**	
680.0	204.7	36.3	181.6	401.3	46.0	1,150.1	919.0	231.2	163.3	9.2	14.4	3.6	2016
700.9	211.2	41.1	185.7	410.4	48.3	1,182.2	945.4	236.7	170.4	8.9	14.6	3.7	2017 Sep.
709.0	214.9	42.3	186.4	411.2	47.7	1,192.3	954.3	237.9	171.6	8.6	14.8	3.7	Dec.
718.8	217.2	44.1	188.5	414.4	48.2	1,200.0	961.1	239.0	173.3	8.4	14.9	3.7	2018 Mar.
729.3	221.8	47.3	190.7	415.5	48.3	1,211.8	973.7	238.1	173.0	8.4	14.9	3.8	June
747.4	231.0	48.2	194.9	430.6	48.6	1,216.6	984.4	232.2	172.2	8.4	15.0	3.7	Sep.
												Short-term lending	
47.9	8.4	5.7	10.2	23.9	5.1	30.6	3.2	27.4	1.8	9.2	0.6	0.0	2016
50.2	9.6	6.7	10.0	23.7	5.5	29.4	2.9	26.5	1.7	8.9	0.5	0.0	2017 Sep.
50.9	10.1	6.8	10.3	23.3	5.0	29.3	2.9	26.4	1.6	8.6	0.5	0.0	Dec.
53.5	10.2	7.9	10.7	23.7	5.8	29.0	3.0	26.1	1.5	8.4	0.6	–	2018 Mar.
57.2	10.7	10.2	10.6	23.5	5.7	29.2	3.1	26.1	1.5	8.4	0.5	–	June
57.4	11.6	10.3	10.2	24.0	5.7	29.2	3.2	26.0	1.5	8.4	0.5	0.0	Sep.
												Medium-term lending	
72.1	11.1	8.2	19.3	32.9	3.6	77.3	21.1	56.2	51.0	–	0.5	0.0	2016
72.2	11.9	9.1	18.3	32.9	3.6	78.9	20.2	58.6	54.0	–	0.5	0.0	2017 Sep.
73.5	12.1	9.3	18.3	32.7	3.6	79.9	20.0	59.9	55.2	–	0.6	0.0	Dec.
73.9	12.6	9.3	18.3	32.8	3.4	80.7	19.7	61.0	56.5	–	0.5	0.0	2018 Mar.
73.0	13.0	9.7	19.2	31.0	3.4	79.6	19.7	59.9	55.4	–	0.5	0.0	June
76.2	14.0	9.8	20.0	31.7	3.5	80.1	20.0	60.2	55.8	–	0.5	0.1	Sep.
												Long-term lending	
560.0	185.2	22.4	152.2	344.5	37.3	1,042.3	894.7	147.6	110.5	–	13.3	3.5	2016
578.5	189.8	25.3	157.4	353.8	39.3	1,073.8	922.3	151.6	114.8	–	13.6	3.7	2017 Sep.
584.6	192.6	26.2	157.8	355.3	39.2	1,083.1	931.4	151.6	114.8	–	13.7	3.7	Dec.
591.3	194.5	27.0	159.4	357.9	39.1	1,090.3	938.5	151.9	115.3	–	13.7	3.7	2018 Mar.
599.1	198.1	27.4	160.9	361.1	39.2	1,103.0	950.9	152.1	116.0	–	13.9	3.7	June
613.8	205.3	28.0	164.7	374.9	39.5	1,107.2	961.2	146.0	114.9	–	14.0	3.7	Sep.
Change during quarter *												**Lending, total**	
+ 8.9	+ 3.0	+ 1.7	+ 2.7	+ 2.2	– 0.1	+ 14.9	+ 12.1	+ 2.8	+ 2.5	– 0.0	+ 0.1	– 0.0	2017 Q3
+ 8.5	+ 3.7	+ 1.2	+ 1.0	+ 0.8	– 0.6	+ 9.8	+ 8.6	+ 1.1	+ 1.1	– 0.3	+ 0.1	– 0.0	Q4
+ 11.0	+ 2.5	+ 1.9	+ 2.9	+ 3.6	+ 0.5	+ 7.5	+ 6.3	+ 1.2	+ 1.8	– 0.2	+ 0.2	+ 0.0	2018 Q1
+ 14.5	+ 4.8	+ 3.2	+ 2.2	+ 3.8	+ 0.1	+ 14.0	+ 11.1	+ 2.8	+ 3.2	– 0.0	– 0.0	+ 0.0	Q2
+ 9.6	+ 3.9	+ 1.0	+ 2.0	+ 3.7	+ 0.3	+ 15.7	+ 13.4	+ 2.3	+ 2.3	+ 0.1	+ 0.1	– 0.0	Q3
												Short-term lending	
+ 0.1	+ 0.6	+ 0.2	+ 0.3	– 0.9	– 0.2	– 0.3	– 0.2	– 0.1	– 0.1	– 0.0	– 0.0	– 0.0	2017 Q3
+ 0.7	+ 0.5	+ 0.1	+ 0.4	– 0.4	– 0.5	– 0.2	– 0.1	– 0.1	– 0.1	– 0.3	+ 0.0	+ 0.0	Q4
+ 2.6	+ 0.1	+ 1.0	+ 0.4	+ 0.4	+ 0.8	– 0.3	+ 0.1	– 0.4	– 0.1	– 0.2	+ 0.1	– 0.0	2018 Q1
+ 3.7	+ 0.6	+ 2.3	– 0.2	– 0.2	– 0.1	+ 0.1	+ 0.1	+ 0.0	+ 0.0	– 0.0	– 0.2	–	Q2
– 0.0	+ 0.6	+ 0.1	– 0.4	+ 0.1	– 0.0	+ 0.5	+ 0.1	+ 0.4	– 0.1	+ 0.1	+ 0.0	+ 0.0	Q3
												Medium-term lending	
+ 0.1	+ 0.3	+ 0.3	– 0.3	+ 0.1	– 0.0	+ 0.9	– 0.1	+ 1.0	+ 1.0	–	+ 0.0	+ 0.0	2017 Q3
+ 1.4	+ 0.3	+ 0.2	– 0.0	– 0.3	+ 0.0	+ 1.0	– 0.2	+ 1.2	+ 1.2	–	+ 0.0	– 0.0	Q4
+ 0.8	+ 0.4	+ 0.1	+ 0.2	+ 0.1	– 0.2	+ 0.8	– 0.4	+ 1.2	+ 1.3	–	– 0.0	+ 0.0	2018 Q1
+ 3.1	+ 0.7	+ 0.4	+ 1.0	+ 0.4	+ 0.0	+ 1.6	+ 0.0	+ 1.5	+ 1.5	–	– 0.0	+ 0.0	Q2
+ 2.8	+ 0.8	+ 0.2	+ 0.8	+ 0.2	+ 0.0	+ 1.0	+ 0.3	+ 0.7	+ 0.6	–	– 0.0	+ 0.0	Q3
												Long-term lending	
+ 8.6	+ 2.0	+ 1.2	+ 2.7	+ 3.0	+ 0.1	+ 14.3	+ 12.4	+ 1.9	+ 1.6	–	+ 0.2	– 0.0	2017 Q3
+ 6.5	+ 2.9	+ 0.9	+ 0.7	+ 1.5	– 0.1	+ 8.9	+ 8.9	– 0.0	– 0.1	–	+ 0.0	– 0.0	Q4
+ 7.7	+ 2.0	+ 0.8	+ 2.3	+ 3.0	– 0.1	+ 7.0	+ 6.6	+ 0.4	+ 0.6	–	+ 0.1	+ 0.0	2018 Q1
+ 7.7	+ 3.6	+ 0.6	+ 1.4	+ 3.5	+ 0.1	+ 12.3	+ 11.0	+ 1.3	+ 1.6	–	+ 0.1	+ 0.0	Q2
+ 6.9	+ 2.5	+ 0.7	+ 1.6	+ 3.4	+ 0.3	+ 14.2	+ 13.0	+ 1.2	+ 1.7	–	+ 0.1	– 0.0	Q3

not specially marked. **1** Excluding fiduciary loans. **2** Including sole proprietors.
3 Excluding mortgage loans and housing loans, even in the form of instalment credit.

IV. Banks

7. Deposits of domestic non-banks (non-MFIs) at banks (MFIs) in Germany*

€ billion

Period	Deposits, total	Sight deposits	Time deposits 1,2					Savings deposits 3	Bank savings bonds 4	Memo item:		
			Total	for up to and including 1 year	for more than 1 year 2					Fiduciary loans	Subordinated liabilities (excluding negotiable debt securities)	Liabilities arising from repos
					Total	for up to and including 2 years	for more than 2 years					
	Domestic non-banks, total											**End of year or month***
2015	3,224.7	1,673.7	898.4	243.0	655.4	37.3	618.1	596.5	56.1	29.3	20.5	0.5
2016	3,326.7	1,798.2	889.6	232.4	657.3	47.2	610.1	588.5	50.4	28.8	18.3	0.9
2017	3,420.9	1,941.0	853.2	207.6	645.6	57.3	588.3	582.9	43.7	30.0	16.3	1.6
2017 Dec.	3,420.9	1,941.0	853.2	207.6	645.6	57.3	588.3	582.9	43.7	30.0	16.3	1.6
2018 Jan.	3,428.9	1,949.3	854.1	211.5	642.6	55.8	586.8	582.4	42.9	30.4	16.1	1.4
Feb.	3,425.8	1,949.6	851.6	209.9	641.8	54.4	587.4	582.2	42.3	30.9	15.9	1.1
Mar.	3,421.8	1,948.0	850.7	212.9	637.8	52.6	585.2	581.3	41.8	31.5	15.8	0.6
Apr.	3,439.5	1,971.4	846.3	210.7	635.6	50.7	584.9	580.5	41.3	31.9	15.1	0.9
May	3,471.4	2,002.6	847.7	210.8	636.9	51.9	585.0	580.2	40.9	32.4	14.8	0.7
June	3,473.1	1,996.6	856.7	221.2	635.6	51.4	584.2	579.3	40.6	32.6	15.3	0.7
July	3,473.2	2,002.6	852.3	218.3	634.0	52.0	582.1	578.2	40.0	32.8	14.9	1.5
Aug.	3,485.0	2,020.0	847.9	215.1	632.8	53.8	579.0	577.6	39.5	33.1	14.9	0.5
Sep.	3,482.9	2,022.5	844.0	210.9	633.0	54.7	578.3	577.3	39.1	33.9	14.8	0.3
Oct.	3,504.0	2,044.7	843.7	210.3	633.4	55.1	578.3	577.0	38.6	33.7	14.9	0.7
Nov.	3,537.4	2,079.6	843.0	208.1	635.0	55.8	579.2	576.9	37.9	33.7	14.9	0.4
												Changes*
2016	+ 104.7	+ 124.5	– 6.9	– 8.9	+ 2.0	+ 10.2	– 8.2	– 7.9	– 5.0	– 0.5	– 2.1	+ 0.3
2017	+ 103.1	+ 142.8	– 27.5	– 24.7	– 2.8	+ 10.1	– 12.8	– 5.6	– 6.7	+ 0.4	– 2.0	+ 0.8
2017 Dec.	– 5.9	– 3.0	– 4.2	– 4.8	+ 0.6	+ 2.0	– 1.4	+ 1.9	– 0.6	– 0.1	+ 1.2	+ 0.0
2018 Jan.	+ 7.6	+ 8.0	+ 0.9	+ 3.9	– 3.0	– 1.3	– 1.7	– 0.4	– 0.8	+ 0.4	– 0.2	– 0.2
Feb.	– 3.1	+ 0.3	– 2.5	– 1.7	– 0.8	– 1.4	+ 0.5	– 0.3	– 0.6	+ 0.5	– 0.2	– 0.3
Mar.	– 4.0	– 1.7	– 0.9	+ 3.0	– 3.9	– 1.8	– 2.1	– 0.9	– 0.5	+ 0.5	– 0.2	– 0.5
Apr.	+ 18.6	+ 23.4	– 3.5	– 1.3	– 2.2	– 1.9	– 0.3	– 0.8	– 0.5	+ 0.4	– 0.6	+ 0.2
May	+ 31.9	+ 31.3	+ 1.4	+ 0.1	+ 1.3	+ 1.3	+ 0.0	– 0.3	– 0.5	+ 0.5	– 0.3	– 0.2
June	+ 1.8	– 6.0	+ 9.1	+ 10.3	– 1.2	– 0.5	– 0.7	– 0.9	– 0.4	+ 0.3	+ 0.5	– 0.0
July	+ 0.1	+ 6.1	– 4.4	– 2.9	– 1.5	+ 0.6	– 2.1	– 1.0	– 0.6	+ 0.2	– 0.3	+ 0.8
Aug.	+ 11.9	+ 17.3	– 4.3	– 3.2	– 1.1	+ 1.9	– 3.1	– 0.6	– 0.5	+ 0.5	– 0.0	– 1.0
Sep.	– 1.9	+ 2.7	– 3.9	– 4.1	+ 0.2	+ 0.9	– 0.6	– 0.3	– 0.4	+ 0.6	– 0.1	– 0.1
Oct.	+ 21.2	+ 22.2	– 0.2	– 0.6	+ 0.4	+ 0.4	– 0.0	– 0.3	– 0.5	– 0.2	+ 0.0	+ 0.4
Nov.	+ 33.4	+ 34.8	– 0.5	– 2.3	+ 1.7	+ 0.7	+ 1.0	– 0.1	– 0.7	– 0.0	+ 0.0	– 0.3
	Domestic government											**End of year or month***
2015	197.4	57.6	132.6	87.7	44.9	10.2	34.7	3.7	3.5	27.9	2.7	0.5
2016	199.8	57.9	133.5	79.5	54.0	16.6	37.4	3.9	4.5	27.1	2.5	–
2017	201.7	58.9	134.7	65.8	69.0	27.4	41.5	3.6	4.4	25.7	2.3	–
2017 Dec.	201.7	58.9	134.7	65.8	69.0	27.4	41.5	3.6	4.4	25.7	2.3	–
2018 Jan.	202.1	55.0	139.0	69.6	69.4	27.0	42.4	3.7	4.4	26.1	2.4	–
Feb.	204.3	58.8	137.5	68.7	68.7	26.2	42.5	3.7	4.4	26.1	2.4	–
Mar.	205.9	57.2	140.6	72.2	68.4	25.2	43.2	3.7	4.4	26.0	2.3	–
Apr.	205.1	56.9	140.2	72.3	67.9	23.8	44.1	3.7	4.4	26.0	2.3	–
May	215.9	62.8	145.0	74.7	70.3	25.1	45.2	3.8	4.3	26.0	2.2	–
June	221.4	63.3	150.0	79.3	70.7	24.9	45.8	3.8	4.3	25.8	2.2	–
July	214.9	57.0	149.9	77.3	72.6	25.8	46.8	3.8	4.3	25.7	2.2	0.7
Aug.	223.9	62.7	153.2	79.1	74.0	25.7	48.3	3.8	4.3	25.7	2.2	–
Sep.	221.1	60.4	152.7	76.9	75.9	27.1	48.8	3.8	4.3	25.6	2.2	–
Oct.	216.5	57.5	151.1	73.8	77.3	27.3	50.0	3.7	4.2	25.3	2.2	–
Nov.	224.6	62.6	154.0	74.8	79.1	27.9	51.2	3.8	4.2	25.3	2.2	–
												Changes*
2016	+ 3.1	+ 0.3	+ 2.0	– 6.7	+ 8.7	+ 6.4	+ 2.3	+ 0.1	+ 0.7	– 0.8	– 0.2	– 0.5
2017	– 1.0	+ 1.6	– 2.4	– 14.1	+ 11.7	+ 10.7	+ 0.9	– 0.3	+ 0.1	– 1.1	– 0.3	± 0.0
2017 Dec.	– 11.1	– 2.1	– 9.2	– 6.5	– 2.7	+ 1.6	– 4.3	+ 0.1	+ 0.2	– 0.2	– 0.0	– 0.0
2018 Jan.	+ 0.4	– 3.9	+ 4.3	+ 3.8	+ 0.5	– 0.4	+ 0.8	+ 0.0	– 0.0	+ 0.4	+ 0.0	–
Feb.	+ 2.2	+ 3.8	– 1.5	– 0.9	– 0.7	– 0.8	+ 0.1	– 0.0	– 0.0	+ 0.0	– 0.0	–
Mar.	+ 1.6	– 1.6	+ 3.2	+ 3.5	– 0.3	– 1.0	+ 0.7	+ 0.0	– 0.0	– 0.1	– 0.1	–
Apr.	– 0.8	– 0.3	– 0.5	+ 0.0	– 0.5	– 1.4	+ 0.9	– 0.0	+ 0.0	–	– 0.0	–
May	+ 10.8	+ 5.9	+ 4.8	+ 2.4	+ 2.4	+ 1.3	+ 1.1	+ 0.1	– 0.1	–	– 0.0	–
June	+ 5.3	+ 0.5	+ 4.9	+ 4.5	+ 0.4	– 0.2	+ 0.6	+ 0.0	– 0.0	– 0.2	– 0.0	–
July	– 6.4	– 6.3	– 0.1	– 2.0	+ 1.9	+ 0.9	+ 1.0	– 0.0	+ 0.0	– 0.0	– 0.0	+ 0.7
Aug.	+ 9.1	+ 5.7	+ 3.3	+ 1.9	+ 1.4	– 0.1	+ 1.5	+ 0.0	– 0.0	+ 0.1	+ 0.0	– 0.7
Sep.	– 2.9	– 2.5	– 0.4	– 2.3	+ 1.9	+ 1.3	+ 0.5	– 0.0	– 0.0	– 0.0	+ 0.0	–
Oct.	– 4.7	– 2.9	– 1.7	– 3.0	+ 1.3	+ 0.2	+ 1.1	– 0.0	– 0.0	– 0.3	+ 0.0	–
Nov.	+ 8.1	+ 5.1	+ 3.0	+ 1.0	+ 2.0	+ 0.7	+ 1.3	+ 0.0	+ 0.0	+ 0.0	+ 0.0	–

* See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Including subordinated liabilities and liabilities arising from registered debt securities. **2** Including deposits under savings and loan contracts (see

IV. Banks

7. Deposits of domestic non-banks (non-MFIs) at banks (MFIs) in Germany * (cont'd)

€ billion

Period	Deposits, total	Sight deposits	Time deposits [1,2]					Savings deposits [3]	Bank savings bonds [4]	Memo item:		
			Total	for up to and including 1 year	for more than 1 year [2]					Fiduciary loans	Subordinated liabilities (excluding negotiable debt securities)	Liabilities arising from repos
					Total	for up to and including 2 years	for more than 2 years					
	Domestic enterprises and households											**End of year or month***
2015	3,027.3	1,616.1	765.8	155.3	610.5	27.1	583.5	592.7	52.6	1.4	17.8	–
2016	3,127.0	1,740.3	756.2	152.8	603.3	30.6	572.7	584.6	45.9	1.7	15.8	0.9
2017	3,219.2	1,882.1	718.5	141.9	576.6	29.9	546.8	579.3	39.3	4.3	14.0	1.6
2017 Dec.	3,219.2	1,882.1	718.5	141.9	576.6	29.9	546.8	579.3	39.3	4.3	14.0	1.6
2018 Jan.	3,226.8	1,894.3	715.1	142.0	573.2	28.7	544.5	578.8	38.6	4.4	13.8	1.4
Feb.	3,221.5	1,890.8	714.2	141.1	573.0	28.2	544.9	578.5	38.0	4.9	13.6	1.1
Mar.	3,215.8	1,890.8	710.1	140.7	569.4	27.4	542.1	577.6	37.4	5.5	13.5	0.6
Apr.	3,234.4	1,914.4	706.1	138.5	567.7	26.9	540.8	576.8	37.0	5.9	12.8	0.9
May	3,255.5	1,939.8	702.7	136.1	566.6	26.8	539.7	576.4	36.6	6.4	12.6	0.7
June	3,251.8	1,933.3	706.7	141.8	564.9	26.5	538.4	575.5	36.3	6.9	13.1	0.7
July	3,258.2	1,945.7	702.4	141.0	561.4	26.1	535.3	574.5	35.7	7.0	12.8	0.8
Aug.	3,261.1	1,957.3	694.7	135.9	558.8	28.1	530.7	573.8	35.3	7.4	12.7	0.5
Sep.	3,261.8	1,962.1	691.2	134.1	557.1	27.6	529.5	573.5	34.8	8.2	12.6	0.3
Oct.	3,287.5	1,987.2	692.6	136.5	556.1	27.8	528.3	573.3	34.4	8.4	12.7	0.7
Nov.	3,312.8	2,017.0	689.1	133.2	555.8	27.9	528.0	573.1	33.7	8.4	12.7	0.4
												Changes*
2016	+ 101.7	+ 124.2	– 8.9	– 2.2	– 6.7	+ 3.8	– 10.5	– 8.0	– 5.7	+ 0.3	– 1.9	+ 0.9
2017	+ 104.1	+ 141.3	– 25.1	– 10.6	– 14.4	– 0.7	– 13.8	– 5.3	– 6.7	+ 1.6	– 1.7	+ 0.8
2017 Dec.	+ 5.2	– 0.9	+ 5.0	+ 1.8	+ 3.3	+ 0.4	+ 2.9	+ 1.8	– 0.7	+ 0.1	+ 1.3	+ 0.1
2018 Jan.	+ 7.2	+ 11.8	– 3.4	+ 0.1	– 3.5	– 0.9	– 2.6	– 0.5	– 0.8	+ 0.0	– 0.2	– 0.2
Feb.	– 5.3	– 3.5	– 1.0	– 0.8	– 0.2	– 0.6	+ 0.4	– 0.2	– 0.6	+ 0.5	– 0.2	– 0.3
Mar.	– 5.6	– 0.1	– 4.1	– 0.5	– 3.6	– 0.8	– 2.8	– 1.0	– 0.5	+ 0.6	– 0.1	– 0.5
Apr.	+ 19.4	+ 23.7	– 3.0	– 1.3	– 1.7	– 0.5	– 1.2	– 0.8	– 0.5	+ 0.4	– 0.6	+ 0.2
May	+ 21.1	+ 25.3	– 3.4	– 2.3	– 1.1	– 0.0	– 1.1	– 0.4	– 0.4	+ 0.5	– 0.3	– 0.2
June	– 3.6	– 6.5	+ 4.2	+ 5.8	– 1.6	– 0.3	– 1.3	– 0.9	– 0.4	+ 0.5	+ 0.5	– 0.0
July	+ 6.6	+ 12.4	– 4.2	– 0.8	– 3.4	– 0.4	– 3.1	– 1.0	– 0.6	+ 0.2	– 0.3	+ 0.1
Aug.	+ 2.8	+ 11.6	– 7.7	– 5.1	– 2.6	+ 2.0	– 4.6	– 0.7	– 0.5	+ 0.4	– 0.0	– 0.4
Sep.	+ 1.0	+ 5.2	– 3.5	– 1.8	– 1.7	– 0.5	– 1.2	– 0.3	– 0.4	+ 0.6	– 0.1	– 0.1
Oct.	+ 25.8	+ 25.1	+ 1.5	+ 2.4	– 1.0	+ 0.1	– 1.1	– 0.3	– 0.4	+ 0.1	+ 0.0	+ 0.4
Nov.	+ 25.3	+ 29.8	– 3.6	– 3.3	– 0.3	+ 0.1	– 0.4	– 0.1	– 0.8	– 0.0	+ 0.0	– 0.3
	of which: Domestic enterprises											**End of year or month***
2015	1,029.8	502.8	506.5	99.8	406.7	14.4	392.3	7.1	13.3	1.3	14.0	–
2016	1,032.4	518.3	494.1	98.3	395.8	17.4	378.4	6.9	13.2	1.6	13.0	0.9
2017	1,039.6	558.9	461.0	92.9	368.2	17.2	351.0	6.8	12.8	2.7	11.6	1.6
2017 Dec.	1,039.6	558.9	461.0	92.9	368.2	17.2	351.0	6.8	12.8	2.7	11.6	1.6
2018 Jan.	1,051.4	573.9	458.0	93.6	364.4	16.0	348.4	6.9	12.6	2.6	11.4	1.4
Feb.	1,036.8	560.8	456.5	92.5	364.0	15.5	348.6	7.0	12.5	2.7	11.2	1.1
Mar.	1,026.9	555.0	452.5	92.1	360.5	14.9	345.6	7.0	12.4	2.8	11.1	0.6
Apr.	1,034.1	566.2	448.6	89.6	359.0	14.6	344.4	7.1	12.3	2.9	10.5	0.9
May	1,042.4	578.3	444.6	87.0	357.7	14.6	343.0	7.2	12.3	2.9	10.2	0.7
June	1,030.4	562.4	448.5	92.7	355.8	14.2	341.6	7.2	12.4	2.9	10.7	0.7
July	1,033.0	569.8	444.0	91.5	352.5	14.0	338.5	7.2	12.1	2.6	10.4	0.8
Aug.	1,028.5	573.1	436.2	86.3	349.9	16.3	333.6	7.2	12.0	2.5	10.3	0.5
Sep.	1,021.9	570.3	432.5	84.5	348.0	16.0	332.0	7.2	11.9	2.6	10.3	0.3
Oct.	1,039.7	586.7	434.0	86.6	347.4	16.4	331.0	7.1	11.8	2.6	10.3	0.7
Nov.	1,040.8	590.9	431.3	84.2	347.1	16.5	330.6	7.1	11.6	2.6	10.3	0.4
												Changes*
2016	+ 4.6	+ 15.9	– 11.2	– 1.2	– 10.1	+ 3.2	– 13.2	– 0.2	+ 0.1	+ 0.2	– 0.9	+ 0.9
2017	+ 19.5	+ 40.2	– 20.0	– 4.7	– 15.4	– 0.2	– 15.2	– 0.0	– 0.6	+ 0.8	– 1.3	+ 0.8
2017 Dec.	– 5.7	– 8.2	+ 3.0	+ 2.3	+ 0.7	– 0.1	+ 0.7	– 0.1	– 0.3	– 0.2	+ 1.3	+ 0.1
2018 Jan.	+ 11.5	+ 14.6	– 3.0	+ 0.7	– 3.8	– 0.9	– 2.9	+ 0.1	– 0.2	– 0.1	– 0.2	– 0.2
Feb.	– 14.5	– 13.0	– 1.5	– 1.2	– 0.3	– 0.5	+ 0.2	+ 0.1	– 0.1	+ 0.1	– 0.2	– 0.3
Mar.	– 9.9	– 5.9	– 4.0	– 0.4	– 3.6	– 0.6	– 3.0	+ 0.0	– 0.1	+ 0.2	– 0.1	– 0.5
Apr.	+ 8.1	+ 11.2	– 3.0	– 1.6	– 1.4	– 0.3	– 1.1	+ 0.1	– 0.1	+ 0.0	– 0.6	+ 0.2
May	+ 8.3	+ 12.1	– 3.9	– 2.7	– 1.3	+ 0.1	– 1.3	+ 0.1	+ 0.0	+ 0.0	– 0.3	– 0.2
June	– 11.9	– 15.9	+ 4.1	+ 5.8	– 1.8	– 0.4	– 1.4	– 0.0	– 0.0	+ 0.0	+ 0.5	– 0.0
July	+ 2.7	+ 7.4	– 4.4	– 1.2	– 3.3	– 0.2	– 3.0	– 0.0	– 0.3	– 0.2	– 0.3	+ 0.1
Aug.	– 4.5	+ 3.4	– 7.8	– 5.2	– 2.6	+ 2.3	– 4.9	+ 0.1	– 0.1	– 0.1	– 0.1	– 0.4
Sep.	– 6.5	– 2.7	– 3.6	– 1.8	– 1.9	– 0.2	– 1.6	– 0.1	– 0.1	+ 0.1	– 0.1	– 0.1
Oct.	+ 17.8	+ 16.4	+ 1.5	+ 2.1	– 0.5	+ 0.4	– 0.9	– 0.0	– 0.1	+ 0.0	– 0.0	+ 0.4
Nov.	+ 1.1	+ 4.1	– 2.8	– 2.4	– 0.4	+ 0.1	– 0.5	– 0.0	– 0.2	– 0.0	+ 0.0	– 0.3

Table IV.12). **3** Excluding deposits under savings and loan contracts (see also footnote 2). **4** Including liabilities arising from non-negotiable bearer debt securities.

IV. Banks

8. Deposits of domestic households and non-profit institutions at banks (MFIs) in Germany*

€ billion

Period	Deposits of domestic households and non-profit institutions, total	Sight deposits						Time deposits [1,2]					
		Total	by creditor group					Total	by creditor group				
			Domestic households				Domestic non-profit institutions		Domestic households				
			Total	Self-employed persons	Employees	Other individuals			Total	Self-employed persons	Employees	Other individuals	
	End of year or month*												
2015	1,997.5	1,113.3	1,081.2	188.9	748.6	143.7	32.1	259.3	246.2	24.9	179.8	41.6	
2016	2,094.5	1,222.0	1,186.9	206.0	828.6	152.3	35.1	262.1	248.6	25.0	182.0	41.5	
2017	2,179.7	1,323.1	1,286.6	223.4	907.6	155.7	36.5	257.5	243.5	23.4	182.9	37.1	
2018 June	2,221.4	1,370.9	1,332.7	228.7	946.4	157.5	38.2	258.2	244.4	21.7	185.6	37.1	
July	2,225.2	1,375.9	1,338.7	235.3	946.2	157.2	37.2	258.4	244.5	21.5	185.9	37.1	
Aug.	2,232.5	1,384.1	1,346.4	243.2	950.9	152.3	37.7	258.6	244.5	21.4	186.3	36.7	
Sep.	2,239.8	1,391.8	1,353.8	239.8	961.9	152.1	38.0	258.7	244.6	21.3	186.8	36.6	
Oct.	2,247.8	1,400.5	1,362.8	246.1	964.4	152.3	37.7	258.6	244.7	21.2	187.0	36.5	
Nov.	2,272.0	1,426.1	1,388.9	248.6	985.1	155.3	37.2	257.8	244.3	21.2	186.7	36.4	
	Changes*												
2016	+ 97.1	+ 108.4	+ 105.3	+ 17.5	+ 78.7	+ 9.0	+ 3.0	+ 2.4	+ 1.8	+ 0.1	+ 1.9	– 0.3	
2017	+ 84.7	+ 101.1	+ 99.8	+ 17.5	+ 77.8	+ 4.5	+ 1.3	– 5.0	– 5.1	– 1.8	– 2.1	– 1.3	
2018 June	+ 8.3	+ 9.4	+ 9.5	– 2.5	+ 10.9	+ 1.1	– 0.1	+ 0.1	+ 0.2	– 0.0	+ 0.3	– 0.1	
July	+ 3.9	+ 5.0	+ 6.0	+ 6.5	– 0.2	– 0.3	– 1.0	+ 0.2	+ 0.1	– 0.2	+ 0.3	– 0.0	
Aug.	+ 7.3	+ 8.2	+ 7.7	+ 3.2	+ 4.6	– 0.1	+ 0.5	+ 0.2	– 0.0	– 0.3	+ 0.4	– 0.2	
Sep.	+ 7.5	+ 7.9	+ 7.6	– 3.4	+ 10.6	+ 0.4	+ 0.2	+ 0.2	+ 0.2	– 0.2	+ 0.5	– 0.2	
Oct.	+ 8.0	+ 8.7	+ 8.9	+ 6.3	+ 2.4	+ 0.3	– 0.2	– 0.1	+ 0.1	– 0.0	+ 0.2	– 0.1	
Nov.	+ 24.2	+ 25.6	+ 26.2	+ 2.5	+ 20.6	+ 3.0	– 0.5	– 0.8	– 0.4	– 0.0	– 0.3	– 0.1	

* See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. 1 Including subordinated liabilities and liabilities arising from

9. Deposits of domestic government at banks (MFIs) in Germany, by creditor group*

€ billion

Period	Deposits												
	Domestic government, total	Federal Government and its special funds [1]						State governments					
		Total	Sight deposits	Time deposits		Savings deposits and bank savings bonds [2]	Memo item: Fiduciary loans	Total	Sight deposits	Time deposits		Savings deposits and bank savings bonds [2]	Memo item: Fiduciary loans
				for up to and including 1 year	for more than 1 year					for up to and including 1 year	for more than 1 year		
	End of year or month*												
2015	197.4	9.6	3.1	3.9	2.6	0.1	14.1	44.3	13.2	13.7	16.5	0.9	13.5
2016	199.8	7.9	3.6	2.0	2.2	0.1	13.5	42.3	13.4	11.2	16.6	1.1	13.2
2017	201.7	8.7	4.3	1.5	2.8	0.1	12.9	37.5	11.9	9.9	14.5	1.3	12.7
2018 June	221.4	9.3	4.9	1.6	2.6	0.1	12.7	49.3	11.3	22.4	14.4	1.2	13.0
July	214.9	10.0	5.1	2.2	2.6	0.1	12.7	47.9	11.6	20.4	14.8	1.2	13.0
Aug.	223.9	10.6	6.1	1.7	2.6	0.1	12.7	48.0	10.7	21.4	14.7	1.2	12.9
Sep.	221.1	9.2	5.1	1.4	2.6	0.1	12.7	48.3	11.2	21.4	14.5	1.2	12.9
Oct.	216.5	9.7	5.1	1.3	3.1	0.1	12.4	46.1	11.2	19.1	14.5	1.2	12.8
Nov.	224.6	10.0	4.9	1.4	3.7	0.1	12.4	40.6	11.2	14.1	14.2	1.2	12.9
	Changes*												
2016	+ 3.1	– 1.2	+ 0.5	– 1.4	– 0.3	+ 0.0	– 0.5	– 1.8	+ 0.1	– 1.8	– 0.3	+ 0.1	– 0.3
2017	– 1.0	– 0.0	+ 0.7	– 1.0	+ 0.2	– 0.0	– 0.6	– 5.1	– 1.4	– 1.4	– 2.5	+ 0.2	– 0.5
2018 June	+ 5.3	+ 0.5	+ 0.4	+ 0.2	– 0.2	– 0.0	– 0.2	+ 3.6	+ 0.5	+ 3.1	– 0.0	+ 0.0	– 0.0
July	– 6.4	+ 0.7	+ 0.1	+ 0.6	+ 0.0	– 0.0	– 0.0	– 1.3	+ 0.3	– 2.1	+ 0.4	– 0.0	–
Aug.	+ 9.1	+ 0.6	+ 1.1	– 0.5	+ 0.0	– 0.0	+ 0.0	+ 0.2	– 0.9	+ 1.0	+ 0.0	– 0.0	+ 0.1
Sep.	– 2.9	– 1.3	– 1.0	– 0.3	+ 0.0	– 0.0	+ 0.0	+ 0.2	+ 0.5	– 0.0	– 0.3	– 0.0	– 0.0
Oct.	– 4.7	+ 0.5	+ 0.0	– 0.1	+ 0.5	– 0.0	– 0.3	– 2.2	– 0.0	– 2.2	+ 0.0	+ 0.0	– 0.0
Nov.	+ 8.1	+ 0.4	– 0.2	+ 0.0	+ 0.6	– 0.0	– 0.0	– 5.4	– 0.2	– 5.1	– 0.1	+ 0.0	+ 0.0

* See Table IV.2, footnote *; excluding deposits of the Treuhand agency and its successor organisations, of the Federal Railways, East German Railways and Federal Post Office, and, from 1995, of Deutsche Bahn AG, Deutsche Post AG and Deutsche Telekom AG, and of publicly owned enterprises, which are included in "Enterprises". Statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in

IV. Banks

Domestic non-profit institutions	Savings deposits [3] by maturity: up to and including 1 year	Savings deposits [3] by maturity: more than 1 year [2] Total	of which: up to and including 2 years	of which: more than 2 years	Savings deposits [3] Total	Domestic households	Domestic non-profit institutions	Bank savings bonds [4]	Memo item: Fiduciary loans	Memo item: Subordinated liabilities (excluding negotiable debt securities) [5]	Memo item: Liabilities arising from repos	Period
End of year or month*												
13.1	55.5	203.9	12.7	191.1	585.6	576.6	9.0	39.2	0.0	3.8	–	2015
13.5	54.5	207.5	13.3	194.3	577.7	569.3	8.4	32.7	0.1	2.9	–	2016
14.0	49.0	208.5	12.7	195.8	572.4	564.6	7.9	26.6	1.7	2.4	–	2017
13.8	49.1	209.1	12.3	196.8	568.3	560.6	7.7	23.9	4.0	2.4	–	2018 June
13.9	49.5	208.9	12.2	196.7	567.3	559.7	7.6	23.6	4.4	2.4	–	July
14.1	49.6	208.9	11.8	197.1	566.6	559.0	7.6	23.2	5.0	2.4	–	Aug.
14.1	49.6	209.1	11.6	197.5	566.4	558.8	7.6	23.0	5.6	2.4	–	Sep.
13.9	49.9	208.7	11.4	197.3	566.1	558.6	7.5	22.6	5.8	2.4	–	Oct.
13.5	49.1	208.7	11.3	197.4	566.0	558.7	7.3	22.1	5.8	2.4	–	Nov.
Changes*												
+ 0.6	– 1.0	+ 3.4	+ 0.7	+ 2.7	– 7.9	– 7.3	– 0.5	– 5.8	+ 0.1	– 0.9	–	2016
+ 0.1	– 5.9	+ 0.9	– 0.5	+ 1.4	– 5.3	– 4.7	– 0.6	– 6.1	+ 0.8	– 0.4	–	2017
– 0.0	– 0.1	+ 0.2	+ 0.1	+ 0.1	– 0.9	– 0.9	– 0.0	– 0.4	+ 0.5	+ 0.0	–	2018 June
+ 0.1	+ 0.3	– 0.1	– 0.1	– 0.0	– 1.0	– 0.9	– 0.0	– 0.3	+ 0.4	+ 0.0	–	July
+ 0.2	+ 0.1	+ 0.0	– 0.3	+ 0.4	– 0.7	– 0.7	– 0.0	– 0.4	+ 0.5	+ 0.0	–	Aug.
+ 0.0	– 0.1	+ 0.2	– 0.2	+ 0.5	– 0.2	– 0.2	– 0.0	– 0.3	+ 0.5	– 0.0	–	Sep.
– 0.2	+ 0.4	– 0.4	– 0.2	– 0.2	– 0.3	– 0.1	– 0.1	– 0.3	+ 0.1	+ 0.0	–	Oct.
– 0.4	– 0.9	+ 0.1	– 0.0	+ 0.1	– 0.1	+ 0.0	– 0.2	– 0.5	+ 0.0	– 0.0	–	Nov.

registered debt securities. **2** Including deposits under savings and loan contracts (see Table IV.12). **3** Excluding deposits under savings and loan contracts (see also footnote 2). **4** Including liabilities arising from non-negotiable bearer debt securities. **5** Included in time deposits.

Local government and local government associations (including municipal special-purpose associations) Total	Sight deposits	Time deposits [3] for up to and including 1 year	Time deposits [3] for more than 1 year	Savings deposits and bank savings bonds [2,4]	Memo item: Fiduciary loans	Social security funds Total	Sight deposits	Time deposits for up to and including 1 year	Time deposits for more than 1 year	Savings deposits and bank savings bonds [2]	Memo item: Fiduciary loans	Period
End of year or month*												
52.4	29.2	9.6	8.3	5.2	0.4	91.2	12.1	60.5	17.5	1.1	–	2015
56.0	31.5	8.7	10.1	5.7	0.4	93.6	9.4	57.6	25.1	1.5	–	2016
61.6	33.2	8.8	14.1	5.5	0.0	93.8	9.5	45.6	37.6	1.1	–	2017
60.5	31.0	9.3	14.6	5.6	0.0	102.3	16.1	45.9	39.2	1.1	–	2018 June
56.7	27.4	9.1	14.5	5.6	0.0	100.4	12.9	45.6	40.7	1.1	–	July
63.2	32.6	10.1	14.8	5.7	0.0	102.2	13.3	45.9	41.8	1.1	–	Aug.
60.0	29.8	9.8	14.8	5.6	0.0	103.6	14.2	44.3	44.0	1.1	–	Sep.
58.2	28.4	9.4	14.8	5.6	0.0	102.6	12.7	44.0	44.8	1.1	–	Oct.
62.8	32.5	9.7	14.9	5.7	0.0	111.1	14.0	49.7	46.3	1.1	–	Nov.
Changes*												
+ 3.7	+ 2.4	– 0.8	+ 1.6	+ 0.5	– 0.0	+ 2.4	– 2.6	– 2.8	+ 7.7	+ 0.2	–	2016
+ 4.5	+ 2.1	+ 0.1	+ 2.3	– 0.0	– 0.0	– 0.3	+ 0.2	– 11.8	+11.6	– 0.4	–	2017
– 0.5	– 1.7	+ 1.2	+ 0.0	– 0.0	–	+ 1.7	+ 1.2	+ 0.0	+ 0.6	– 0.0	–	2018 June
– 3.9	– 3.6	– 0.2	– 0.1	+ 0.0	–	– 1.9	– 3.2	– 0.3	+ 1.6	– 0.0	–	July
+ 6.5	+ 5.1	+ 1.0	+ 0.3	+ 0.0	–	+ 1.8	+ 0.4	+ 0.3	+ 1.1	+ 0.0	–	Aug.
– 3.3	– 2.8	– 0.4	– 0.1	– 0.0	–	+ 1.5	+ 0.9	– 1.6	+ 2.2	+ 0.0	–	Sep.
– 1.9	– 1.4	– 0.4	– 0.0	– 0.0	+ 0.0	– 1.1	– 1.5	– 0.3	+ 0.8	– 0.0	–	Oct.
+ 4.5	+ 4.1	+ 0.3	+ 0.1	+ 0.1	– 0.0	+ 8.5	+ 1.3	+ 5.7	+ 1.5	– 0.0	–	Nov.

the following Monthly Report, are not specially marked. **1** Federal Railways Fund, Indemnification Fund, Redemption Fund for Inherited Liabilities, ERP Special Fund, German Unity Fund, Equalisation of Burdens Fund. **2** Including liabilities arising from non-negotiable bearer debt securities. **3** Including deposits under savings and loan contracts. **4** Excluding deposits under savings and loan contracts (see also footnote 3).

IV. Banks

10. Savings deposits and bank savings bonds of banks (MFIs) in Germany sold to non-banks (non-MFIs)*

€ billion

Period	Savings deposits [1]								Memo item: Interest credited on savings deposits	Bank savings bonds, [3] sold to			
		of residents					of non-residents				domestic non-banks		
			at 3 months' notice		at more than 3 months' notice								
	Total	Total	Total	of which: Special savings facilities [2]	Total	of which: Special savings facilities [2]	Total	of which: At 3 months' notice		non-banks, total	Total	of which: With maturities of more than 2 years	foreign non-banks
	End of year or month*												
2015	605.4	596.5	534.6	379.7	61.9	48.0	8.9	7.4	4.4	64.9	56.1	41.0	8.7
2016	596.5	588.5	537.1	361.6	51.5	37.7	8.0	6.9	3.3	59.1	50.4	35.8	8.7
2017	590.3	582.9	541.0	348.3	41.9	30.3	7.4	6.5	2.7	52.0	43.7	31.4	8.2
2018 July	585.4	578.2	538.6	337.4	39.7	28.7	7.1	6.3	0.1	44.0	40.0	29.5	4.0
Aug.	584.7	577.6	538.4	336.7	39.2	28.3	7.1	6.3	0.1	43.5	39.5	29.3	4.0
Sep.	584.3	577.3	538.4	335.2	38.9	28.0	7.0	6.2	0.1	43.0	39.1	29.0	3.9
Oct.	584.0	577.0	538.6	335.5	38.4	27.7	7.0	6.2	0.1	42.5	38.6	28.6	3.9
Nov.	583.9	576.9	539.1	332.2	37.8	27.4	7.0	6.2	0.1	41.8	37.9	28.2	3.9
	Changes*												
2016	– 8.8	– 7.9	+ 2.5	– 18.4	– 10.4	– 10.3	– 0.9	– 0.5	.	– 5.0	– 5.0	– 4.7	– 0.0
2017	– 6.2	– 5.6	+ 1.5	– 13.1	– 7.1	– 7.4	– 0.6	– 0.4	.	– 7.2	– 6.7	– 4.4	– 0.5
2018 July	– 1.1	– 1.0	– 0.5	– 2.0	– 0.5	– 0.4	– 0.1	– 0.0	.	– 0.6	– 0.6	– 0.3	+ 0.0
Aug.	– 0.7	– 0.6	– 0.2	– 1.1	– 0.4	– 0.4	– 0.1	– 0.0	.	– 0.5	– 0.5	– 0.2	+ 0.0
Sep.	– 0.3	– 0.3	+ 0.0	– 1.7	– 0.3	– 0.3	– 0.0	– 0.0	.	– 0.4	– 0.4	– 0.3	–
Oct.	– 0.3	– 0.3	+ 0.2	– 0.0	– 0.5	– 0.3	– 0.0	– 0.0	.	– 0.4	– 0.5	– 0.4	+ 0.0
Nov.	– 0.1	– 0.1	+ 0.5	– 2.9	– 0.6	– 0.3	– 0.0	– 0.0	.	– 0.7	– 0.7	– 0.4	+ 0.0

***** See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Excluding deposits under savings and loan contracts, which are classified as time deposits. **2** Savings deposits bearing interest at a rate which exceeds the minimum or basic rate of interest. **3** Including liabilities arising from non-negotiable bearer debt securities.

11. Debt securities and money market paper outstanding of banks (MFIs) in Germany*

€ billion

Period	Negotiable bearer debt securities and money market paper										Non-negotiable bearer debt securities and money market paper [6]		Subordinated	
		of which:				with maturities of								
						up to and including 1 year		more than 1 year up to and including 2 years						
	Total	Floating rate bonds [1]	Zero coupon bonds [1,2]	Foreign currency bonds [3,4]	Certificates of deposit	Total	of which: without a nominal guarantee [5]	Total	of which: without a nominal guarantee [5]	more than 2 years	Total	of which: with maturities of more than 2 years	negotiable debt securities	non-negotiable debt securities
	End of year or month*													
2015	1,075.7	189.2	30.2	384.1	88.7	109.8	2.1	28.4	5.7	937.5	0.3	0.2	31.9	0.5
2016	1,098.1	177.0	28.1	407.1	90.9	111.3	4.1	37.4	5.8	949.4	0.6	0.2	33.8	0.5
2017	1,066.5	147.2	26.0	370.4	89.8	107.4	4.1	32.9	6.4	926.2	0.4	0.2	30.5	0.5
2018 July	1,080.7	139.7	26.4	354.2	81.4	99.2	4.3	27.7	7.2	953.8	0.6	0.2	30.0	0.5
Aug.	1,085.9	139.8	27.5	351.3	82.8	101.9	4.3	28.0	7.2	956.0	0.8	0.2	30.2	0.5
Sep.	1,096.1	140.4	27.0	351.5	83.8	102.3	4.1	23.6	7.1	970.2	0.7	0.2	30.6	0.4
Oct.	1,109.6	140.8	27.2	363.7	89.2	108.1	3.7	23.8	7.0	977.7	0.9	0.1	30.8	0.4
Nov.	1,112.9	140.5	28.3	360.2	87.9	107.4	3.6	22.6	6.8	983.0	0.7	0.1	30.8	0.4
	Changes*													
2016	+ 22.1	– 12.0	– 2.1	+ 23.0	+ 2.2	+ 1.6	+ 2.0	+ 8.8	+ 0.1	+ 11.7	+ 0.3	– 0.1	+ 1.9	– 0.0
2017	– 30.8	– 29.7	– 2.1	– 36.7	– 0.5	– 3.9	– 0.0	– 4.6	+ 0.6	– 22.3	– 0.2	+ 0.0	– 3.2	– 0.0
2018 July	– 8.1	– 2.2	+ 0.3	– 10.2	– 2.0	– 1.9	+ 0.1	– 1.7	+ 0.1	– 4.5	+ 0.1	+ 0.0	– 0.1	+ 0.0
Aug.	+ 5.2	+ 0.1	+ 1.1	– 2.9	+ 1.4	+ 2.7	+ 0.0	+ 0.3	+ 0.1	+ 2.2	+ 0.2	–	+ 0.2	+ 0.0
Sep.	+ 10.1	+ 0.7	– 0.5	+ 0.2	+ 1.0	+ 0.3	– 0.2	– 4.4	– 0.2	+ 14.2	– 0.1	– 0.0	+ 0.2	+ 0.0
Oct.	+ 13.6	+ 0.3	+ 0.2	+ 12.2	+ 5.4	+ 5.8	– 0.4	+ 0.2	– 0.1	+ 7.6	+ 0.1	– 0.0	+ 0.2	– 0.0
Nov.	+ 3.3	– 0.3	+ 1.2	– 3.6	– 1.3	– 0.7	– 0.2	– 1.2	– 0.1	+ 5.2	– 0.1	– 0.0	– 0.0	–

***** See Table IV.2, footnote *; statistical breaks have been eliminated from the changes. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Including debt securities denominated in foreign currencies. **2** Issue value when floated. **3** Including floating rate notes and zero coupon bonds denominated in foreign currencies. **4** Bonds denominated in non-euro area currencies. **5** Negotiable bearer debt securities and money market paper with a nominal guarantee of less than 100%. **6** Non-negotiable bearer debt securities are classified among bank savings bonds (see also Table IV.10, footnote 2).

IV. Banks

12. Building and loan associations (MFIs) in Germany *) Interim statements

€ billion

End of year/month	Number of associations	Balance sheet total 13	Lending to banks (MFIs)			Lending to non-banks (non-MFIs)				Deposits of banks (MFIs) 5		Deposits of non-banks (non-MFIs)		Bearer debt securities outstanding	Capital (including published reserves) 7	Memo item: New contracts entered into in year or month 8
			Credit balances and loans (excluding building loans) 1	Building loans 2	Bank debt securities 3	Building loans			Securities (including Treasury bills and Treasury discount paper) 4	Deposits under savings and loan contracts	Sight and time deposits	Deposits under savings and loan contracts	Sight and time deposits 6			
						Loans under savings and loan contracts	Interim and bridging loans	Other building loans								
All building and loan associations																
2016	20	218.8	43.6	0.0	16.6	13.8	98.6	18.1	23.4	2.5	21.4	163.8	5.5	2.0	10.2	89.2
2017	20	229.2	41.8	0.0	15.8	12.3	104.4	24.8	25.1	2.6	23.0	168.6	9.5	3.0	11.0	83.6
2018 Sep.	20	234.5	41.5	0.0	15.9	12.0	108.7	25.6	25.9	2.7	23.0	171.7	10.3	3.3	11.6	6.9
Oct.	20	233.8	40.5	0.0	16.0	12.0	108.9	25.5	25.9	2.7	22.3	171.5	10.4	3.3	11.6	7.4
Nov.	20	233.6	40.2	0.0	15.9	11.9	109.4	25.6	25.8	2.7	22.0	171.8	10.2	3.3	11.6	7.9
Private building and loan associations																
2018 Sep.	12	163.7	25.7	–	6.8	9.0	84.3	22.1	11.9	1.7	20.6	111.7	10.1	3.3	7.9	4.3
Oct.	12	163.0	24.9	–	6.9	9.0	84.4	22.0	11.8	1.7	20.1	111.6	10.1	3.3	7.9	4.6
Nov.	12	162.8	24.6	–	6.7	9.0	84.8	22.1	11.8	1.7	19.9	111.8	9.9	3.3	7.9	5.1
Public building and loan associations																
2018 Sep.	8	70.8	15.8	0.0	9.1	3.0	24.4	3.5	14.0	1.0	2.4	60.0	0.3	–	3.7	2.6
Oct.	8	70.8	15.6	0.0	9.1	3.0	24.5	3.5	14.1	1.0	2.2	60.0	0.3	–	3.7	2.8
Nov.	8	70.8	15.6	0.0	9.2	2.9	24.6	3.5	14.0	1.0	2.1	60.0	0.3	–	3.7	2.8

Trends in building and loan association business

€ billion

Period	Changes in deposits under savings and loan contracts			Capital promised		Capital disbursed						Disbursement commitments outstanding at end of period		Interest and repayments received on building loans 10		
							Allocations									
							Deposits under savings and loan contracts		Loans under savings and loan contracts 9							
	Amounts paid into savings and loan accounts 9	Interest credited on deposits under savings and loan contracts	Repayments of deposits under cancelled savings and loan contracts	Total	of which: Net allocations 11	Total	Total	of which: Applied to settlement of interim and bridging loans	Total	of which: Applied to settlement of interim and bridging loans	Newly granted interim and bridging loans and other building loans	Total	of which: Under allocated contracts	Total	of which: Repayments during quarter	Memo item: Housing bonuses received 12
All building and loan associations																
2016	27.5	2.2	7.6	46.8	27.4	40.9	17.2	4.4	4.9	3.7	18.8	16.3	8.0	8.0	7.2	0.2
2017	26.7	2.3	7.6	45.3	26.0	39.6	16.4	4.1	4.5	3.4	18.7	16.4	7.4	7.1	6.2	0.2
2018 Sep.	2.1	0.0	0.5	3.2	1.7	3.0	1.1	0.3	0.3	0.2	1.6	17.1	7.2	0.6	1.4	0.0
Oct.	2.2	0.0	0.6	4.2	2.5	3.9	1.7	0.4	0.5	0.4	1.7	17.0	7.0	0.6		0.0
Nov.	2.2	0.0	0.6	3.5	1.9	3.3	1.3	0.3	0.4	0.3	1.7	16.8	6.8	0.6		0.0
Private building and loan associations																
2018 Sep.	1.4	0.0	0.3	2.3	1.1	2.2	0.8	0.2	0.2	0.2	1.2	12.2	4.0	0.5	1.0	0.0
Oct.	1.4	0.0	0.3	3.2	1.9	2.9	1.2	0.3	0.4	0.3	1.4	12.1	4.0	0.5		0.0
Nov.	1.4	0.0	0.3	2.7	1.4	2.6	0.9	0.3	0.3	0.2	1.3	12.1	3.9	0.5		0.0
Public building and loan associations																
2018 Sep.	0.7	0.0	0.3	0.9	0.6	0.8	0.3	0.1	0.1	0.1	0.3	5.0	3.2	0.1	0.3	0.0
Oct.	0.8	0.0	0.3	1.0	0.7	0.9	0.5	0.1	0.1	0.1	0.4	4.8	3.1	0.1		0.0
Nov.	0.8	0.0	0.4	0.8	0.5	0.8	0.3	0.1	0.1	0.1	0.3	4.7	3.0	0.1		0.0

***** Excluding assets and liabilities and/or transactions of foreign branches. The figures for the latest date are always to be regarded as provisional. Subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Including claims on building and loan associations, claims arising from registered debt securities and central bank credit balances. **2** Loans under savings and loan contracts and interim and bridging loans. **3** Including money market paper and small amounts of other securities issued by banks. **4** Including equalisation claims. **5** Including liabilities to building and loan associations. **6** Including small amounts of savings deposits. **7** Including participation rights capital and fund for general banking risks. **8** Total amount covered by the contracts; only contracts newly entered into, for which the contract fee has been fully paid. Increases in the sum contracted count as new contracts. **9** For disbursements of deposits under savings and loan contracts arising from the allocation of contracts see "Capital disbursed". **10** Including housing bonuses credited. **11** Only allocations accepted by the beneficiaries; including allocations applied to settlement of interim and bridging loans. **12** The amounts already credited to the accounts of savers or borrowers are also included in "Amounts paid into savings and loan accounts" and "Interest and repayments received on building loans". **13** See Table IV.2, footnote 1.

IV. Banks

13. Assets and liabilities of the foreign branches and foreign subsidiaries of German banks (MFIs) *

€ billion

Period	Number of: German banks (MFIs) with foreign branches and/or foreign subsidiaries	Number of: foreign branches [1] and/or foreign subsidiaries	Balance sheet total [7]	Lending to banks (MFIs): Total	Lending to banks (MFIs): Credit balances and loans: Total	Lending to banks (MFIs): Credit balances and loans: German banks	Lending to banks (MFIs): Credit balances and loans: Foreign banks	Lending to banks (MFIs): Money market paper, securities [2,3]	Lending to non-banks (non-MFIs): Total	Lending to non-banks (non-MFIs): Loans: Total	Lending to non-banks (non-MFIs): Loans: to German non-banks	Lending to non-banks (non-MFIs): Loans: to foreign non-banks	Lending to non-banks (non-MFIs): Money market paper, securities [2]	Other assets [7]: Total	Other assets [7]: of which: Derivative financial instruments in the trading portfolio
Foreign branches															End of year or month *
2015	51	198	1,842.9	526.0	508.7	161.3	347.5	17.3	635.1	511.6	14.0	497.6	123.6	681.8	499.0
2016	51	192	1,873.3	584.2	570.5	205.0	365.5	13.8	580.5	489.8	14.5	475.3	90.8	708.5	485.3
2017	52	188	1,647.8	493.9	484.1	197.1	287.0	9.8	528.8	443.2	13.1	430.1	85.6	625.1	402.9
2018 Jan.	50	185	1,741.4	508.5	496.7	201.0	295.7	11.8	536.6	454.7	13.2	441.5	81.9	696.3	444.0
Feb.	50	184	1,670.4	510.1	497.5	210.0	287.5	12.5	526.2	450.5	12.7	437.8	75.7	634.1	413.4
Mar.	50	184	1,594.2	507.4	495.1	188.2	306.8	12.4	506.8	426.9	12.9	414.0	79.9	580.0	385.2
Apr.	49	183	1,634.4	504.6	491.8	187.1	304.8	12.7	524.6	443.8	10.8	433.1	80.8	605.2	408.0
May	48	182	1,612.2	497.1	484.2	190.3	293.9	12.8	531.9	452.8	14.5	438.3	79.1	583.2	364.2
June	48	183	1,533.3	473.3	461.3	182.2	279.1	11.9	510.3	431.6	14.5	417.1	78.7	549.8	350.1
July	48	183	1,523.3	472.0	459.9	186.8	273.1	12.1	523.2	443.2	23.6	419.6	80.0	528.1	328.8
Aug.	48	183	1,501.4	450.4	438.8	183.2	255.6	11.6	524.4	442.6	22.5	420.1	81.8	526.6	328.2
Sep.	48	184	1,494.1	452.1	441.2	185.4	255.8	10.8	541.6	456.5	21.9	434.7	85.1	500.5	318.4
Oct.	49	185	1,487.3	439.9	428.6	205.9	222.7	11.3	535.8	448.0	20.3	427.8	87.8	511.6	336.0
															Changes *
2016	± 0	– 6	+ 29.1	+ 49.3	+ 52.9	+ 43.7	+ 9.2	– 3.5	– 56.4	– 24.6	+ 0.5	– 25.1	– 31.8	+ 24.9	– 14.8
2017	+ 1	– 4	– 216.7	– 52.5	– 49.4	– 7.9	– 41.5	– 3.1	– 10.9	– 10.0	– 1.4	– 8.6	– 0.9	– 74.6	– 60.4
2018 Feb.	–	– 1	– 72.6	– 2.9	– 3.6	+ 9.0	– 12.6	+ 0.7	– 16.0	– 9.2	– 0.5	– 8.8	– 6.7	– 63.8	– 33.9
Mar.	–	–	– 75.6	– 1.0	– 0.8	– 21.8	+ 21.0	– 0.2	– 17.5	– 21.8	+ 0.2	– 22.0	+ 4.3	– 53.6	– 26.9
Apr.	– 1	– 1	+ 39.1	– 7.0	– 7.3	– 1.2	– 6.2	+ 0.3	+ 13.6	+ 13.2	– 2.2	+ 15.3	+ 0.5	+ 24.1	+ 19.4
May	– 1	– 1	– 24.6	– 15.2	– 15.1	+ 3.2	– 18.3	– 0.1	– 2.1	+ 0.6	+ 3.8	– 3.1	– 2.8	– 24.4	– 50.3
June	–	+ 1	– 79.0	– 24.1	– 23.2	– 8.1	– 15.1	– 0.9	– 21.5	– 21.2	– 0.0	– 21.1	– 0.3	– 33.5	– 14.3
July	–	–	– 9.5	+ 0.3	+ 0.1	+ 4.6	– 4.5	+ 0.2	+ 15.2	+ 13.5	+ 9.1	+ 4.4	+ 1.6	– 21.1	– 20.3
Aug.	–	–	– 22.4	– 23.1	– 22.6	– 3.6	– 19.0	– 0.5	– 0.5	– 2.2	– 1.1	– 1.1	+ 1.7	– 2.0	– 1.5
Sep.	–	+ 1	– 7.7	+ 0.6	+ 1.4	+ 2.3	– 0.9	– 0.8	+ 15.3	+ 12.3	– 0.6	+ 12.9	+ 3.0	– 26.6	– 10.6
Oct.	+ 1	+ 1	– 8.5	– 16.3	– 16.7	+ 20.5	– 37.2	+ 0.4	– 12.1	– 14.1	– 1.6	– 12.5	+ 1.9	+ 9.5	+ 15.0
Foreign subsidiaries															End of year or month *
2015	24	58	376.0	126.5	113.5	50.1	63.4	13.0	184.3	152.5	22.2	130.3	31.8	65.1	–
2016	20	53	320.5	82.1	72.2	21.4	50.8	9.9	161.4	130.3	22.6	107.7	31.2	76.9	–
2017	20	50	276.6	70.4	63.9	25.0	39.0	6.5	149.5	122.2	22.2	99.9	27.4	56.7	–
2018 Jan.	20	50	274.8	71.5	64.6	25.6	39.0	6.9	146.3	119.8	22.2	97.6	26.5	56.9	–
Feb.	20	50	273.9	73.0	66.4	26.6	39.8	6.6	147.0	120.3	22.7	97.7	26.6	53.9	–
Mar.	20	50	276.0	72.3	65.8	26.5	39.3	6.5	150.3	123.1	22.5	100.6	27.2	53.4	–
Apr.	20	50	267.7	64.4	58.0	23.6	34.3	6.4	147.7	120.7	21.7	99.0	27.0	55.7	–
May	20	50	274.5	67.0	60.5	26.3	34.1	6.6	149.3	121.6	21.8	99.8	27.6	58.2	–
June	20	48	269.1	64.2	57.9	24.5	33.4	6.3	148.8	122.5	21.9	100.5	26.3	56.1	–
July	19	47	248.5	62.2	56.0	24.5	31.5	6.3	136.5	112.6	13.5	99.1	23.8	49.8	–
Aug.	19	47	245.8	56.7	50.6	21.1	29.5	6.1	137.9	113.2	13.4	99.8	24.7	51.1	–
Sep.	18	46	244.8	55.2	49.4	19.8	29.6	5.8	138.8	114.5	13.7	100.8	24.4	50.8	–
Oct.	17	45	243.8	52.1	46.2	19.5	26.7	5.9	139.3	114.2	13.5	100.7	25.1	52.4	–
															Changes *
2016	– 4	– 5	– 56.8	– 45.9	– 42.6	– 28.7	– 13.9	– 3.3	– 22.7	– 22.1	+ 0.4	– 22.4	– 0.6	+ 11.8	–
2017	–	– 3	– 33.3	– 4.9	– 2.4	+ 3.5	– 6.0	– 2.5	– 8.2	– 4.4	– 0.4	– 4.0	– 3.8	– 20.2	–
2018 Feb.	–	–	– 2.1	+ 0.7	+ 1.1	+ 1.0	+ 0.1	– 0.4	+ 0.2	+ 0.2	+ 0.4	– 0.3	+ 0.1	– 3.0	–
Mar.	–	–	+ 2.9	– 0.2	– 0.2	– 0.1	– 0.1	– 0.0	+ 3.6	+ 3.0	– 0.1	+ 3.1	+ 0.5	– 0.5	–
Apr.	–	–	– 9.2	– 8.5	– 8.2	– 2.9	– 5.3	– 0.2	– 2.9	– 2.7	– 0.9	– 1.9	– 0.2	+ 2.2	–
May	–	–	+ 4.5	+ 1.2	+ 1.3	+ 2.7	– 1.4	– 0.1	+ 0.8	+ 0.1	+ 0.1	+ 0.0	+ 0.7	+ 2.5	–
June	–	– 2	– 5.4	– 2.9	– 2.6	– 1.8	– 0.8	– 0.3	– 0.5	+ 0.8	+ 0.1	+ 0.7	– 1.3	– 2.1	–
July	– 1	– 1	– 20.2	– 1.7	– 1.7	– 0.1	– 1.6	+ 0.0	– 12.2	– 9.7	– 8.4	– 1.3	– 2.5	– 6.4	–
Aug.	–	–	– 3.4	– 6.0	– 5.7	– 3.3	– 2.4	– 0.2	+ 1.2	+ 0.3	– 0.1	+ 0.4	+ 0.9	+ 1.4	–
Sep.	– 1	– 1	– 1.3	– 1.7	– 1.5	– 1.3	– 0.1	– 0.3	+ 0.8	+ 1.1	+ 0.3	+ 0.8	– 0.3	– 0.4	–
Oct.	– 1	– 1	– 2.1	– 3.8	– 3.6	– 0.3	– 3.3	– 0.1	+ 0.0	– 0.7	– 0.2	– 0.6	+ 0.7	+ 1.6	–

* In this table "foreign" also includes the country of domicile of the foreign branches and foreign subsidiaries. Statistical revisions have been eliminated from the changes. (Breaks owing to changes in the reporting population have not been eliminated from the flow figures for the foreign subsidiaries.) The figures for the latest date are always to be regarded as provisional; subsequent revisions, which appear in the following Monthly Report, are not specially marked. **1** Several branches in a given

IV. Banks

Deposits									Money market paper and debt securities outstanding [5]	Working capital and own funds	Other liabilities [6,7]		Period
	of banks (MFIs)			of non-banks (non-MFIs)									
					German non-banks [4]								
Total	Total	German banks	Foreign banks	Total	Total	Short-term	Medium and long-term	Foreign non-banks			Total	of which: Derivative financial instruments in the trading portfolio	
End of year or month *											**Foreign branches**		
1,060.9	715.3	359.3	356.0	345.6	21.1	16.2	4.9	324.6	128.9	49.9	603.1	497.4	2015
1,136.5	800.9	424.9	376.0	335.6	15.4	11.8	3.6	320.2	100.6	51.2	585.1	481.0	2016
1,000.3	682.5	372.8	309.7	317.8	16.0	14.1	1.9	301.8	97.0	51.9	498.6	399.2	2017
1,040.4	688.7	379.5	309.2	351.8	15.6	14.0	1.6	336.2	109.6	51.4	539.9	442.8	2018 Jan.
1,013.9	653.6	383.8	269.8	360.3	14.9	13.2	1.6	345.4	105.7	51.4	499.5	413.3	Feb.
1,006.2	672.6	386.6	285.9	333.6	14.7	13.0	1.7	318.9	97.3	50.9	439.9	387.6	Mar.
1,015.5	678.3	389.4	288.9	337.2	14.8	13.2	1.6	322.5	99.6	51.1	468.2	399.6	Apr.
1,034.4	685.7	411.6	274.1	348.7	13.5	11.9	1.5	335.2	104.5	51.7	421.6	358.5	May
973.0	658.6	407.0	251.7	314.4	12.4	10.9	1.5	301.9	109.6	51.7	399.0	347.1	June
972.2	662.1	405.8	256.3	310.1	10.8	9.3	1.5	299.3	101.5	53.1	396.5	323.8	July
957.3	651.9	404.6	247.4	305.3	10.4	8.8	1.5	295.0	108.1	53.2	382.8	325.2	Aug.
964.0	648.5	417.8	230.7	315.4	10.8	9.3	1.5	304.6	101.5	53.5	375.2	313.0	Sep.
938.4	608.2	400.9	207.3	330.2	8.8	7.3	1.5	321.4	100.2	53.9	394.7	330.9	Oct.
Changes *													
+ 66.8	+ 76.8	+ 65.6	+ 11.2	– 10.1	– 5.7	– 4.4	– 1.2	– 4.4	– 29.6	+ 1.2	– 18.1	– 17.3	2016
– 97.3	– 80.7	– 52.1	– 28.6	– 16.7	+ 0.6	+ 2.3	– 1.7	– 17.3	+ 5.2	+ 0.8	– 86.5	– 58.1	2017
– 31.1	– 39.4	+ 4.4	– 43.8	+ 8.3	– 0.8	– 0.8	+ 0.0	+ 9.1	– 5.6	– 0.0	– 40.4	– 32.9	2018 Feb.
– 6.1	+ 20.5	+ 2.8	+ 17.7	– 26.6	– 0.2	– 0.2	+ 0.0	– 26.4	– 7.9	– 0.5	– 59.6	– 24.3	Mar.
+ 5.5	+ 2.0	+ 2.8	– 0.8	+ 3.5	+ 0.1	+ 0.2	– 0.1	+ 3.4	+ 1.2	+ 0.3	+ 28.2	+ 8.4	Apr.
+ 11.5	+ 0.3	+ 22.2	– 21.8	+ 11.2	– 1.3	– 1.3	– 0.0	+ 12.5	+ 2.5	+ 0.6	– 46.6	– 47.6	May
– 61.7	– 27.3	– 4.6	– 22.7	– 34.4	– 1.1	– 1.1	+ 0.0	– 33.3	+ 4.9	+ 0.1	– 22.5	– 11.6	June
+ 0.6	+ 4.7	– 1.2	+ 6.0	– 4.1	– 1.6	– 1.6	– 0.0	– 2.6	– 7.5	+ 1.3	– 2.6	– 22.3	July
– 16.4	– 11.5	– 1.2	– 10.3	– 4.8	– 0.5	– 0.5	+ 0.0	– 4.4	+ 6.1	+ 0.1	– 13.6	+ 0.4	Aug.
+ 5.7	– 4.3	+ 13.2	– 17.6	+ 10.0	+ 0.4	+ 0.4	+ 0.0	+ 9.5	– 7.1	+ 0.4	– 7.7	– 13.1	Sep.
– 29.3	– 43.9	– 16.9	– 26.9	+ 14.6	– 2.0	– 2.0	–	+ 16.6	– 2.9	+ 0.4	+ 19.5	+ 15.0	Oct.
End of year or month *											**Foreign subsidiaries**		
292.3	166.7	99.6	67.1	125.7	13.1	10.5	2.6	112.6	14.4	26.3	42.9	–	2015
247.0	134.3	71.8	62.5	112.7	12.2	6.7	5.5	100.5	13.6	23.8	36.0	–	2016
207.1	96.3	49.8	46.5	110.8	12.0	6.2	5.8	98.8	13.0	24.2	32.3	–	2017
206.0	96.1	50.3	45.8	110.0	12.1	6.3	5.9	97.8	13.0	24.0	31.7	–	2018 Jan.
205.2	94.1	50.6	43.6	111.1	12.0	6.2	5.8	99.1	13.8	23.6	31.3	–	Feb.
207.3	96.0	50.4	45.5	111.3	11.2	5.3	5.9	100.1	13.7	23.9	31.1	–	Mar.
200.4	90.3	48.5	41.7	110.1	11.6	5.7	5.9	98.6	13.4	23.8	30.1	–	Apr.
206.7	95.4	49.8	45.6	111.2	12.3	6.4	5.9	98.9	13.4	23.9	30.5	–	May
202.6	95.4	50.9	44.5	107.2	12.1	6.1	6.0	95.1	12.7	23.8	30.0	–	June
184.1	77.4	40.3	37.2	106.7	12.3	6.3	5.9	94.4	12.7	22.9	28.8	–	July
181.4	78.7	40.2	38.5	102.8	9.5	5.6	3.8	93.3	12.7	22.9	28.7	–	Aug.
178.9	75.0	37.8	37.3	103.9	10.1	6.1	3.9	93.8	13.9	22.8	29.2	–	Sep.
175.5	73.4	36.5	36.8	102.1	9.6	6.0	3.6	92.6	14.1	22.8	31.3	–	Oct.
Changes *													
– 46.2	– 33.5	– 27.8	– 5.7	– 12.7	– 0.9	– 3.8	+ 2.9	– 11.9	– 0.8	– 2.5	– 7.3	–	2016
– 32.8	– 33.7	– 22.0	– 11.8	+ 0.9	– 0.2	– 0.5	+ 0.3	+ 1.1	– 0.6	+ 0.3	– 0.3	–	2017
– 1.7	– 2.4	+ 0.3	– 2.7	+ 0.7	– 0.2	– 0.1	– 0.1	+ 0.9	+ 0.8	– 0.4	– 0.8	–	2018 Feb.
+ 2.4	+ 2.0	– 0.1	+ 2.1	+ 0.4	– 0.8	– 0.8	+ 0.1	+ 1.2	– 0.1	+ 0.3	+ 0.2	–	Mar.
– 7.7	– 6.2	– 1.9	– 4.3	– 1.5	+ 0.4	+ 0.3	+ 0.1	– 1.9	– 0.3	– 0.1	– 1.0	–	Apr.
+ 4.9	+ 4.4	+ 1.3	+ 3.1	+ 0.5	+ 0.8	+ 0.7	+ 0.0	– 0.3	+ 0.1	+ 0.1	– 0.5	–	May
– 4.2	– 0.1	+ 1.0	– 1.1	– 4.0	– 0.2	– 0.3	+ 0.0	– 3.8	– 0.7	– 0.1	– 0.5	–	June
– 18.2	– 17.8	– 10.6	– 7.2	– 0.4	+ 0.2	+ 0.2	– 0.0	– 0.6	– 0.0	– 0.9	– 1.1	–	July
– 3.0	+ 1.1	– 0.1	+ 1.2	– 4.0	– 2.8	– 0.7	– 2.1	– 1.3	+ 0.0	+ 0.0	– 0.5	–	Aug.
– 2.8	– 3.8	– 2.4	– 1.4	+ 1.0	+ 0.6	+ 0.5	+ 0.1	+ 0.4	+ 1.2	– 0.1	+ 0.4	–	Sep.
– 4.3	– 2.1	– 1.2	– 0.9	– 2.1	– 0.5	– 0.2	– 0.3	– 1.6	+ 0.2	+ 0.0	+ 1.9	–	Oct.

country of domicile are regarded as a single branch. **2** Treasury bills, Treasury discount paper and other money market paper, debt securities. **3** Including own debt securities. **4** Excluding subordinated liabilities and non-negotiable debt securities. **5** Issues of negotiable and non-negotiable debt securities and money market paper. **6** Including subordinated liabilities. **7** See also Table IV.2, footnote 1.

V. Minimum reserves

1. Reserve maintenance in the euro area

€ billion

Maintenance period beginning in [1]	Reserve base [2]	Required reserves before deduction of lump-sum allowance [3]	Required reserves after deduction of lump-sum allowance [4]	Current accounts [5]	Excess reserves [6]	Deficiencies [7]
2011	10,376.3	207.5	207.0	212.3	5.3	0.0
2012	10,648.6	106.5	106.0	489.0	383.0	0.0
2013	10,385.9	103.9	103.4	248.1	144.8	0.0
2014	10,677.3	106.8	106.3	236.3	130.1	0.0
2015	11,375.0	113.8	113.3	557.1	443.8	0.0
2016	11,918.5	119.2	118.8	919.0	800.3	0.0
2017	12,415.8	124.2	123.8	1,275.2	1,151.4	0.0
2018 Oct.	12,716.4	127.2	126.8	1,379.4	1,252.6	0.0
Nov.	.	.	.	.	.	.
Dec. p	12,777.0	127.8	127.4	...	...	...

2. Reserve maintenance in Germany

€ million

Maintenance period beginning in [1]	Reserve base [2]	German share of euro area reserve base as a percentage	Required reserves before deduction of lump-sum allowance [3]	Required reserves after deduction of lump-sum allowance [4]	Current accounts [5]	Excess reserves [6]	Deficiencies [7]
2011	2,666,422	25.7	53,328	53,145	54,460	1,315	1
2012	2,874,716	27.0	28,747	28,567	158,174	129,607	1
2013	2,743,933	26.4	27,439	27,262	75,062	47,800	2
2014	2,876,931	26.9	28,769	28,595	75,339	46,744	4
2015	3,137,353	27.6	31,374	31,202	174,361	143,159	0
2016	3,371,095	28.3	33,711	33,546	301,989	268,443	0
2017	3,456,192	27.8	34,562	34,404	424,547	390,143	2
2018 Oct.	3,552,796	27.9	35,528	35,374	489,536	454,162	1
Nov.	.	.	.	.	.	.	.
Dec. p	3,563,306	27.9	35,633	35,479	...	...	...

a) Required reserves of individual categories of banks

€ million

Maintenance period beginning in [1]	Big banks	Regional banks and other commercial banks	Branches of foreign banks	Landesbanken and savings banks	Credit cooperatives	Mortgage banks	Banks with special, development and other central support tasks
2011	10,459	8,992	3,078	18,253	9,437	601	2,324
2012 [3]	5,388	4,696	2,477	9,626	4,886	248	1,247
2013	5,189	4,705	1,437	9,306	5,123	239	1,263
2014	5,593	4,966	1,507	9,626	5,375	216	1,312
2015	6,105	5,199	2,012	10,432	5,649	226	1,578
2016	6,384	5,390	2,812	10,905	5,960	236	1,859
2017	6,366	5,678	3,110	11,163	6,256	132	1,699
2018 Oct.	7,212	4,940	3,420	11,522	6,576	97	1,607
Nov.	.	.	.	.	.	.	.
Dec.	7,384	4,910	3,094	11,715	6,624	95	1,658

b) Reserve base by subcategories of liabilities

€ million

Maintenance period beginning in [1]	Liabilities (excluding savings deposits, deposits with building and loan associations and repos) to non-MFIs with agreed maturities of up to 2 years	Liabilities (excluding repos and deposits with building and loan associations) with agreed maturities of up to 2 years to MFIs that are resident in euro area countries but not subject to minimum reserve requirements	Liabilities (excluding repos and deposits with building and loan associations) with agreed maturities of up to 2 years to banks in non-euro area countries	Savings deposits with agreed periods of notice of up to 2 years	Liabilities arising from bearer debt securities issued with agreed maturities of up to 2 years and bearer money market paper after deduction of a standard amount for bearer debt certificates or deduction of such paper held by the reporting institution
2011	1,609,904	3,298	354,235	596,833	102,153
2012	1,734,716	2,451	440,306	602,834	94,453
2013	1,795,844	2,213	255,006	600,702	90,159
2014	1,904,200	1,795	282,843	601,390	86,740
2015	2,063,317	1,879	375,891	592,110	104,146
2016	2,203,100	1,595	447,524	585,099	133,776
2017	2,338,161	628	415,084	581,416	120,894
2018 Oct.	2,433,091	755	430,896	577,119	110,937
Nov.	.	.	.	.	.
Dec.	2,458,423	1,162	414,463	576,627	112,621

1 The reserve maintenance period starts on the settlement day of the main refinancing operation immediately following the meeting of the Governing Council of the ECB for which the discussion on the monetary policy stance is scheduled. **2** Article 3 of the Regulation of the European Central Bank on the application of minimum reserves (excluding liabilities to which a reserve ratio of 0% applies, pursuant to Article 4(1)). **3** Amount after applying the reserve ratio to the reserve base. The reserve ratio for liabilities with agreed maturities of up to two years was 2% between 1 January 1999 and 17 January 2012. Since 18 January 2012, it has stood at 1%. **4** Article 5(2) of the Regulation of the European Central Bank on the application of minimum reserves. **5** Average credit balances of credit institutions at national central banks. **6** Average credit balances less required reserves after deduction of the lump-sum allowance. **7** Required reserves after deduction of the lump-sum allowance.

VI. Interest rates

1. ECB interest rates

% per annum

Applicable from	Deposit facility	Main refinancing operations: Fixed rate	Main refinancing operations: Minimum bid rate	Marginal lending facility	Applicable from	Deposit facility	Main refinancing operations: Fixed rate	Main refinancing operations: Minimum bid rate	Marginal lending facility
2005 Dec. 6	1.25	–	2.25	3.25	2011 Apr. 13	0.50	1.25	–	2.00
					July 13	0.75	1.50	–	2.25
2006 Mar. 8	1.50	–	2.50	3.50	Nov. 9	0.50	1.25	–	2.00
June 15	1.75	–	2.75	3.75	Dec. 14	0.25	1.00	–	1.75
Aug. 9	2.00	–	3.00	4.00					
Oct. 11	2.25	–	3.25	4.25	2012 July 11	0.00	0.75	–	1.50
Dec. 13	2.50	–	3.50	4.50					
					2013 May 8	0.00	0.50	–	1.00
2007 Mar. 14	2.75	–	3.75	4.75	Nov. 13	0.00	0.25	–	0.75
June 13	3.00	–	4.00	5.00					
					2014 June 11	–0.10	0.15	–	0.40
2008 July 9	3.25	–	4.25	5.25	Sep. 10	–0.20	0.05	–	0.30
Oct. 8	2.75	–	3.75	4.75					
Oct. 9	3.25	3.75	–	4.25	2015 Dec. 9	–0.30	0.05	–	0.30
Nov. 12	2.75	3.25	–	3.75					
Dec. 10	2.00	2.50	–	3.00	2016 Mar. 16	–0.40	0.00	–	0.25
2009 Jan. 21	1.00	2.00	–	3.00					
Mar. 11	0.50	1.50	–	2.50					
Apr. 8	0.25	1.25	–	2.25					
May 13	0.25	1.00	–	1.75					

2. Base rates

% per annum

Applicable from	Base rate as per Civil Code [1]	Applicable from	Base rate as per Civil Code [1]
2002 Jan. 1	2.57	2009 Jan. 1	1.62
July 1	2.47	July 1	0.12
2003 Jan. 1	1.97	2011 July 1	0.37
July 1	1.22		
		2012 Jan. 1	0.12
2004 Jan. 1	1.14		
July 1	1.13	2013 Jan. 1	–0.13
		July 1	–0.38
2005 Jan. 1	1.21		
July 1	1.17	2014 Jan. 1	–0.63
		July 1	–0.73
2006 Jan. 1	1.37		
July 1	1.95	2015 Jan. 1	–0.83
2007 Jan. 1	2.70	2016 July 1	–0.88
July 1	3.19		
2008 Jan. 1	3.32		
July 1	3.19		

1 Pursuant to Section 247 of the Civil Code.

3. Eurosystem monetary policy operations allotted through tenders *

Date of settlement	Bid amount	Allotment amount	Fixed rate tenders: Fixed rate	Variable rate tenders: Minimum bid rate	Variable rate tenders: Marginal rate [1]	Variable rate tenders: Weighted average rate	Running for ... days
	€ million		% per annum				
Main refinancing operations							
2018 Dec. 12	7,097	7,097	0.00	–	–	–	7
Dec. 19	9,573	9,573	0.00	–	–	–	14
Jan. 2	8,214	8,214	0.00	–	–	–	7
Jan. 9	7,329	7,329	0.00	–	–	–	7
Jan. 16	6,307	6,307	0.00	–	–	–	7
Long-term refinancing operations							
2018 Sep. 27	1,261	1,261	[2] 0.00	–	–	–	84
Nov. 1	1,490	1,490	[2] ...	–	–	–	91
Nov. 29	1,946	1,946	[2] ...	–	–	–	91
Dec. 20	1,554	1,554	[2] ...	–	–	–	98

***** Source: ECB. **1** Lowest or highest interest rate at which funds were allotted or collected. **2** Interest payment on the maturity date; the rate will be fixed at the average minimum bid rate of the main refinancing operations over the life of this operation.

4. Money market rates, by month *

% per annum

Monthly average	EONIA [1]	EURIBOR [2]: One-week funds	One-month funds	Three-month funds	Six-month funds	Nine-month funds	Twelve-month funds
2018 June	– 0.36	– 0.38	– 0.37	– 0.32	– 0.27	– 0.21	– 0.18
July	– 0.36	– 0.38	– 0.37	– 0.32	– 0.27	– 0.22	– 0.18
Aug.	– 0.36	– 0.38	– 0.37	– 0.32	– 0.27	– 0.21	– 0.17
Sep.	– 0.36	– 0.38	– 0.37	– 0.32	– 0.27	– 0.21	– 0.17
Oct.	– 0.37	– 0.38	– 0.37	– 0.32	– 0.26	– 0.20	– 0.15
Nov.	– 0.36	– 0.38	– 0.37	– 0.32	– 0.26	– 0.20	– 0.15
Dec.	– 0.36	– 0.38	– 0.37	– 0.31	– 0.24	[3] .	– 0.13

***** Averages are Bundesbank calculations. Neither the Deutsche Bundesbank nor anyone else can be held liable for any irregularity or inaccuracy of the EONIA or the EURIBOR. **1** Euro overnight index average: weighted average overnight rate for interbank operations calculated by the European Central Bank since 4 January 1999 on the basis of real turnover according to the act/360 method and published via Reuters. **2** Euro interbank offered rate: unweighted average rate calculated by Reuters since 30 December 1998 according to the act/360 method. **3** Discontinued as of 3 December 2018.

VI. Interest rates

5. Interest rates and volumes for outstanding amounts and new business of German banks (MFIs) *
a) Outstanding amounts o

End of month	Households' deposits				Non-financial corporations' deposits			
	with an agreed maturity of							
	up to 2 years		over 2 years		up to 2 years		over 2 years	
	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million
2017 Nov.	0.30	66,679	1.34	215,034	0.08	77,669	1.12	24,421
Dec.	0.29	66,585	1.34	216,841	0.06	78,428	1.07	25,136
2018 Jan.	0.29	66,589	1.32	216,681	0.05	78,112	1.05	26,055
Feb.	0.28	65,984	1.31	216,585	0.04	75,362	1.03	26,887
Mar.	0.27	65,081	1.30	216,572	0.05	72,699	1.01	26,676
Apr.	0.27	64,883	1.29	216,237	0.04	69,677	0.99	26,913
May	0.27	64,743	1.28	216,238	0.06	68,665	0.97	26,848
June	0.26	64,554	1.27	216,143	0.03	68,825	0.94	26,966
July	0.26	64,623	1.26	215,907	0.03	67,013	0.93	26,859
Aug.	0.25	64,215	1.25	216,126	0.03	67,659	0.92	27,206
Sep.	0.24	63,849	1.25	216,273	0.03	66,871	0.90	27,188
Oct.	0.24	63,652	1.24	215,766	0.04	66,681	0.89	27,535
Nov.	0.24	62,370	1.23	215,502	0.03	68,118	0.88	28,175

End of month	Housing loans to households 3						Loans to households for consumption and other purposes 4,5					
	with a maturity of											
	up to 1 year 6		over 1 year and up to 5 years		over 5 years		up to 1 year 6		over 1 year and up to 5 years		over 5 years	
	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million
2017 Nov.	2.44	3,898	1.98	25,924	2.71	1,139,714	7.00	48,352	3.87	87,393	3.96	312,973
Dec.	2.44	3,851	1.97	25,850	2.68	1,143,333	6.98	48,885	3.87	87,210	3.95	311,861
2018 Jan.	2.33	3,906	1.96	25,566	2.66	1,144,088	7.07	48,461	3.85	87,632	3.93	312,287
Feb.	2.31	3,869	1.95	25,474	2.65	1,147,522	7.07	48,468	3.84	87,842	3.92	312,671
Mar.	2.31	3,983	1.94	25,497	2.62	1,153,724	7.03	49,131	3.82	88,481	3.91	311,587
Apr.	2.32	3,933	1.93	25,480	2.60	1,157,212	6.99	48,590	3.79	89,131	3.90	312,321
May	2.31	4,024	1.93	25,609	2.58	1,162,731	7.04	48,209	3.76	84,759	3.89	312,220
June	2.27	4,139	1.92	25,721	2.56	1,169,692	7.03	48,827	3.74	85,404	3.88	311,756
July	2.27	4,217	1.90	25,586	2.54	1,174,210	7.00	48,360	3.75	85,994	3.86	312,593
Aug.	2.28	4,215	1.89	25,643	2.52	1,180,809	7.00	48,053	3.75	86,634	3.85	313,801
Sep.	2.27	4,306	1.89	26,196	2.50	1,186,420	7.00	49,160	3.74	86,205	3.85	313,297
Oct.	2.25	4,311	1.87	26,171	2.48	1,191,048	7.17	50,033	3.54	85,254	3.83	313,604
Nov.	2.25	4,299	1.87	26,265	2.46	1,196,578	7.01	49,659	3.53	85,718	3.83	314,343

End of month	Loans to non-financial corporations with a maturity of					
	up to 1 year 6		over 1 year and up to 5 years		over 5 years	
	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million
2017 Nov.	2.42	137,523	1.91	138,041	2.25	664,018
Dec.	2.47	133,105	1.90	137,708	2.22	664,374
2018 Jan.	2.34	141,326	1.88	138,344	2.20	668,281
Feb.	2.39	142,819	1.88	138,735	2.19	672,403
Mar.	2.39	145,640	1.87	139,810	2.18	672,250
Apr.	2.33	145,705	1.86	140,823	2.16	675,236
May	2.26	149,325	1.78	138,956	2.15	678,530
June	2.29	149,189	1.76	140,052	2.13	680,131
July	2.20	148,897	1.74	142,697	2.12	684,893
Aug.	2.22	148,026	1.74	144,021	2.11	688,709
Sep.	2.22	150,891	1.74	144,942	2.10	691,969
Oct.	2.21	147,714	1.73	147,743	2.08	696,222
Nov.	2.20	148,400	1.72	151,530	2.07	702,286

***** The interest rate statistics gathered on a harmonised basis in the euro area from January 2003 are collected in Germany on a sample basis. The MFI interest rate statistics are based on the interest rates applied by MFIs and the related volumes of euro-denominated deposits and loans to households and non-financial corporations domiciled in the euro area. The household sector comprises individuals (including sole proprietors) and non-profit institutions serving households. Non-financial corporations include all enterprises other than insurance corporations, banks and other financial institutions. The most recent figures are in all cases to be regarded as provisional. Subsequent revisions appearing in the following Monthly Report are not specially marked. Further information on the MFI interest rate statistics can be found on the Bundesbank's website (Statistics/Money and capital markets/Interest rates and yields/Interest rates on deposits and loans). **o** The statistics on outstanding amounts are collected at the end of the month. **1** The effective interest rates are calculated either as annualised agreed interest rates or as narrowly defined effective rates. Both calculation methods cover all interest payments on deposits and loans but not any other related charges which may occur for enquiries, administration, preparation of the documents, guarantees and credit insurance. **2** Data based on monthly balance sheet statistics. **3** Secured and unsecured loans for home purchase, including building and home improvements; including loans granted by building and loan associations and interim credits as well as transmitted loans granted by the reporting agents in their own name and for their own account. **4** Loans for consumption are defined as loans granted for the purpose of personal use in the consumption of goods and services. **5** For the purpose of these statistics, other loans are loans granted for other purposes such as business, debt consolidation, education, etc. **6** Including overdrafts (see also footnotes 12 to 14 on p. 47•).

VI. Interest rates

5. Interest rates and volumes for outstanding amounts and new business of German banks (MFIs) * (cont'd)
b) New business +

Reporting period	Households' deposits											
	Overnight		with an agreed maturity of						redeemable at notice 8 of			
			up to 1 year		over 1 year and up to 2 years		over 2 years		up to 3 months		over 3 months	
	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 2 € million
2017 Nov.	0.03	1,314,663	0.17	4,022	0.39	696	0.72	747	0.18	537,935	0.27	42,074
Dec.	0.03	1,322,096	0.13	4,043	0.35	880	0.59	627	0.18	540,332	0.28	41,475
2018 Jan.	0.03	1,319,368	0.19	4,348	0.31	866	0.71	780	0.18	539,145	0.28	42,193
Feb.	0.03	1,328,779	0.26	4,181	0.31	652	0.80	737	0.17	539,604	0.27	41,465
Mar.	0.02	1,334,702	0.30	3,995	0.38	470	0.74	765	0.17	539,077	0.27	41,021
Apr.	0.02	1,347,466	0.31	4,240	0.32	552	0.60	712	0.17	538,787	0.26	40,559
May	0.02	1,360,605	0.36	4,235	0.42	446	0.62	587	0.16	538,616	0.27	40,277
June	0.02	1,370,363	0.30	4,294	0.51	597	0.66	737	0.16	538,165	0.26	39,811
July	0.02	1,375,299	0.27	5,005	0.40	626	0.63	693	0.16	537,703	0.26	39,331
Aug.	0.01	1,383,683	0.30	5,135	0.43	516	0.67	677	0.15	537,459	0.26	38,903
Sep.	0.01	1,391,356	0.31	4,831	0.40	476	0.64	645	0.15	537,477	0.25	38,579
Oct.	0.01	1,399,998	0.28	4,853	0.38	772	0.70	803	0.15	537,728	0.25	38,051
Nov.	0.02	1,425,632	0.30	4,599	0.39	752	0.65	752	0.15	538,222	0.25	37,420

Reporting period	Non-financial corporations' deposits							
	Overnight		with an agreed maturity of					
			up to 1 year		over 1 year and up to 2 years		over 2 years	
	Effective interest rate 1 % p.a.	Volume 2 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million
2017 Nov.	– 0.02	428,784	– 0.08	9,337	0.09	897	0.22	1,237
Dec.	– 0.02	425,477	– 0.07	13,102	0.09	351	0.28	1,477
2018 Jan.	– 0.02	429,587	– 0.07	11,368	0.01	520	0.30	1,271
Feb.	– 0.02	419,428	– 0.09	8,751	0.11	186	0.32	932
Mar.	– 0.02	418,683	– 0.08	10,133	0.13	347	0.31	427
Apr.	– 0.03	430,412	– 0.11	8,954	0.06	314	0.35	815
May	– 0.03	440,268	– 0.04	9,576	0.11	490	0.34	587
June	– 0.03	424,633	– 0.10	11,185	0.06	240	0.23	447
July	– 0.02	429,934	– 0.13	11,466	0.08	354	0.29	754
Aug.	– 0.02	436,893	– 0.06	10,147	0.07	303	0.46	723
Sep.	– 0.02	433,078	– 0.10	9,835	0.07	347	0.23	375
Oct.	– 0.03	445,427	– 0.07	12,291	0.17	518	0.66	891
Nov.	– 0.03	448,301	– 0.08	12,191	0.13	377	0.78	1,029

Reporting period	Loans to households											
	Loans for consumption 4 with an initial rate fixation of											
	Total (including charges)	Total		of which: Renegotiated loans 9		floating rate or up to 1 year 9		over 1 year and up to 5 years		over 5 years		
	Annual percentage rate of charge 10 % p.a.	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million	Effective interest rate 1 % p.a.	Volume 7 € million
2017 Nov.	5.63	5.61	8,216	7.10	1,410	6.09	306	4.31	3,827	6.80	4,083
Dec.	5.39	5.37	6,701	6.83	1,004	5.81	297	4.15	3,315	6.63	3,089
2018 Jan.	5.85	5.83	9,288	7.26	1,729	6.04	328	4.32	3,860	6.96	5,100
Feb.	5.70	5.68	8,315	7.09	1,451	6.15	258	4.28	3,497	6.72	4,560
Mar.	5.44	5.43	9,545	7.04	1,732	5.97	287	4.10	4,259	6.53	4,999
Apr.	5.66	5.64	9,413	7.17	1,772	6.14	290	4.27	3,912	6.64	5,211
May	5.87	5.85	9,002	7.40	1,846	6.12	292	4.42	3,737	6.91	4,973
June	5.87	5.85	9,052	7.39	1,870	6.25	279	4.39	3,737	6.92	5,036
July	6.02	6.00	9,543	7.42	2,140	6.64	312	4.57	3,715	6.93	5,516
Aug.	6.08	6.02	9,242	7.44	1,938	7.95	395	4.59	3,702	6.91	5,145
Sep.	5.96	5.91	8,166	7.33	1,629	8.14	372	4.41	3,239	6.79	4,555
Oct.	6.06	5.99	8,915	7.34	1,797	7.68	421	4.60	3,527	6.83	4,967
Nov.	5.84	5.83	8,671	7.19	1,695	7.21	489	4.40	3,600	6.80	4,582

For footnotes * and 1 to 6, see p. 44•. **+** For deposits with an agreed maturity and all loans excluding revolving loans and overdrafts, credit card debt: new business covers all new agreements between households or non-financial corporations and the bank. The interest rates are calculated as volume-weighted average rates of all new agreements concluded during the reporting month. For overnight deposits, deposits redeemable at notice, revolving loans and overdrafts, credit card debt: new business is collected in the same way as outstanding amounts for the sake of simplicity. This means that all outstanding deposit and lending business at the end of the month has to be incorporated in the calculation of average rates of interest. **7** Estimated. The volume of new business is extrapolated to form the underlying total using a grossing-up procedure. **8** Including non-financial corporations' deposits; including fidelity and growth premiums. **9** Excluding overdrafts. **10** Annual percentage rate of charge, which contains other related charges which may occur for enquiries, administration, preparation of the documents, guarantees and credit insurance.

VI. Interest rates

5. Interest rates and volumes for outstanding amounts and new business of German banks (MFIs) * (cont'd)
b) New business +

Reporting period	Loans to households (cont'd)									
	Loans to households for other purposes [5] with an initial rate fixation of									
	Total		of which: Renegotiated loans [9]		floating rate or up to 1 year [9]		over 1 year and up to 5 years		over 5 years	
	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million
	Loans to households									
2017 Nov.	1.98	5,587	1.84	1,569	1.76	2,471	2.63	873	1.96	2,243
Dec.	2.00	6,193	1.80	1,624	1.80	2,705	2.76	958	1.92	2,530
2018 Jan.	2.01	6,017	1.94	2,035	1.85	2,693	2.62	888	1.97	2,436
Feb.	1.97	5,062	1.77	1,470	1.77	2,161	2.50	753	1.99	2,148
Mar.	2.03	5,883	1.87	1,424	1.77	2,440	2.58	950	2.08	2,493
Apr.	2.12	5,995	2.02	1,826	1.95	2,612	2.65	1,008	2.09	2,375
May	2.04	5,257	1.84	1,476	1.87	2,165	2.48	737	2.07	2,355
June	2.06	6,370	1.93	1,713	1.87	2,607	2.58	903	2.07	2,860
July	2.06	6,380	1.88	2,123	1.94	2,532	2.35	910	2.08	2,938
Aug.	2.07	5,365	1.83	1,452	1.99	2,124	2.51	756	2.00	2,485
Sep.	2.08	4,952	1.76	1,425	1.98	2,265	2.51	634	2.05	2,053
Oct.	2.11	5,549	1.84	1,952	2.01	2,413	2.48	810	2.08	2,326
Nov.	1.96	5,520	1.75	1,743	1.76	2,264	2.51	722	1.98	2,534
	of which: Loans to sole proprietors									
2017 Nov.	2.07	3,725	.	.	1.94	1,592	2.80	662	1.88	1,471
Dec.	2.09	4,266	.	.	2.00	1,822	2.83	753	1.85	1,691
2018 Jan.	2.07	4,146	.	.	1.99	1,817	2.72	679	1.89	1,650
Feb.	2.07	3,412	.	.	2.01	1,390	2.61	564	1.93	1,458
Mar.	2.07	4,103	.	.	1.87	1,645	2.65	741	2.02	1,717
Apr.	2.18	4,204	.	.	2.05	1,850	2.75	793	2.04	1,561
May	2.11	3,558	.	.	2.09	1,373	2.50	560	2.00	1,625
June	2.07	4,528	.	.	1.92	1,869	2.58	692	2.02	1,967
July	2.13	4,266	.	.	2.09	1,755	2.46	647	2.05	1,864
Aug.	2.13	3,553	.	.	2.12	1,431	2.56	563	1.98	1,559
Sep.	2.04	3,403	.	.	1.91	1,586	2.52	491	2.02	1,326
Oct.	2.11	3,858	.	.	2.04	1,691	2.49	597	2.04	1,570
Nov.	1.96	3,878	.	.	1.81	1,526	2.50	561	1.93	1,791

Reporting period	Loans to households (cont'd)													
	Housing loans [3] with an initial rate fixation of													
	Total (including charges)	Total		of which: Renegotiated loans [9]		floating rate or up to 1 year [9]		over 1 year and up to 5 years		over 5 years and up to 10 years		over 10 years	
	Annual percentage rate of charge [10] % p.a.	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million
	Total loans												
2017 Nov.	1.90	1.84	18,793	1.89	3,525	2.04	2,170	1.72	1,640	1.68	6,550	1.94	8,433
Dec.	1.86	1.79	17,473	1.87	3,242	2.04	2,150	1.69	1,553	1.65	6,084	1.86	7,686
2018 Jan.	1.88	1.82	19,643	1.90	4,529	2.03	2,354	1.69	1,798	1.65	6,864	1.92	8,627
Feb.	1.90	1.84	18,839	1.95	3,687	2.07	2,090	1.73	1,624	1.68	6,400	1.92	8,725
Mar.	1.94	1.89	20,592	1.95	3,981	2.05	2,256	1.73	1,773	1.74	7,047	1.98	9,516
Apr.	1.94	1.89	21,351	1.92	4,645	2.09	2,369	1.72	1,895	1.77	7,418	1.96	9,669
May	1.96	1.91	19,514	1.97	3,803	2.09	2,193	1.74	1,735	1.77	6,847	2.00	8,739
June	1.95	1.90	21,464	1.98	4,691	2.07	3,226	1.76	1,882	1.75	6,771	1.97	9,585
July	1.94	1.88	22,177	1.94	4,907	2.16	2,675	1.74	1,994	1.73	7,666	1.95	9,842
Aug.	1.93	1.87	20,493	1.96	3,401	2.13	2,337	1.70	1,753	1.71	6,974	1.97	9,429
Sep.	1.92	1.86	17,864	1.96	3,046	2.11	1,973	1.71	1,544	1.69	5,923	1.94	8,424
Oct.	1.91	1.86	21,275	1.94	4,124	2.08	2,443	1.68	1,884	1.71	7,669	1.97	9,279
Nov.	1.94	1.88	20,354	1.94	3,422	2.02	2,313	1.74	1,778	1.72	6,736	1.98	9,527
	of which: Collateralised loans [11]												
2017 Nov.	.	1.76	8,464	.	.	1.93	771	1.53	796	1.60	3,031	1.90	3,866
Dec.	.	1.69	7,644	.	.	1.97	685	1.51	740	1.57	2,733	1.77	3,486
2018 Jan.	.	1.75	9,069	.	.	2.00	837	1.57	946	1.59	3,283	1.88	4,003
Feb.	.	1.76	8,579	.	.	2.02	702	1.53	803	1.61	2,946	1.86	4,128
Mar.	.	1.81	9,154	.	.	1.96	831	1.61	871	1.67	3,271	1.94	4,181
Apr.	.	1.82	9,782	.	.	2.08	866	1.55	907	1.71	3,606	1.91	4,403
May	.	1.84	8,392	.	.	2.02	733	1.55	834	1.71	3,043	1.96	3,782
June	.	1.83	9,040	.	.	2.00	1,087	1.61	901	1.71	3,025	1.94	4,027
July	.	1.83	9,622	.	.	2.06	914	1.60	960	1.69	3,575	1.94	4,173
Aug.	.	1.82	8,424	.	.	2.02	807	1.54	792	1.65	2,911	1.96	3,914
Sep.	.	1.82	7,495	.	.	2.13	664	1.51	715	1.65	2,604	1.95	3,512
Oct.	.	1.81	9,201	.	.	1.98	880	1.51	846	1.67	3,351	1.96	4,124
Nov.	.	1.83	8,504	.	.	1.95	750	1.53	771	1.67	2,910	1.98	4,073

For footnotes * and 1 to 6, see p. 44•. For footnotes + and 7 to 10, see p. 45•. For footnote 11, see p. 47•.

VI. Interest rates

5. Interest rates and volumes for outstanding amounts and new business of German banks (MFIs) * (cont'd)
b) New business +

Reporting period	Loans to households (cont'd)						Loans to non-financial corporations			
	Revolving loans [12] and overdrafts [13] Credit card debt [14]		of which:				Revolving loans [12] and overdrafts [13] Credit card debt [14]		of which:	
			Revolving loans [12] and overdrafts [13]		Extended credit card debt				Revolving loans [12] and overdrafts [13]	
	Effective interest rate [1] % p.a.	Volume [2] € million	Effective interest rate [1] % p.a.	Volume [2] € million	Effective interest rate [1] % p.a.	Volume [2] € million	Effective interest rate [1] % p.a.	Volume [2] € million	Effective interest rate [1] % p.a.	Volume [2] € million
2017 Nov.	8.30	38,672	8.35	30,489	15.11	4,386	3.45	67,793	3.46	67,457
Dec.	8.21	39,538	8.35	31,187	14.94	4,303	3.47	65,936	3.49	65,625
2018 Jan.	8.33	39,136	8.38	31,128	14.92	4,369	3.36	68,733	3.37	68,418
Feb.	8.36	39,233	8.39	31,380	14.92	4,334	3.40	70,798	3.42	70,488
Mar.	8.31	39,818	8.36	31,844	14.87	4,340	3.41	71,713	3.43	71,381
Apr.	8.29	39,308	8.35	31,176	14.85	4,408	3.29	72,449	3.30	72,100
May	8.29	39,115	8.38	30,991	14.79	4,376	3.35	71,010	3.37	70,690
June	8.26	39,717	8.34	31,627	14.77	4,370	3.30	74,485	3.32	74,136
July	8.19	39,373	8.29	31,035	14.74	4,430	3.25	73,268	3.26	72,921
Aug.	8.20	39,040	8.27	30,862	14.73	4,390	3.21	72,775	3.23	72,415
Sep.	8.18	40,096	8.27	31,781	14.79	4,421	3.18	76,148	3.19	75,723
Oct.	8.16	39,591	8.24	31,353	14.79	4,366	3.13	74,312	3.15	73,892
Nov.	7.88	40,390	7.93	31,896	14.77	4,429	3.11	74,306	3.13	73,881

Reporting period	Loans to non-financial corporations (cont'd)															
	Total		of which:		Loans up to €1 million [15] with an initial rate fixation of						Loans over €1 million [15] with an initial rate fixation of					
			Renegotiated loans [9]		floating rate or up to 1 year [9]		over 1 year and up to 5 years		over 5 years		floating rate or up to 1 year [9]		over 1 year and up to 5 years		over 5 years	
	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million	Effective interest rate [1] % p.a.	Volume [7] € million
Total loans																
2017 Nov.	1.40	63,110	1.49	16,676	2.50	8,257	2.57	1,582	1.87	1,423	1.09	41,581	1.32	2,565	1.58	7,702
Dec.	1.43	78,501	1.52	21,693	2.45	8,207	2.55	1,862	1.82	1,628	1.15	49,208	1.51	5,166	1.63	12,430
2018 Jan.	1.22	69,664	1.49	18,190	2.48	8,321	2.53	1,607	1.92	1,361	0.89	50,613	1.72	2,238	1.55	5,524
Feb.	1.32	53,831	1.48	13,339	2.47	7,501	2.57	1,390	1.97	1,123	0.94	36,050	1.43	1,794	1.68	5,973
Mar.	1.42	69,102	1.52	18,706	2.48	8,966	2.52	1,744	1.93	1,470	1.09	44,944	1.50	3,379	1.74	8,599
Apr.	1.39	65,864	1.46	18,840	2.44	8,704	2.54	1,749	1.94	1,527	1.04	43,667	1.64	2,828	1.73	7,389
May	1.20	72,958	1.36	17,150	2.31	9,732	2.40	1,395	1.95	1,290	0.85	51,023	1.59	2,988	1.73	6,530
June	1.31	84,383	1.42	24,657	2.24	11,612	2.44	1,531	1.97	1,470	0.97	55,948	1.64	3,981	1.73	9,841
July	1.19	81,709	1.41	22,096	2.09	10,235	2.41	1,466	1.93	1,578	0.85	55,149	1.53	3,956	1.74	9,325
Aug.	1.18	66,072	1.41	16,124	2.05	9,274	2.44	1,316	1.86	1,311	0.85	44,950	1.73	2,130	1.64	7,091
Sep.	1.26	76,448	1.40	22,010	2.04	9,668	2.49	1,315	1.94	1,180	0.98	53,010	1.78	3,023	1.66	8,252
Oct.	1.28	78,085	1.39	21,850	2.04	10,699	2.50	1,580	1.92	1,403	0.98	52,918	1.64	3,158	1.72	8,327
Nov.	1.27	74,773	1.47	18,167	2.05	9,884	2.46	1,578	1.91	1,400	0.97	49,974	1.80	3,422	1.63	8,515
of which: Collateralised loans [11]																
2017 Nov.	1.60	8,531	.	.	1.95	545	2.41	147	1.74	414	1.40	5,212	2.68	423	1.74	1,790
Dec.	1.59	13,235	.	.	1.92	627	2.65	167	1.75	426	1.44	7,644	2.33	1,098	1.56	3,273
2018 Jan.	1.53	7,387	.	.	1.92	627	2.36	148	1.90	426	1.32	4,529	1.93	357	1.73	1,300
Feb.	1.55	6,461	.	.	1.96	428	2.77	134	1.79	324	1.30	3,638	1.54	457	1.88	1,480
Mar.	1.62	11,118	.	.	1.92	608	2.46	160	1.78	396	1.44	6,583	1.68	1,010	1.93	2,361
Apr.	1.57	8,174	.	.	1.91	620	2.50	152	1.83	434	1.26	4,155	2.07	764	1.77	2,049
May	1.61	7,425	.	.	1.93	540	2.47	158	1.77	354	1.38	4,223	1.82	639	1.92	1,511
June	1.68	12,565	.	.	1.88	647	2.60	182	1.82	380	1.42	7,324	2.60	1,202	1.83	2,830
July	1.55	9,982	.	.	1.95	707	2.74	155	1.81	468	1.25	5,263	1.81	1,205	1.85	2,184
Aug.	1.56	7,174	.	.	2.10	507	2.74	151	1.76	302	1.32	4,296	2.50	348	1.68	1,570
Sep.	1.56	10,319	.	.	1.89	576	2.57	124	1.83	309	1.33	6,391	2.52	646	1.79	2,273
Oct.	1.55	9,237	.	.	1.96	640	2.64	138	1.84	376	1.32	5,296	1.77	627	1.80	2,160
Nov.	1.61	9,232	.	.	1.96	529	2.64	140	1.79	379	1.41	5,333	2.15	824	1.72	2,027

For footnotes * and 1 to 6, see p. 44•. For footnotes + and 7 to 10, see p. 45•.
11 For the purposes of the interest rate statistics, a loan is considered to be secured if collateral (amongst others financial collateral, real estate collateral, debt securities) in at least the same value as the loan amount has been posted, pledged or assigned. **12** Including revolving loans which have all the following features: (a) the borrower may use or withdraw the funds to a pre-approved credit limit without giving prior notice to the lender; (b) the amount of available credit can increase and decrease as funds are borrowed and repaid; (c) the loan may be used repeatedly; (d) there is no obligation of regular repayment of funds. **13** Overdrafts are defined as debit balances on current accounts. They include all bank overdrafts regardless of whether they are within or beyond the limits agreed between customers and the bank. **14** Including convenience and extended credit card debt. Convenience credit is defined as the credit granted at an interest rate of 0% in the period between payment transactions effected with the card during one billing cycle and the date at which the debt balances from this specific billing cycle become due. **15** The amount category refers to the single loan transaction considered as new business.

VII. Insurance corporations and pension funds

1. Assets

€ billion

End of year/quarter	Total	Currency and deposits 2	Debt securities	Loans 3	Shares and other equity	Investment fund shares/units	Financial derivatives	Insurance technical reserves	Non-financial assets	Remaining assets
Insurance corporations										
2016 Q2	2,023.3	339.2	391.8	279.3	229.6	608.2	4.8	66.5	52.8	51.0
2016 Q3 1	2,219.9	378.7	397.3	387.3	280.2	613.9	5.3	46.1	31.4	79.9
Q4	2,190.1	361.5	371.3	374.6	308.6	623.6	3.3	44.1	32.4	70.6
2017 Q1	2,189.3	355.4	377.5	367.6	297.7	635.7	2.8	50.4	32.5	69.7
Q2	2,177.9	343.9	378.8	365.2	301.9	643.7	3.1	49.1	32.6	59.6
Q3	2,187.4	331.1	386.0	370.9	305.5	650.3	3.1	49.5	32.7	58.3
Q4	2,211.6	320.8	386.9	354.2	336.1	671.1	2.9	48.2	34.3	57.3
2018 Q1	2,217.4	344.3	394.6	327.0	343.2	663.0	2.3	50.7	33.9	58.4
Q2	2,226.3	347.5	400.2	320.1	347.1	668.0	2.2	53.6	34.1	53.6
Q3	2,224.1	327.3	400.5	328.6	350.5	675.0	2.0	53.0	35.7	51.6
Life insurance										
2016 Q2	1,116.7	216.6	199.6	160.7	35.6	438.0	2.4	14.9	32.0	16.9
2016 Q3 1	1,247.0	242.9	203.0	241.2	47.0	445.8	4.0	10.2	18.7	34.0
Q4	1,197.3	231.3	182.7	223.0	50.7	456.9	2.1	9.6	19.1	21.9
2017 Q1	1,170.4	223.8	185.3	217.2	37.2	462.6	1.8	8.2	19.1	15.3
Q2	1,172.7	215.6	189.4	217.6	38.6	467.1	2.0	8.0	19.1	15.3
Q3	1,177.4	207.6	193.5	220.6	38.4	472.4	1.9	7.9	19.1	16.0
Q4	1,192.7	199.1	192.4	226.0	41.3	487.6	1.8	8.6	19.9	16.0
2018 Q1	1,187.5	213.0	199.0	206.9	43.1	480.8	1.2	8.5	19.4	15.5
Q2	1,195.2	216.2	202.0	201.1	46.3	486.1	1.1	8.8	19.5	14.2
Q3	1,194.2	201.0	202.3	209.8	47.4	491.2	1.0	8.8	19.3	13.4
Non-life insurance										
2016 Q2	532.8	110.5	112.5	55.8	49.3	144.5	1.4	32.8	14.4	11.7
2016 Q3 1	592.3	123.8	103.2	93.6	50.8	154.4	0.5	28.5	8.6	28.8
Q4	584.2	118.9	98.9	91.8	56.8	152.5	0.5	26.8	9.0	29.0
2017 Q1	606.5	120.2	102.4	92.0	56.9	157.3	0.3	34.0	9.1	34.2
Q2	603.3	116.7	103.9	91.2	58.5	160.3	0.4	33.2	9.1	30.1
Q3	602.5	111.8	106.2	92.9	58.5	162.8	0.4	32.5	9.2	28.4
Q4	606.6	111.5	108.0	82.2	70.8	165.9	0.4	31.4	9.7	26.5
2018 Q1	622.7	120.1	112.5	75.1	72.3	166.8	0.3	34.5	9.8	31.4
Q2	621.6	120.0	115.3	72.9	73.4	167.4	0.3	35.6	9.8	27.0
Q3	617.2	116.2	114.9	72.9	74.4	168.8	0.2	34.9	9.8	25.1
Reinsurance 4										
2016 Q2	373.7	12.1	79.7	62.8	144.8	25.8	1.0	18.8	6.4	22.4
2016 Q3 1	380.7	12.0	91.0	52.5	182.3	13.8	0.8	7.3	4.0	17.0
Q4	408.6	11.3	89.7	59.7	201.0	14.3	0.7	7.7	4.3	19.7
2017 Q1	412.5	11.4	89.8	58.4	203.6	15.9	0.8	8.1	4.3	20.2
Q2	401.9	11.6	85.5	56.5	204.8	16.3	0.8	7.9	4.4	14.2
Q3	407.5	11.7	86.3	57.5	208.6	15.1	0.9	9.2	4.4	13.9
Q4	412.3	10.2	86.5	45.9	223.9	17.6	0.7	8.2	4.7	14.7
2018 Q1	407.2	11.2	83.1	45.0	227.8	15.3	0.8	7.6	4.8	11.6
Q2	409.5	11.3	82.9	46.1	227.4	14.6	0.8	9.1	4.8	12.4
Q3	412.7	10.0	83.4	46.0	228.7	14.9	0.8	9.3	6.6	13.1
Pension funds 5										
2016 Q2	605.0	138.7	67.7	29.2	20.6	288.8	–	6.0	33.5	20.5
2016 Q3 1	608.0	107.7	63.5	29.3	19.1	326.2	–	6.3	35.4	20.5
Q4	609.6	106.4	61.1	29.7	19.9	328.1	–	6.7	37.0	20.8
2017 Q1	617.0	103.4	60.3	30.1	20.3	337.7	–	6.7	37.5	20.9
Q2	624.5	102.7	60.6	30.3	20.7	344.3	–	6.8	38.1	21.1
Q3	633.7	100.6	61.7	30.3	21.2	353.1	–	7.0	38.6	21.3
Q4	645.5	96.0	63.5	30.6	21.6	364.5	–	7.1	40.3	21.8
2018 Q1	646.8	94.8	63.1	31.0	22.0	366.1	–	7.2	40.6	21.9
Q2	652.7	95.2	62.8	31.5	22.9	369.9	–	7.3	41.1	22.1
Q3	655.3	92.0	62.6	31.6	23.3	374.9	–	7.3	41.5	22.2

1 Data as of Q3 2016 are based on Solvency II supervisory data, valuation of listed securities at the corresponding consistent price from the ESCB's securities database. Up to and including Q2 2016 data are based on Solvency I supervisory data from the Federal Financial Supervisory Authority (BaFin), supplemented by estimates and Bundesbank calculations. In case of pension funds, occasional data breaks are due to changes in the calculation basis. **2** Accounts receivable to monetary financial institutions, including registered bonds, borrowers' note loans and registered Pfandbriefe. **3** Including deposits retained on assumed reinsurance as well as registered bonds, borrowers' note loans and registered Pfandbriefe. **4** Not including the reinsurance business conducted by primary insurers, which is included there. **5** The term "pension funds" refers to the institutional sector "pension funds" of the European System of Accounts. Pension funds thus comprise company pension schemes and occupational pension schemes for the self-employed. Social security funds are not included.

VII. Insurance corporations and pension funds

2. Liabilities

€ billion

End of year/quarter	Total	Debt securities issued	Loans [2]	Shares and other equity	Insurance technical reserves			Financial derivatives	Remaining liabilities	Net worth [7]
					Total	Life/ claims on pension fund reserves [3]	Non-life [4]			
Insurance corporations										
2016 Q2	2,023.3	17.6	94.0	191.5	1,501.4	1,184.6	316.8	0.0	70.3	148.4
2016 Q3 [1]	2,219.9	30.7	73.7	383.0	1,579.4	1,396.9	182.5	1.5	151.5	–
Q4	2,190.1	30.7	70.3	441.0	1,494.4	1,313.3	181.1	2.3	151.4	–
2017 Q1	2,189.3	30.5	57.2	448.5	1,511.7	1,309.5	202.2	1.8	139.5	–
Q2	2,177.9	28.6	57.0	450.7	1,505.2	1,308.4	196.8	2.1	134.3	–
Q3	2,187.4	28.5	58.4	455.4	1,512.8	1,317.1	195.7	2.3	130.1	–
Q4	2,211.6	28.3	62.6	465.9	1,521.1	1,333.7	187.4	2.2	131.6	–
2018 Q1	2,217.4	28.0	61.9	460.3	1,538.6	1,333.3	205.3	1.5	127.0	–
Q2	2,226.3	27.7	64.0	457.1	1,553.3	1,347.6	205.7	1.9	122.3	–
Q3	2,224.1	27.5	65.1	462.6	1,545.0	1,343.7	201.4	2.0	121.9	–
Life insurance										
2016 Q2	1,116.7	0.0	27.8	22.3	943.1	927.8	15.3	0.0	30.2	93.3
2016 Q3 [1]	1,247.0	3.8	25.9	96.0	1,066.2	1,066.2	–	0.7	54.4	–
Q4	1,197.3	4.1	25.0	116.3	993.7	993.7	–	1.2	56.9	–
2017 Q1	1,170.4	4.1	12.5	116.3	991.7	991.7	–	0.9	44.8	–
Q2	1,172.7	4.0	12.1	119.8	989.5	989.5	–	1.0	46.2	–
Q3	1,177.4	4.1	12.3	121.5	993.9	993.9	–	1.1	44.5	–
Q4	1,192.7	4.1	12.8	122.2	1,006.6	1,006.6	–	1.1	45.9	–
2018 Q1	1,187.5	4.0	13.3	119.8	1,006.9	1,006.9	–	0.7	42.7	–
Q2	1,195.2	4.1	13.0	119.6	1,017.0	1,017.0	–	0.8	40.8	–
Q3	1,194.2	4.1	12.6	121.2	1,013.3	1,013.3	–	0.9	42.0	–
Non-life insurance										
2016 Q2	532.8	0.0	14.5	57.7	401.6	256.8	144.9	0.0	17.2	41.8
2016 Q3 [1]	592.3	0.9	6.6	120.0	407.4	310.1	97.3	0.0	57.3	–
Q4	584.2	1.1	6.3	130.4	390.1	300.5	89.7	0.2	56.2	–
2017 Q1	606.5	1.1	7.3	134.0	408.9	300.8	108.2	0.1	55.0	–
Q2	603.3	1.1	6.8	135.6	406.7	302.4	104.2	0.1	53.0	–
Q3	602.5	1.1	6.9	137.3	406.6	305.7	100.9	0.1	50.6	–
Q4	606.6	1.1	6.7	141.2	405.6	309.7	95.9	0.1	51.9	–
2018 Q1	622.7	1.1	7.7	141.2	422.7	311.1	111.6	0.0	50.0	–
Q2	621.6	1.1	8.1	140.6	424.5	314.3	110.2	0.1	47.2	–
Q3	617.2	1.1	8.0	141.7	420.7	314.0	106.7	0.0	45.7	–
Reinsurance [5]										
2016 Q2	373.7	17.6	51.7	111.4	156.7	–	156.7	0.0	22.9	13.4
2016 Q3 [1]	380.7	26.0	41.3	167.0	105.8	20.5	85.3	0.8	39.8	–
Q4	408.6	25.5	39.0	194.3	110.5	19.1	91.4	0.9	38.3	–
2017 Q1	412.5	25.3	37.4	198.2	111.1	17.0	94.1	0.8	39.7	–
Q2	401.9	23.5	38.1	195.2	109.1	16.4	92.6	1.1	35.0	–
Q3	407.5	23.3	39.3	196.6	112.3	17.5	94.8	1.1	35.0	–
Q4	412.3	23.1	43.1	202.6	108.8	17.4	91.4	1.0	33.8	–
2018 Q1	407.2	22.9	40.8	199.3	109.0	15.4	93.7	0.8	34.4	–
Q2	409.5	22.5	43.0	196.9	111.7	16.2	95.5	1.1	34.3	–
Q3	412.7	22.4	44.4	199.7	111.0	16.4	94.7	1.1	34.1	–
Pension funds [6]										
2016 Q2	605.0	–	5.4	9.6	530.7	530.2	0.4	–	3.4	56.0
2016 Q3 [1]	608.0	–	6.4	6.7	536.0	536.0	–	–	3.3	55.6
Q4	609.6	–	6.8	6.9	546.0	546.0	–	–	2.4	47.5
2017 Q1	617.0	–	6.9	7.0	552.9	552.9	–	–	2.5	47.8
Q2	624.5	–	6.9	7.1	558.7	558.7	–	–	2.5	49.4
Q3	633.7	–	6.9	7.2	565.2	565.2	–	–	2.5	51.9
Q4	645.5	–	7.1	7.4	576.1	576.1	–	–	2.5	52.4
2018 Q1	646.8	–	7.2	7.4	579.5	579.5	–	–	2.6	50.0
Q2	652.7	–	7.3	7.5	585.7	585.7	–	–	2.6	49.6
Q3	655.3	–	7.4	7.5	588.3	588.3	–	–	2.6	49.4

1 Data as of Q3 2016 are based on Solvency II supervisory data. Up to and including Q2 2016 data are based on Solvency I supervisory data from the Federal Financial Supervisory Authority (BaFin), supplemented by estimates and Bundesbank calculations. In case of pension funds, occasional data breaks are due to changes in the calculation basis. **2** Including deposits retained on ceded business as well as registered bonds, borrowers' note loans and registered Pfandbriefe. **3** As of Q3 2016 insurance technical reserves "life" pursuant to Solvency II taking account of transitional measures. Up to and including Q2 2016 long-term net equity of households in life insurance (including ageing provisions of health insurance schemes and premium reserves of accident insurance schemes with guaranteed premium refund) and pension fund reserves pursuant to ESA 1995. **4** As of Q3 2016 insurance technical reserves "non-life" pursuant to Solvency II. Up to and including Q2 2016 unearned premiums and reserves for outstanding claims pursuant to ESA 1995. **5** Not including the reinsurance business conducted by primary insurers, which is included there. **6** The term "pension funds" refers to the institutional sector "pension funds" of the European System of Accounts. Pension funds thus comprise company pension schemes and occupational pension schemes for the self-employed. Social security funds are not included. **7** Own funds correspond to the sum of net worth and the liability item "Shares and other equity".

VIII. Capital market

1. Sales and purchases of debt securities and shares in Germany

€ million

Period	Debt securities											
		Sales					Purchases					
		Domestic debt securities [1]					Residents					
	Sales = total purchases	Total	Bank debt securities	Corporate bonds (non-MFIs) [2]	Public debt securities	Foreign debt securities [3]	Total [4]	Credit institutions including building and loan associations [5]	Deutsche Bundesbank	Other sectors [6]	Non-residents [7]
2006	242,006	102,379	40,995	8,943	52,446	139,627	125,423	68,893	.	56,530	116,583
2007	217,798	90,270	42,034	20,123	28,111	127,528	– 26,762	96,476	.	– 123,238	244,560
2008	76,490	66,139	– 45,712	86,527	25,322	10,351	18,236	68,049	.	– 49,813	58,254
2009	70,208	– 538	– 114,902	22,709	91,655	70,747	90,154	12,973	8,645	77,181	– 19,945
2010	146,620	– 1,212	– 7,621	24,044	– 17,635	147,831	92,682	– 103,271	22,967	172,986	53,938
2011	33,649	13,575	– 46,796	850	59,521	20,075	– 23,876	– 94,793	36,805	34,112	57,526
2012	51,813	– 21,419	– 98,820	– 8,701	86,103	73,231	– 3,767	– 42,017	– 3,573	41,823	55,580
2013	– 15,969	– 101,616	– 117,187	153	15,415	85,646	16,409	– 25,778	– 12,708	54,895	– 32,380
2014	64,774	– 31,962	– 47,404	– 1,330	16,776	96,737	50,409	– 12,124	– 11,951	74,484	14,366
2015	32,609	– 36,010	– 65,778	26,762	3,006	68,620	119,379	– 66,330	121,164	64,546	– 86,770
2016	72,270	27,429	19,177	18,265	– 10,012	44,840	174,162	– 58,012	187,500	44,674	– 101,894
2017	54,930	11,563	1,096	7,112	3,356	43,368	145,410	– 71,454	161,012	55,852	– 90,477
2018 Jan.	14,802	– 2,330	1,183	530	– 4,043	17,132	19,710	1,164	6,138	12,408	– 4,908
Feb.	5,636	5,264	12,736	2,054	– 9,526	372	1,898	– 5,017	5,725	1,190	3,738
Mar.	25,191	17,065	11,318	820	4,927	8,125	18,942	1,950	7,268	9,724	6,249
Apr.	– 9,403	– 12,541	– 469	7,199	– 19,271	3,138	8,824	– 2,582	5,172	6,234	– 18,228
May	20,653	20,327	6,728	2,570	11,028	327	1,462	– 1,553	7,676	– 4,661	19,192
June	– 13,265	– 12,897	– 10,982	– 2,030	115	– 369	5,727	– 7,009	6,353	6,383	– 18,993
July	– 3,540	– 9,880	– 7,055	3,563	– 6,389	6,340	12,206	– 3,117	5,835	9,488	– 15,746
Aug.	15,981	10,891	2,640	– 3,890	12,142	5,090	7,910	– 1,567	4,562	4,915	8,072
Sep.	20,075	11,015	8,990	– 84	2,109	9,060	19,241	5,189	7,652	6,400	835
Oct.	2,993	7,812	10,652	4,521	– 7,361	– 4,819	– 2,459	– 8,161	3,659	2,043	5,453
Nov.	18,721	13,260	6,849	– 693	7,104	5,461	10,863	3,158	3,945	3,760	7,858

€ million

Period	Shares							
		Sales		Purchases				
				Residents				
	Sales = total purchases	Domestic shares [8]	Foreign shares [9]	Total [10]	Credit institutions [5]	Other sectors [11]	Non-residents [12]
2006	26,276	9,061	17,214	7,528	11,323	– 3,795	18,748
2007	– 5,009	10,053	– 15,062	– 62,308	– 6,702	– 55,606	57,299
2008	– 29,452	11,326	– 40,778	2,743	– 23,079	25,822	– 32,194
2009	35,980	23,962	12,018	30,496	– 8,335	38,831	5,484
2010	37,767	20,049	17,719	36,406	7,340	29,066	1,361
2011	25,833	21,713	4,120	40,804	670	40,134	– 14,971
2012	15,061	5,120	9,941	14,405	10,259	4,146	656
2013	20,187	10,106	10,081	17,336	11,991	5,345	2,851
2014	43,501	18,778	24,723	43,950	17,203	26,747	– 449
2015	40,488	7,668	32,820	30,568	– 5,421	35,989	9,920
2016	33,491	4,409	29,082	31,261	– 5,143	36,404	2,230
2017	48,645	15,570	33,075	47,482	7,031	40,451	1,163
2018 Jan.	7,746	153	7,593	9,297	867	8,430	– 1,551
Feb.	15,184	1,122	14,062	15,596	– 3,709	19,305	– 412
Mar.	– 939	1,023	– 1,962	– 7,256	– 3,672	– 3,584	6,317
Apr.	2,843	3,219	– 376	– 33	– 2,546	2,513	2,876
May	16,950	1,175	15,775	16,363	1,156	15,207	587
June	8,160	6,593	1,567	8,066	2,250	5,816	94
July	4,644	549	4,095	4,709	257	4,452	– 65
Aug.	4,807	193	4,614	6,372	473	5,899	– 1,565
Sep.	– 817	225	– 1,042	– 2,711	– 2,837	126	1,894
Oct.	1,538	1,227	311	– 727	– 1,242	515	2,265
Nov.	– 3,203	227	– 3,430	– 5,578	– 1,544	– 4,034	2,375

1 Net sales at market values plus/minus changes in issuers' portfolios of their own debt securities. **2** Including cross-border financing within groups from January 2011. **3** Net purchases or net sales (–) of foreign debt securities by residents; transaction values. **4** Domestic and foreign debt securities. **5** Book values; statistically adjusted. **6** Residual; also including purchases of domestic and foreign securities by domestic mutual funds. Up to end-2008 including Deutsche Bundesbank. **7** Net purchases or net sales (–) of domestic debt securities by non-residents; transaction values. **8** Excluding shares of public limited investment companies; at issue prices. **9** Net purchases or net sales (–) of foreign shares (including direct investment) by residents; transaction values. **10** Domestic and foreign shares. **11** Residual; also including purchases of domestic and foreign securities by domestic mutual funds. **12** Net purchases or net sales (–) of domestic shares (including direct investment) by non-residents; transaction values. — The figures for the most recent date are provisional; revisions are not specially marked.

VIII. Capital market

2. Sales of debt securities issued by residents *

€ million, nominal value

Period	Total	Bank debt securities [1]					Corporate bonds (non-MFIs) [2]	Public debt securities
		Total	Mortgage Pfandbriefe	Public Pfandbriefe	Debt securities issued by special-purpose credit institutions	Other bank debt securities		
	Gross sales [3]							
2006	925,863	622,055	24,483	99,628	139,193	358,750	29,975	273,834
2007	1,021,533	743,616	19,211	82,720	195,722	445,963	15,043	262,872
2008	1,337,337	961,271	51,259	70,520	382,814	456,676	95,093	280,974
2009	1,533,616	1,058,815	40,421	37,615	331,566	649,215	76,379	398,423
2010	1,375,138	757,754	36,226	33,539	363,828	324,160	53,654	563,731
2011	1,337,772	658,781	31,431	24,295	376,876	226,180	86,615	592,376
2012	1,340,568	702,781	36,593	11,413	446,153	208,623	63,259	574,529
2013	1,433,628	908,107	25,775	12,963	692,611	176,758	66,630	458,891
2014	1,362,056	829,864	24,202	13,016	620,409	172,236	79,873	452,321
2015	1,359,422	852,045	35,840	13,376	581,410	221,417	106,676	400,700
2016 [4]	1,206,483	717,002	29,059	7,621	511,222	169,103	73,370	416,110
2017 [4]	1,047,822	619,199	30,339	8,933	438,463	141,466	66,289	362,333
2018 Apr.	123,774	67,848	1,487	97	58,169	8,094	27,752	28,175
May	97,205	61,722	3,459	63	46,110	12,089	5,306	30,178
June	90,599	59,456	5,737	364	42,846	10,509	4,220	26,923
July	106,400	65,758	3,016	784	53,034	8,925	6,455	34,187
Aug.	101,600	64,709	1,549	184	50,391	12,584	5,293	31,597
Sep.	86,951	56,321	4,237	560	41,454	10,070	4,764	25,867
Oct.	105,393	68,523	3,117	636	54,075	10,694	7,347	29,523
Nov.	92,380	53,292	3,214	39	39,121	10,918	5,917	33,171
	of which: Debt securities with maturities of more than four years [5]							
2006	337,969	190,836	17,267	47,814	47,000	78,756	14,422	132,711
2007	315,418	183,660	10,183	31,331	50,563	91,586	13,100	118,659
2008	387,516	190,698	13,186	31,393	54,834	91,289	84,410	112,407
2009	361,999	185,575	20,235	20,490	59,809	85,043	55,240	121,185
2010	381,687	169,174	15,469	15,139	72,796	65,769	34,649	177,863
2011	368,039	153,309	13,142	8,500	72,985	58,684	41,299	173,431
2012	421,018	177,086	23,374	6,482	74,386	72,845	44,042	199,888
2013	372,805	151,797	16,482	10,007	60,662	64,646	45,244	175,765
2014	420,006	157,720	17,678	8,904	61,674	69,462	56,249	206,037
2015	414,593	179,150	25,337	9,199	62,237	82,379	68,704	166,742
2016 [4]	375,859	173,900	24,741	5,841	78,859	64,460	47,818	154,144
2017 [4]	357,506	170,357	22,395	6,447	94,852	46,663	44,891	142,257
2018 Apr.	49,383	12,888	1,187	22	8,840	2,839	25,454	11,040
May	24,413	11,107	2,333	63	5,804	2,906	3,425	9,881
June	32,355	20,213	4,237	84	12,615	3,277	2,251	9,891
July	28,315	10,970	3,016	604	5,273	2,078	4,707	12,638
Aug.	27,181	12,138	1,305	133	4,488	6,212	2,962	12,081
Sep.	35,433	19,654	3,047	558	13,354	2,694	3,847	11,932
Oct.	24,646	9,564	2,567	636	3,609	2,751	4,924	10,158
Nov.	32,905	15,498	2,686	39	9,850	2,924	5,015	12,391
	Net sales [6]							
2006	129,423	58,336	– 12,811	– 20,150	44,890	46,410	15,605	55,482
2007	86,579	58,168	– 10,896	– 46,629	42,567	73,127	– 3,683	32,093
2008	119,472	8,517	15,052	– 65,773	25,165	34,074	82,653	28,302
2009	76,441	– 75,554	858	– 80,646	25,579	– 21,345	48,508	103,482
2010	21,566	– 87,646	– 3,754	– 63,368	28,296	– 48,822	23,748	85,464
2011	22,518	– 54,582	1,657	– 44,290	32,904	– 44,852	– 3,189	80,289
2012	– 85,298	– 100,198	– 4,177	– 41,660	– 3,259	– 51,099	– 6,401	21,298
2013	– 140,017	– 125,932	– 17,364	– 37,778	– 4,027	– 66,760	1,394	– 15,479
2014	– 34,020	– 56,899	– 6,313	– 23,856	– 862	– 25,869	10,497	12,383
2015	– 65,147	– 77,273	9,271	– 9,754	– 2,758	– 74,028	25,300	– 13,174
2016 [4]	21,951	10,792	2,176	– 12,979	16,266	5,327	18,177	– 7,020
2017 [4]	2,669	5,954	6,389	– 4,697	18,788	– 14,525	6,828	– 10,114
2018 Apr.	– 15,565	751	50	– 639	3,478	– 2,138	5,636	– 21,952
May	21,542	8,519	3,037	– 1,827	5,950	1,358	1,258	11,765
June	– 11,298	– 10,143	2,597	– 869	– 6,515	– 5,356	– 627	– 528
July	– 9,530	– 6,298	1,570	– 107	– 7,834	73	3,562	– 6,794
Aug.	11,892	2,687	886	– 481	– 1,396	3,679	– 3,774	12,979
Sep.	11,957	8,528	2,319	42	5,728	438	714	2,715
Oct.	2,584	7,796	2,226	– 359	3,035	2,894	3,318	– 8,529
Nov.	13,993	3,367	1,184	– 662	1,476	1,370	– 574	11,200

***** For definitions, see the explanatory notes in Statistical Supplement 2 – Capital market statistics on pp. 23 ff. **1** Excluding registered bank debt securities. **2** Including cross-border financing within groups from January 2011. **3** Gross sales means only initial sales of newly issued securities. **4** Sectoral reclassification of debt securities. **5** Maximum maturity according to the terms of issue. **6** Gross sales less redemptions.

VIII. Capital market

3. Amounts outstanding of debt securities issued by residents *

€ million, nominal value

End of year or month/ Maturity in years	Total	Bank debt securities					Corporate bonds (non-MFIs)	Public debt securities
		Total	Mortgage Pfandbriefe	Public Pfandbriefe	Debt securities issued by special-purpose credit institutions	Other bank debt securities		
2006	3,044,145	1,809,899	144,397	499,525	368,476	797,502	99,545	1,134,701
2007	3,130,723	1,868,066	133,501	452,896	411,041	870,629	95,863	1,166,794
2008	3,250,195	1,876,583	150,302	377,091	490,641	858,550	178,515	1,195,097
2009	3,326,635	1,801,029	151,160	296,445	516,221	837,203	227,024	1,298,581
2010	3,348,201	[1] 1,570,490	147,529	232,954	544,517	[1] 645,491	250,774	[1] 1,526,937
2011	3,370,721	1,515,911	149,185	188,663	577,423	600,640	247,585	1,607,226
2012	3,285,422	[1] 1,414,349	145,007	147,070	574,163	[1] 548,109	[1] 220,456	[1] 1,650,617
2013	3,145,329	1,288,340	127,641	109,290	570,136	481,273	221,851	1,635,138
2014	3,111,308	1,231,445	121,328	85,434	569,409	455,274	232,342	1,647,520
2015	3,046,162	1,154,173	130,598	75,679	566,811	381,085	257,612	1,634,377
2016 [1]	3,068,111	1,164,965	132,775	62,701	633,578	335,910	275,789	1,627,358
2017 [1]	3,090,708	1,170,920	141,273	58,004	651,211	320,432	[2] 302,543	1,617,244
2018 May	3,104,059	1,202,753	149,339	55,434	682,732	315,248	310,256	1,591,050
June	3,092,761	1,192,610	151,936	54,564	676,217	309,892	309,629	1,590,522
July	3,083,231	1,186,312	153,506	54,457	668,383	309,965	313,191	1,583,728
Aug.	3,092,960	1,185,591	154,392	53,976	666,987	[1] 310,236	[1] [2] 310,662	1,596,707
Sep.	3,104,917	1,194,119	156,711	54,018	672,715	310,674	311,376	1,599,422
Oct.	3,107,502	1,201,915	158,937	53,659	675,750	313,569	314,694	1,590,893
Nov.	3,121,495	1,205,282	160,121	52,996	677,226	314,938	314,120	1,602,093
Breakdown by remaining period to maturity [3] Position at end-November 2018								
less than 2	1,052,226	453,104	45,218	20,205	278,124	109,556	66,487	532,634
2 to less than 4	594,141	264,384	36,406	11,307	148,552	68,119	46,845	282,912
4 to less than 6	480,601	198,548	37,120	7,149	109,312	44,967	44,735	237,318
6 to less than 8	320,393	129,662	24,764	6,855	65,977	32,066	33,484	157,249
8 to less than 10	239,388	77,302	13,332	5,340	36,892	21,739	14,281	147,805
10 to less than 15	114,661	34,523	1,915	545	19,753	12,310	23,704	56,434
15 to less than 20	80,500	18,042	494	1,148	12,751	3,650	5,906	56,552
20 and more	239,583	29,717	872	448	5,865	22,532	78,677	131,189

***** Including debt securities temporarily held in the issuers' portfolios. **1** Sectoral reclassification of debt securities. **2** Adjustments due to change of domicile of issuers. **3** Calculated from month under review until final maturity for debt securities falling due en bloc and until mean maturity of the residual amount outstanding for debt securities not falling due en bloc.

4. Shares in circulation issued by residents *

€ million, nominal value

Period	Share capital = circulation at end of period under review	Net increase or net decrease (–) during period under review	Change in domestic public limited companies' capital due to							Memo item: Share circulation at market values (market capitalisation) level at end of period under review [2]
			cash payments and exchange of convertible bonds [1]	issue of bonus shares	contribution of claims and other real assets	contribution of shares, GmbH shares, etc.	merger and transfer of assets	change of legal form	reduction of capital and liquidation	
2006	163,764	695	2,670	3,347	604	954	– 1,868	– 1,256	– 3,761	1,279,638
2007	164,560	799	3,164	1,322	200	269	– 682	– 1,847	– 1,636	1,481,930
2008	168,701	4,142	5,006	1,319	152	0	– 428	– 608	– 1,306	830,622
2009	175,691	6,989	12,476	398	97	–	– 3,741	– 1,269	– 974	927,256
2010	174,596	– 1,096	3,265	497	178	10	– 486	– 993	– 3,569	1,091,220
2011	177,167	2,570	6,390	552	462	9	– 552	– 762	– 3,532	924,214
2012	178,617	1,449	3,046	129	570	–	– 478	594	– 2,411	1,150,188
2013	171,741	– 6,879	2,971	718	476	–	– 1,432	– 619	– 8,992	1,432,658
2014	177,097	5,356	5,332	1,265	1,714	–	– 465	– 1,044	– 1,446	1,478,063
2015	177,416	319	4,634	397	599	–	– 1,394	– 1,385	– 2,535	1,614,442
2016	176,355	– 1,062	3,272	319	337	–	– 953	– 2,165	– 1,865	1,676,397
2017	178,828	2,471	3,894	776	533	–	– 457	– 661	– 1,615	1,933,733
2018 May	179,930	– 429	142	18	5	–	– 548	– 10	– 36	1,929,120
June	180,298	368	258	228	16	–	– 7	– 52	– 75	1,867,155
July	179,955	– 344	215	24	3	–	– 344	– 100	– 141	1,929,117
Aug.	180,004	47	171	112	13	–	– 89	– 13	– 147	1,898,601
Sep.	180,260	256	189	195	1	–	– 51	– 36	– 43	1,856,858
Oct.	180,431	170	284	3	2	–	2	– 91	– 29	1,759,237
Nov.	180,307	– 123	106	19	3	–	0	0	– 252	1,729,978

***** Excluding shares of public limited investment companies. **1** Including shares issued out of company profits. **2** All marketplaces. Source: Bundesbank calculations based on data of the Herausgebergemeinschaft Wertpapier-Mitteilungen and Deutsche Börse AG.

VIII. Capital market

5. Yields and indices on German securities

Period	Yields on debt securities outstanding issued by residents [1]							Price indices [2,3]			
		Public debt securities			Bank debt securities			Debt securities		Shares	
			Listed Federal securities								
	Total	Total	Total	With a residual maturity of 9 to 10 years [4]	Total	With a residual maturity of more than 9 years and up to 10 years	Corporate bonds (non-MFIs)	German bond index (REX)	iBoxx € Germany price index	CDAX share price index	German share index (DAX)
	% per annum							Average daily rate	End-1998 = 100	End-1987 = 100	End-1987 = 1,000
2006	3.8	3.7	3.7	3.8	3.8	4.0	4.2	116.78	96.69	407.16	6,596.92
2007	4.3	4.3	4.2	4.2	4.4	4.5	5.0	114.85	94.62	478.65	8,067.32
2008	4.2	4.0	4.0	4.0	4.5	4.7	6.3	121.68	102.06	266.33	4,810.20
2009	3.2	3.1	3.0	3.2	3.5	4.0	5.5	123.62	100.12	320.32	5,957.43
2010	2.5	2.4	2.4	2.7	2.7	3.3	4.0	124.96	102.95	368.72	6,914.19
2011	2.6	2.4	2.4	2.6	2.9	3.5	4.3	131.48	109.53	304.60	5,898.35
2012	1.4	1.3	1.3	1.5	1.6	2.1	3.7	135.11	111.18	380.03	7,612.39
2013	1.4	1.3	1.3	1.6	1.3	2.1	3.4	132.11	105.92	466.53	9,552.16
2014	1.0	1.0	1.0	1.2	0.9	1.7	3.0	139.68	114.37	468.39	9,805.55
2015	0.5	0.4	0.4	0.5	0.5	1.2	2.4	139.52	112.42	508.80	10,743.01
2016	0.1	0.0	0.0	0.1	0.3	1.0	2.1	142.50	112.72	526.55	11,481.06
2017	0.3	0.2	0.2	0.3	0.4	0.9	1.7	140.53	109.03	595.45	12,917.64
2018	0.4	0.3	0.3	0.4	0.6	1.0	2.5	141.84	109.71	474.85	10,558.96
2018 July	0.3	0.2	0.2	0.3	0.5	0.9	2.5	140.83	108.50	580.49	12,805.50
Aug.	0.3	0.2	0.2	0.3	0.5	0.9	2.5	141.24	109.06	567.19	12,364.06
Sep.	0.4	0.3	0.3	0.4	0.6	1.1	2.7	140.34	108.01	556.11	12,246.73
Oct.	0.5	0.3	0.3	0.4	0.6	1.1	2.8	141.11	108.69	519.54	11,447.51
Nov.	0.4	0.3	0.2	0.3	0.6	1.0	3.0	141.47	109.14	509.46	11,257.24
Dec.	0.3	0.2	0.1	0.2	0.6	1.0	3.3	141.84	109.71	474.85	10,558.96

1 Bearer debt securities with maximum maturities according to the terms of issue of over 4 years if their mean residual maturities exceed 3 years. Convertible debt securities and similar, debt securities with unscheduled redemption, zero coupon bonds, floating rate notes and bonds not denominated in euro are not included. Group yields for the various categories of securities are weighted by the amounts outstanding of the debt securities included in the calculation. Monthly figures are calculated on the basis of the yields on all the business days in a month. The annual figures are the unweighted means of the monthly figures. **2** End of year or month. **3** Source: Deutsche Börse AG. **4** Only debt securities eligible as underlying instruments for futures contracts; calculated as unweighted averages.

6. Sales and purchases of mutual fund shares in Germany

€ million

Period	Sales	Sales							Purchases					
		Open-end domestic mutual funds [1] (sales receipts)							Residents					
			Mutual funds open to the general public							Credit institutions including building and loan associations [2]		Other sectors [3]		
				of which:										
	Sales = total purchases	Total	Total	Money market funds	Securities-based funds	Real estate funds	Specialised funds	Foreign funds [4]	Total	Total	of which: Foreign mutual fund shares	Total	of which: Foreign mutual fund shares	Non-residents [5]
2007	55,778	13,436	– 7,872	– 4,839	– 12,848	6,840	21,307	42,342	51,309	– 229	4,240	51,538	38,102	4,469
2008	2,598	– 7,911	– 14,409	– 12,171	– 11,149	799	6,498	10,509	11,315	– 16,625	– 9,252	27,940	19,761	– 8,717
2009	49,929	43,747	10,966	– 5,047	11,749	2,686	32,780	6,182	38,132	– 14,995	– 8,178	53,127	14,361	11,796
2010	106,190	84,906	13,381	– 148	8,683	1,897	71,345	21,284	102,591	3,873	6,290	98,718	14,994	3,598
2011	46,512	45,221	– 1,340	– 379	– 2,037	1,562	46,561	1,291	39,474	– 7,576	– 694	47,050	1,984	7,036
2012	111,236	89,942	2,084	– 1,036	97	3,450	87,859	21,293	114,676	– 3,062	– 1,562	117,738	22,855	– 3,438
2013	123,736	91,337	9,184	– 574	5,596	3,376	82,153	32,400	117,028	771	100	116,257	32,300	6,709
2014	140,233	97,711	3,998	– 473	862	1,000	93,713	42,522	144,075	819	– 1,745	143,256	44,266	– 3,841
2015	181,888	146,136	30,420	318	22,345	3,636	115,716	35,750	174,529	7,362	494	167,167	35,257	7,357
2016	155,511	119,369	21,301	– 342	11,131	7,384	98,068	36,142	162,429	2,877	– 3,172	159,552	39,315	– 6,919
2017	142,669	94,921	29,560	– 235	21,970	4,406	65,361	47,747	146,108	4,938	1,048	141,170	46,700	– 3,441
2018 May	5,064	1,859	1,215	– 225	934	275	644	3,205	5,430	1,217	732	4,213	2,473	– 366
June	7,914	6,787	1,068	66	352	479	5,719	1,127	7,547	– 459	– 781	8,006	1,908	367
July	7,640	5,476	1,163	– 57	587	308	4,313	2,164	7,318	607	66	6,711	2,098	323
Aug.	8,570	8,402	1,519	– 27	783	407	6,884	168	8,622	– 215	– 324	8,837	492	– 52
Sep.	7,592	5,836	937	25	– 285	797	4,899	1,756	8,200	1,126	249	7,074	1,507	– 608
Oct.	4,731	6,658	649	80	– 713	820	6,009	– 1,927	5,706	180	– 758	5,526	– 1,169	– 975
Nov.	11,737	11,097	1,729	378	542	580	9,368	640	11,867	– 1,338	– 718	13,205	1,358	– 129

1 Including public limited investment companies. **2** Book values. **3** Residual. **4** Net purchases or net sales (–) of foreign fund shares by residents; transaction values. **5** Net purchases or net sales (–) of domestic fund shares by non-residents; transaction values. — The figures for the most recent date are provisional; revisions are not specially marked.

IX. Financial accounts

1. Acquisition of financial assets and external financing of non-financial corporations (non-consolidated)

€ billion

Item	2015	2016	2017	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3
Acquisition of financial assets									
Currency and deposits	30.93	41.58	52.76	19.02	– 0.75	27.52	– 18.68	– 0.44	14.84
Debt securities	– 1.20	– 3.40	– 5.65	– 0.65	– 1.05	– 3.01	0.65	0.55	1.46
Short-term debt securities	– 0.84	– 0.58	– 2.26	– 1.89	– 0.26	– 0.34	– 0.12	– 0.02	0.38
Long-term debt securities	– 0.36	– 2.81	– 3.39	1.24	– 0.78	– 2.67	0.77	0.57	1.09
Memo item:									
Debt securities of domestic sectors	0.64	– 2.68	– 2.80	– 0.04	– 1.07	– 1.15	0.11	0.47	– 0.02
Non-financial corporations	– 0.80	0.67	– 0.56	– 0.72	– 0.56	– 0.14	– 0.01	0.32	– 0.13
Financial corporations	1.86	– 2.53	– 0.41	0.67	– 0.14	– 0.59	0.19	0.31	0.08
General government	– 0.42	– 0.82	– 1.82	0.01	– 0.37	– 0.43	– 0.07	– 0.15	0.03
Debt securities of the rest of the world	– 1.83	– 0.72	– 2.85	– 0.61	0.02	– 1.86	0.54	0.08	1.48
Loans	27.54	12.74	39.45	5.50	2.73	5.79	0.16	– 9.06	– 1.44
Short-term loans	34.96	3.26	20.00	– 0.61	– 0.45	6.79	4.13	– 10.74	– 4.22
Long-term loans	– 7.41	9.49	19.45	6.11	3.18	– 1.00	– 3.97	1.68	2.78
Memo item:									
Loans to domestic sectors	6.26	– 4.70	18.09	– 0.02	– 1.43	10.49	2.19	– 7.93	– 1.58
Non-financial corporations	1.26	– 11.78	9.53	2.88	– 0.28	6.70	0.12	– 9.12	– 4.14
Financial corporations	4.80	6.89	8.27	– 2.97	– 1.22	3.72	2.07	1.19	2.57
General government	0.20	0.20	0.29	0.07	0.07	0.07	0.00	0.00	0.00
Loans to the rest of the world	21.28	17.44	21.36	5.52	4.16	– 4.70	– 2.03	– 1.13	0.14
Equity and investment fund shares	54.54	74.50	49.97	– 0.40	16.68	16.22	27.57	38.91	24.14
Equity	38.14	68.67	41.42	1.79	14.41	6.50	24.05	37.93	24.04
Listed shares of domestic sectors	– 10.40	22.91	– 3.82	– 2.05	1.91	0.65	21.74	– 2.70	– 1.34
Non-financial corporations	– 8.04	22.59	– 3.76	– 2.26	1.96	0.80	21.64	– 2.90	– 1.38
Financial corporations	– 2.36	0.31	– 0.06	0.21	– 0.04	– 0.14	0.10	0.20	0.04
Listed shares of the rest of the world	2.05	10.84	7.09	10.26	– 5.14	0.34	– 0.21	16.15	– 15.14
Other equity [1]	46.49	34.92	38.15	– 6.42	17.64	5.51	2.53	24.48	40.52
Investment fund shares	16.40	5.83	8.55	– 2.18	2.26	9.71	3.52	0.98	0.10
Money market fund shares	0.21	0.36	– 0.46	0.00	– 1.07	0.89	– 0.63	– 0.03	– 0.14
Non-MMF investment fund shares	16.19	5.47	9.01	– 2.19	3.34	8.83	4.15	1.01	0.24
Insurance technical reserves	2.94	1.12	3.89	1.31	1.25	0.49	0.94	1.37	1.31
Financial derivatives	– 1.42	22.74	12.68	3.57	2.85	2.86	2.57	– 2.68	1.37
Other accounts receivable	42.00	– 5.47	94.66	– 22.45	22.06	21.23	25.95	16.56	– 13.84
Total	155.33	143.81	247.75	5.91	43.77	71.09	39.16	45.22	27.84
External financing									
Debt securities	7.78	23.71	8.56	– 0.52	0.96	0.55	2.79	2.36	0.90
Short-term securities	1.96	– 0.15	0.60	– 0.42	– 2.62	– 1.83	2.54	1.48	0.38
Long-term securities	5.82	23.85	7.95	– 0.10	3.58	2.37	0.24	0.89	0.53
Memo item:									
Debt securities of domestic sectors	1.70	10.82	7.13	1.24	0.76	1.83	2.48	1.65	– 0.98
Non-financial corporations	– 0.80	0.67	– 0.56	– 0.72	– 0.56	– 0.14	– 0.01	0.32	– 0.13
Financial corporations	2.05	10.06	9.13	2.08	1.48	2.39	2.19	1.38	– 0.58
General government	0.02	0.01	0.01	0.02	0.00	0.00	0.01	– 0.01	0.00
Households	0.42	0.08	– 1.45	– 0.14	– 0.16	– 0.42	0.29	– 0.05	– 0.27
Debt securities of the rest of the world	6.08	12.89	1.42	– 1.76	0.20	– 1.28	0.31	0.71	1.88
Loans	54.91	35.50	90.15	11.97	18.59	11.06	49.00	47.71	26.82
Short-term loans	40.97	1.02	20.35	3.06	7.96	– 1.97	24.12	18.32	19.95
Long-term loans	13.94	34.48	69.80	8.91	10.63	13.03	24.88	29.39	6.87
Memo item:									
Loans from domestic sectors	23.72	14.47	51.80	7.98	10.42	7.22	35.68	17.76	16.45
Non-financial corporations	1.26	– 11.78	9.53	2.88	– 0.28	6.70	0.12	– 9.12	– 4.14
Financial corporations	29.29	23.08	45.50	5.77	13.75	6.23	28.61	26.18	20.57
General government	– 6.83	3.18	– 3.23	– 0.68	– 3.04	– 5.71	6.94	0.70	0.03
Loans from the rest of the world	31.15	20.95	38.35	4.00	8.16	3.84	13.32	29.95	10.36
Equity	16.67	11.18	17.86	6.06	5.69	2.88	1.58	11.86	– 1.14
Listed shares of domestic sectors	7.42	27.31	6.93	2.68	3.43	5.36	19.82	4.46	5.16
Non-financial corporations	– 8.04	22.59	– 3.76	– 2.26	1.96	0.80	21.64	– 2.90	– 1.38
Financial corporations	11.70	– 2.10	9.53	6.21	0.26	3.83	– 5.23	4.50	4.07
General government	0.11	0.07	0.51	0.13	0.16	0.15	0.16	0.15	0.09
Households	3.66	6.74	0.65	– 1.39	1.05	0.59	3.26	2.71	2.38
Listed shares of the rest of the world	– 1.40	– 25.79	– 2.59	– 1.28	– 1.47	– 4.71	8.91	6.20	– 4.78
Other equity [1]	10.65	9.66	13.53	4.66	3.74	2.23	– 27.15	1.20	– 1.52
Insurance technical reserves	5.60	3.60	7.25	1.81	1.81	1.81	1.81	1.81	1.81
Financial derivatives and employee stock options	– 10.81	– 0.13	3.69	2.23	1.00	– 2.12	1.50	3.27	3.72
Other accounts payable	22.73	28.95	– 4.06	– 26.51	– 8.46	3.04	19.79	27.89	– 11.26
Total	96.88	102.80	123.45	– 4.96	19.59	17.22	76.46	94.90	20.85

1 Including unlisted shares.

IX. Financial accounts

2. Financial assets and liabilities of non-financial corporations (non-consolidated)

End of year/quarter; € billion

Item	2015	2016	2017	2017			2018		
				Q2	Q3	Q4	Q1	Q2	Q3
Financial assets									
Currency and deposits	463.1	514.9	556.2	525.5	532.8	556.2	527.2	539.7	540.4
Debt securities	47.8	44.8	38.8	42.8	41.9	38.8	39.2	39.7	41.0
Short-term debt securities	6.0	5.5	3.3	3.9	3.6	3.3	3.1	3.1	3.5
Long-term debt securities	41.7	39.3	35.6	39.0	38.3	35.6	36.0	36.6	37.5
Memo item:									
Debt securities of domestic sectors	23.3	20.8	18.2	20.2	19.3	18.2	18.2	18.7	18.6
Non-financial corporations	3.6	4.4	3.9	4.6	4.1	3.9	3.8	4.1	4.0
Financial corporations	14.5	12.0	11.7	12.3	12.3	11.7	11.9	12.2	12.3
General government	5.2	4.4	2.5	3.3	3.0	2.5	2.4	2.3	2.3
Debt securities of the rest of the world	24.4	24.0	20.7	22.7	22.6	20.7	21.0	21.1	22.5
Loans	511.6	523.1	556.3	550.4	551.4	556.3	556.5	549.4	547.2
Short-term loans	409.4	414.3	431.1	426.1	424.7	431.1	435.7	426.3	421.6
Long-term loans	102.2	108.8	125.2	124.3	126.6	125.2	120.9	123.0	125.6
Memo item:									
Loans to domestic sectors	335.8	331.1	349.2	340.1	338.7	349.2	351.3	343.7	341.9
Non-financial corporations	233.3	221.6	231.1	224.7	224.4	231.1	231.2	222.3	218.0
Financial corporations	95.9	102.8	111.0	108.5	107.3	111.0	113.1	114.3	116.9
General government	6.5	6.7	7.0	6.9	7.0	7.0	7.0	7.0	7.0
Loans to the rest of the world	175.8	192.0	207.1	210.3	212.7	207.1	205.2	205.7	205.3
Equity and investment fund shares	1,891.7	1,939.7	2,079.8	2,007.9	2,036.6	2,079.8	2,072.1	2,118.7	2,150.5
Equity	1,739.7	1,779.7	1,909.7	1,849.7	1,875.3	1,909.7	1,901.2	1,945.8	1,976.6
Listed shares of domestic sectors	273.0	292.3	332.2	304.1	322.7	332.2	349.4	338.5	338.3
Non-financial corporations	266.6	286.2	325.3	297.9	315.9	325.3	342.2	330.9	330.4
Financial corporations	6.3	6.1	6.8	6.2	6.9	6.8	7.1	7.6	7.9
Listed shares of the rest of the world	32.3	44.4	48.4	56.3	47.8	48.4	48.3	63.7	48.5
Other equity [1]	1,434.4	1,443.0	1,529.2	1,489.3	1,504.7	1,529.2	1,503.6	1,543.6	1,589.8
Investment fund shares	151.9	159.9	170.1	158.2	161.4	170.1	170.9	172.8	173.9
Money market fund shares	1.4	1.9	1.5	1.7	0.6	1.5	0.9	0.9	0.7
Non-MMF investment fund shares	150.6	158.0	168.6	156.4	160.7	168.6	170.0	172.0	173.1
Insurance technical reserves	48.8	50.2	54.2	52.4	53.5	54.2	55.4	56.6	57.8
Financial derivatives	42.7	60.1	49.3	51.1	50.2	49.3	48.7	42.8	41.4
Other accounts receivable	927.6	962.0	1,033.1	991.1	1,038.8	1,033.1	1,088.1	1,107.7	1,089.2
Total	3,933.3	4,094.8	4,367.8	4,221.2	4,305.1	4,367.8	4,387.2	4,454.5	4,467.6
Liabilities									
Debt securities	156.8	183.8	210.6	188.1	210.2	210.6	185.4	189.0	185.8
Short-term securities	3.0	2.9	3.4	7.9	5.3	3.4	5.9	7.4	6.5
Long-term securities	153.7	180.9	207.2	180.2	205.0	207.2	179.4	181.6	179.2
Memo item:									
Debt securities of domestic sectors	58.7	72.1	82.8	75.4	80.0	82.8	79.6	80.1	78.9
Non-financial corporations	3.6	4.4	3.9	4.6	4.1	3.9	3.8	4.1	4.0
Financial corporations	40.0	51.9	64.3	55.9	61.0	64.3	61.2	61.5	60.7
General government	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Households	15.0	15.7	14.4	14.8	14.8	14.4	14.4	14.3	14.1
Debt securities of the rest of the world	98.1	111.7	127.8	112.7	130.3	127.8	105.8	108.9	106.9
Loans	1,452.1	1,481.4	1,559.8	1,535.7	1,550.3	1,559.8	1,606.9	1,665.2	1,684.9
Short-term loans	559.4	562.8	578.9	573.9	580.7	578.9	602.7	631.8	646.2
Long-term loans	892.6	918.6	980.8	961.7	969.6	980.8	1,004.3	1,033.4	1,038.8
Memo item:									
Loans from domestic sectors	1,119.7	1,129.0	1,176.5	1,161.1	1,169.5	1,176.5	1,211.1	1,225.3	1,240.6
Non-financial corporations	233.3	221.6	231.1	224.7	224.4	231.1	231.2	222.3	218.0
Financial corporations	834.4	853.7	895.1	877.4	888.5	895.1	922.3	944.9	964.7
General government	52.0	53.7	50.3	59.0	56.6	50.3	57.7	58.1	57.9
Loans from the rest of the world	332.4	352.4	383.3	374.6	380.8	383.3	395.8	439.9	444.3
Equity	2,695.7	2,773.4	3,054.5	2,916.4	3,001.4	3,054.5	2,949.1	2,970.7	2,934.4
Listed shares of domestic sectors	626.4	664.0	756.6	697.8	737.6	756.6	745.7	735.0	740.5
Non-financial corporations	266.6	286.2	325.3	297.9	315.9	325.3	342.2	330.9	330.4
Financial corporations	150.1	154.7	180.2	166.4	173.4	180.2	163.6	164.5	167.5
General government	43.4	44.4	51.8	46.7	51.0	51.8	48.7	49.0	52.1
Households	166.2	178.7	199.2	186.8	197.4	199.2	191.1	190.7	190.5
Listed shares of the rest of the world	756.3	803.7	925.3	879.1	906.1	925.3	881.6	907.0	875.0
Other equity [1]	1,313.0	1,305.7	1,372.6	1,339.5	1,357.7	1,372.6	1,321.9	1,328.7	1,318.9
Insurance technical reserves	255.9	259.5	266.7	263.1	264.9	266.7	268.6	270.4	272.2
Financial derivatives and employee stock options	42.0	38.2	26.9	32.7	31.3	26.9	26.7	28.2	30.1
Other accounts payable	1,010.5	1,045.1	1,055.0	1,024.8	1,055.3	1,055.0	1,081.1	1,104.3	1,097.2
Total	5,613.0	5,781.3	6,173.4	5,960.8	6,113.5	6,173.4	6,117.7	6,227.7	6,204.6

1 Including unlisted shares.

IX. Financial accounts

3. Acquisition of financial assets and external financing of households (non-consolidated)

€ billion

Item	2015	2016	2017	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3
Acquisition of financial assets									
Currency and deposits	96.67	114.85	103.47	30.17	18.04	42.90	16.67	43.35	31.49
Currency	25.51	21.17	17.03	5.58	2.47	5.34	6.34	10.53	11.25
Deposits	71.16	93.68	86.45	24.59	15.58	37.57	10.33	32.83	20.24
Transferable deposits	100.96	105.26	99.72	29.95	20.65	35.86	12.14	33.90	21.35
Time deposits	– 9.22	1.28	– 4.03	– 2.32	– 2.47	2.34	1.15	1.99	1.43
Savings deposits (including savings certificates)	– 20.58	– 12.87	– 9.24	– 3.04	– 2.61	– 0.64	– 2.95	– 3.06	– 2.53
Debt securities	– 18.40	– 12.80	– 8.14	– 1.49	– 2.28	– 3.01	– 1.00	0.52	1.71
Short-term debt securities	0.75	– 0.16	– 0.20	0.18	– 0.34	– 0.41	– 0.37	– 0.01	– 0.02
Long-term debt securities	– 19.15	– 12.63	– 7.93	– 1.67	– 1.94	– 2.60	– 0.63	0.53	1.72
Memo item:									
Debt securities of domestic sectors	– 10.06	– 4.14	– 5.09	– 0.67	– 1.88	– 2.56	– 0.01	0.16	1.18
Non-financial corporations	0.36	– 0.01	– 1.43	– 0.22	– 0.14	– 0.40	0.08	– 0.23	– 0.12
Financial corporations	– 7.42	– 2.48	– 2.68	– 0.17	– 1.55	– 1.97	0.07	0.61	1.36
General government	– 2.99	– 1.65	– 0.99	– 0.28	– 0.18	– 0.19	– 0.17	– 0.22	– 0.06
Debt securities of the rest of the world	– 8.34	– 8.66	– 3.05	– 0.82	– 0.41	– 0.45	– 0.98	0.36	0.53
Equity and investment fund shares	47.95	45.78	55.13	12.32	14.08	16.62	17.73	8.06	11.79
Equity	16.62	21.65	14.69	2.21	5.11	3.97	7.35	2.79	7.01
Listed shares of domestic sectors	4.17	9.37	0.90	– 0.18	0.89	0.04	4.27	2.55	2.63
Non-financial corporations	3.88	6.09	0.54	– 1.42	1.01	0.47	3.12	1.63	2.27
Financial corporations	0.28	3.28	0.36	1.24	– 0.12	– 0.43	1.15	0.92	0.37
Listed shares of the rest of the world	8.00	6.93	9.65	1.69	2.94	2.77	1.47	– 0.83	2.82
Other equity [1]	4.45	5.35	4.13	0.70	1.28	1.15	1.61	1.07	1.57
Investment fund shares	31.33	24.13	40.44	10.11	8.97	12.65	10.38	5.27	4.77
Money market fund shares	– 0.57	– 0.53	– 0.28	0.04	– 0.16	0.05	– 0.40	– 0.03	– 0.06
Non-MMF investment fund shares	31.90	24.66	40.72	10.08	9.12	12.60	10.79	5.29	4.83
Non-life insurance technical reserves and provision for calls under standardised guarantees	20.09	15.58	20.23	4.18	4.17	7.75	4.22	4.24	4.19
Life insurance and annuity entitlements	31.69	24.82	37.18	9.21	7.43	8.08	12.38	8.60	7.86
Pension entitlement, claims of pension funds on pension managers, entitlements to non-pension benefits	30.85	32.58	30.84	8.59	6.87	3.49	4.11	4.84	4.51
Financial derivatives and employee stock options	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other accounts receivable [2]	– 17.31	– 19.50	– 27.38	– 10.21	– 0.95	– 26.56	15.47	– 14.13	– 13.82
Total	191.54	201.31	211.33	52.77	47.35	49.27	69.59	55.47	47.73
External financing									
Loans	38.20	47.46	55.55	16.64	18.56	12.45	10.81	20.12	20.41
Short-term loans	– 3.17	– 4.31	– 2.19	– 0.34	– 1.09	– 0.40	– 0.02	0.11	1.83
Long-term loans	41.36	51.76	57.74	16.98	19.66	12.85	10.83	20.01	18.58
Memo item:									
Mortgage loans	35.63	41.92	47.41	13.31	15.84	12.15	9.00	15.79	17.50
Consumer loans	5.44	9.78	11.25	3.25	3.41	2.19	1.78	4.34	2.36
Entrepreneurial loans	– 2.88	– 4.24	– 3.11	0.07	– 0.68	– 1.89	0.04	– 0.01	0.55
Memo item:									
Loans from monetary financial institutions	39.35	42.87	49.99	15.54	16.93	10.42	11.00	17.65	19.41
Loans from other financial institutions	– 1.16	4.59	5.57	1.10	1.63	2.03	– 0.19	2.47	1.00
Loans from general government and rest of the world	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Financial derivatives	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other accounts payable	– 1.14	– 0.23	0.74	0.06	0.02	0.54	0.02	0.01	– 0.05
Total	37.06	47.23	56.29	16.70	18.58	12.99	10.83	20.13	20.36

1 Including unlisted shares. **2** Including accumulated interest-bearing surplus shares with insurance corporations.

IX. Financial accounts

4. Financial assets and liabilities of households (non-consolidated)

End of year/quarter; € billion

Item	2015	2016	2017	2017			2018		
				Q2	Q3	Q4	Q1	Q2	Q3
Financial assets									
Currency and deposits	2,094.8	2,208.7	2,311.0	2,252.0	2,270.0	2,311.0	2,327.7	2,371.0	2,405.4
Currency	153.2	174.4	191.4	183.6	186.1	191.4	197.7	208.3	220.6
Deposits	1,941.6	2,034.4	2,119.6	2,068.4	2,084.0	2,119.6	2,130.0	2,162.8	2,184.8
Transferable deposits	1,082.4	1,188.0	1,287.7	1,231.2	1,251.8	1,287.7	1,299.8	1,333.7	1,354.9
Time deposits	246.8	248.7	245.4	245.6	243.1	245.4	246.6	248.6	250.2
Savings deposits (including savings certificates)	612.4	597.7	586.5	591.7	589.1	586.5	583.6	580.5	579.8
Debt securities	139.8	127.4	120.5	125.4	123.6	120.5	117.7	118.1	119.3
Short-term debt securities	2.9	2.7	2.5	3.2	2.9	2.5	2.1	2.0	2.0
Long-term debt securities	136.9	124.7	118.0	122.2	120.7	118.0	115.6	116.0	117.3
Memo item:									
Debt securities of domestic sectors	89.4	85.6	82.5	86.2	85.1	82.5	81.2	81.4	82.5
Non-financial corporations	13.4	13.9	12.5	13.0	12.9	12.5	12.4	12.1	12.1
Financial corporations	69.5	66.7	66.1	68.9	68.1	66.1	65.1	65.7	67.0
General government	6.5	5.0	3.9	4.3	4.1	3.9	3.7	3.5	3.4
Debt securities of the rest of the world	50.3	41.8	37.9	39.3	38.5	37.9	36.4	36.7	36.9
Equity and investment fund shares	1,040.7	1,106.2	1,216.3	1,156.6	1,191.3	1,216.3	1,196.6	1,215.3	1,239.5
Equity	555.9	588.3	640.1	609.4	630.6	640.1	624.5	629.0	643.8
Listed shares of domestic sectors	188.9	200.8	226.4	211.1	223.7	226.4	217.3	214.2	217.2
Non-financial corporations	158.7	169.8	190.3	177.5	188.4	190.3	182.5	180.8	180.8
Financial corporations	30.3	31.0	36.1	33.6	35.4	36.1	34.8	33.4	36.5
Listed shares of the rest of the world	74.8	86.8	101.0	92.7	96.5	101.0	97.7	102.9	111.4
Other equity [1]	292.2	300.8	312.7	305.6	310.3	312.7	309.5	311.9	315.2
Investment fund shares	484.8	517.8	576.2	547.2	560.7	576.2	572.1	586.3	595.7
Money market fund shares	3.4	2.8	2.7	2.8	2.6	2.7	2.3	2.3	2.1
Non-MMF investment fund shares	481.4	515.0	573.5	544.4	558.1	573.5	569.8	584.1	593.5
Non-life insurance technical reserves and provision for calls under standardised guarantees	324.3	339.9	360.1	348.2	352.3	360.1	364.3	368.6	372.7
Life insurance and annuity entitlements	919.5	947.8	991.4	973.2	981.9	991.4	1,003.8	1,012.4	1,020.3
Pension entitlement, claims of pension funds on pension managers, entitlements to non-pension benefits	786.6	819.2	850.1	832.1	839.7	850.1	854.2	859.0	863.5
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts receivable [2]	37.1	32.6	31.1	32.2	31.7	31.1	31.5	31.8	31.8
Total	5,342.8	5,581.8	5,880.5	5,719.7	5,790.6	5,880.5	5,895.8	5,976.2	6,052.6
Liabilities									
Loans	1,606.6	1,654.7	1,711.9	1,680.5	1,699.1	1,711.9	1,722.6	1,737.9	1,758.7
Short-term loans	60.9	56.6	54.4	55.9	54.8	54.4	54.4	54.5	56.3
Long-term loans	1,545.8	1,598.1	1,657.5	1,624.6	1,644.3	1,657.5	1,668.2	1,683.4	1,702.4
Memo item:									
Mortgage loans	1,153.8	1,195.8	1,247.4	1,218.3	1,234.7	1,247.4	1,257.4	1,275.0	1,292.9
Consumer loans	191.9	201.8	211.8	207.4	210.6	211.8	212.8	213.4	215.5
Entrepreneurial loans	260.9	257.0	252.7	254.8	253.8	252.7	252.5	249.5	250.4
Memo item:									
Loans from monetary financial institutions	1,514.9	1,558.3	1,610.0	1,582.3	1,599.2	1,610.0	1,620.9	1,633.7	1,653.5
Loans from other financial institutions	91.8	96.4	101.9	98.3	99.9	101.9	101.8	104.2	105.2
Loans from general government and rest of the world	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts payable	15.1	15.4	16.6	16.4	16.7	16.6	17.6	17.2	17.2
Total	1,621.7	1,670.1	1,728.5	1,697.0	1,715.8	1,728.5	1,740.3	1,755.1	1,775.9

1 Including unlisted shares. **2** Including accumulated interest-bearing surplus shares with insurance corporations.

X. Public finances in Germany

1. General government: deficit/surplus and debt level as defined in the Maastricht Treaty

Period	General government	Central government	State government	Local government	Social security funds	General government	Central government	State government	Local government	Social security funds
	€ billion					As a percentage of GDP				
	Deficit/surplus[1]									
2012	– 0.9	– 16.1	– 5.5	+ 2.2	+ 18.4	– 0.0	– 0.6	– 0.2	+ 0.1	+ 0.7
2013	– 4.0	– 7.4	– 2.5	+ 0.5	+ 5.4	– 0.1	– 0.3	– 0.1	+ 0.0	+ 0.2
2014	+ 16.7	+ 13.7	+ 0.1	– 0.2	+ 3.1	+ 0.6	+ 0.5	+ 0.0	– 0.0	+ 0.1
2015 **p**	+ 23.9	+ 14.7	+ 2.2	+ 4.3	+ 2.7	+ 0.8	+ 0.5	+ 0.1	+ 0.1	+ 0.1
2016 **p**	+ 28.7	+ 11.5	+ 4.2	+ 4.8	+ 8.2	+ 0.9	+ 0.4	+ 0.1	+ 0.2	+ 0.3
2017 **p**	+ 34.0	+ 6.1	+ 8.3	+ 9.5	+ 10.1	+ 1.0	+ 0.2	+ 0.3	+ 0.3	+ 0.3
2018 **pe**	+ 59.2	+ 20.3	+ 10.3	+ 13.6	+ 14.9	+ 1.7	+ 0.6	+ 0.3	+ 0.4	+ 0.4
2016 H1 **p**	+ 19.5	+ 7.6	+ 3.5	+ 1.7	+ 6.6	+ 1.2	+ 0.5	+ 0.2	+ 0.1	+ 0.4
H2 **p**	+ 9.3	+ 3.8	+ 0.7	+ 3.1	+ 1.6	+ 0.6	+ 0.2	+ 0.0	+ 0.2	+ 0.1
2017 H1 **p**	+ 19.8	+ 1.5	+ 5.1	+ 6.2	+ 7.0	+ 1.2	+ 0.1	+ 0.3	+ 0.4	+ 0.4
H2 **p**	+ 14.2	+ 4.6	+ 3.2	+ 3.3	+ 3.1	+ 0.9	+ 0.3	+ 0.2	+ 0.2	+ 0.2
2018 H1 **pe**	+ 48.1	+ 18.2	+ 13.6	+ 7.3	+ 9.0	+ 2.9	+ 1.1	+ 0.8	+ 0.4	+ 0.5
	Debt level[2]									End of year or quarter
2012	2,202.9	1,387.9	684.1	147.5	1.2	79.9	50.3	24.8	5.3	0.0
2013	2,188.1	1,390.4	663.2	150.5	1.3	77.4	49.2	23.5	5.3	0.0
2014	2,189.6	1,396.5	657.6	152.0	1.4	74.5	47.5	22.4	5.2	0.0
2015 **p**	2,159.7	1,372.6	654.3	152.4	1.4	70.8	45.0	21.5	5.0	0.0
2016 **p**	2,143.9	1,366.8	637.5	153.9	1.1	67.9	43.3	20.2	4.9	0.0
2017 **p**	2,092.8	1,351.3	611.1	148.5	0.8	63.9	41.2	18.6	4.5	0.0
2017 Q1 **p**	2,117.3	1,351.0	627.5	152.5	1.2	66.3	42.3	19.7	4.8	0.0
Q2 **p**	2,111.1	1,353.6	620.3	152.0	0.9	65.7	42.1	19.3	4.7	0.0
Q3 **p**	2,104.5	1,353.0	618.3	150.4	0.8	64.8	41.7	19.0	4.6	0.0
Q4 **p**	2,092.8	1,351.3	611.1	148.5	0.8	63.9	41.2	18.6	4.5	0.0
2018 Q1 **p**	2,070.1	1,338.6	600.6	148.0	1.0	62.7	40.5	18.2	4.5	0.0
Q2 **p**	2,052.4	1,329.3	596.7	144.4	0.9	61.5	39.8	17.9	4.3	0.0
Q3 **p**	2,052.6	1,335.4	595.7	139.2	0.8	61.0	39.7	17.7	4.1	0.0

Sources: Federal Statistical Office and Bundesbank calculations. **1** The deficit/surplus in accordance with ESA 2010 corresponds to the Maastricht definition. In connection with the publication of the 2018 annual figures, no revised figures were released for the first half of the year. Therefore, the 2018 half-year figures are not directly compatible with the annual figures. **2** Quarterly GDP ratios are based on the national output of the four preceding quarters.

2. General government: revenue, expenditure and deficit/surplus as shown in the national accounts*

Period	Revenue				Expenditure							Deficit/surplus	Memo item: Total tax burden [1]
	Total	of which: Taxes	of which: Social contributions	of which: Other	Total	of which: Social benefits	of which: Compensation of employees	of which: Intermediate consumption	of which: Gross capital formation	of which: Interest	of which: Other		
	€ billion												
2012	1,220.9	624.9	454.3	141.7	1,221.8	645.5	212.3	126.5	61.5	63.1	112.8	– 0.9	1,083.7
2013	1,259.0	651.0	465.0	143.0	1,263.0	666.4	217.8	133.0	60.1	55.5	130.2	– 4.0	1,120.3
2014	1,308.5	673.6	482.0	153.0	1,291.8	691.1	224.4	137.7	60.1	47.0	131.6	+ 16.7	1,160.2
2015 **p**	1,356.5	704.2	500.8	151.5	1,332.6	721.7	229.8	143.8	64.1	42.3	130.9	+ 23.9	1,212.0
2016 **p**	1,415.5	738.7	523.9	152.9	1,386.8	755.2	237.8	150.1	68.2	37.4	138.0	+ 28.7	1,269.5
2017 **p**	1,473.8	772.5	548.6	152.8	1,439.8	784.5	246.7	156.3	72.4	33.8	146.1	+ 34.0	1,327.9
2018 **pe**	1,543.2	807.3	571.9	164.0	1,484.1	808.4	255.9	162.5	78.8	30.8	147.7	+ 59.2	1,386.3
	As a percentage of GDP												
2012	44.3	22.7	16.5	5.1	44.3	23.4	7.7	4.6	2.2	2.3	4.1	– 0.0	39.3
2013	44.5	23.0	16.5	5.1	44.7	23.6	7.7	4.7	2.1	2.0	4.6	– 0.1	39.6
2014	44.5	22.9	16.4	5.2	44.0	23.5	7.6	4.7	2.0	1.6	4.5	+ 0.6	39.5
2015 **p**	44.5	23.1	16.4	5.0	43.7	23.7	7.5	4.7	2.1	1.4	4.3	+ 0.8	39.8
2016 **p**	44.8	23.4	16.6	4.8	43.9	23.9	7.5	4.8	2.2	1.2	4.4	+ 0.9	40.2
2017 **p**	45.0	23.6	16.7	4.7	43.9	23.9	7.5	4.8	2.2	1.0	4.5	+ 1.0	40.5
2018 **pe**	45.5	23.8	16.9	4.8	43.8	23.9	7.6	4.8	2.3	0.9	4.4	+ 1.7	40.9
	Percentage growth rates												
2012	+ 3.2	+ 4.4	+ 2.7	+ 0.0	+ 1.1	+ 1.8	+ 1.8	+ 2.0	+ 0.2	– 6.5	– 0.3	.	+ 3.6
2013	+ 3.1	+ 4.2	+ 2.4	+ 1.0	+ 3.4	+ 3.2	+ 2.6	+ 5.1	– 2.2	– 12.0	+ 15.4	.	+ 3.4
2014	+ 3.9	+ 3.5	+ 3.6	+ 6.9	+ 2.3	+ 3.7	+ 3.1	+ 3.5	– 0.1	– 15.4	+ 1.1	.	+ 3.6
2015 **p**	+ 3.7	+ 4.5	+ 3.9	– 0.9	+ 3.2	+ 4.4	+ 2.4	+ 4.5	+ 6.6	– 9.9	– 0.6	.	+ 4.5
2016 **p**	+ 4.4	+ 4.9	+ 4.6	+ 0.9	+ 4.1	+ 4.6	+ 3.5	+ 4.4	+ 6.5	– 11.7	+ 5.5	.	+ 4.7
2017 **p**	+ 4.1	+ 4.6	+ 4.7	– 0.1	+ 3.8	+ 3.9	+ 3.8	+ 4.1	+ 6.2	– 9.5	+ 5.9	.	+ 4.6
2018 **pe**	+ 4.7	+ 4.5	+ 4.3	+ 7.4	+ 3.1	+ 3.0	+ 3.7	+ 4.0	+ 8.8	– 9.1	+ 1.1	.	+ 4.4

Source: Federal Statistical Office. * Figures in accordance with ESA 2010. **1** Taxes and social contributions plus customs duties and levies from banks to the Single Resolution Fund established at the European level.

X. Public finances in Germany

3. General government: budgetary development (as per the government finance statistics)

€ billion

	Central, state and local government [1]									Social security funds [2]			General government, total		
	Revenue			Expenditure											
		of which:			of which: [3]										
Period	Total [4]	Taxes	Financial transactions [5]	Total [4]	Personnel expenditure	Current grants	Interest	Fixed asset formation	Financial transactions [5]	Deficit/ surplus	Revenue [6]	Expenditure	Deficit/ surplus	Revenue	Expenditure	Deficit/ surplus
2011	689.6	573.4	22.8	711.6	194.3	301.3	56.8	38.5	13.7	– 22.0	526.3	511.2	+ 15.1	1,104.2	1,111.1	– 6.9
2012 p	745.0	600.0	14.7	770.2	218.8	285.2	69.9	42.6	25.5	– 25.2	536.2	518.8	+ 17.4	1,171.1	1,178.8	– 7.8
2013 p	761.8	619.7	14.7	773.6	225.3	286.9	65.7	42.8	23.5	– 11.8	536.7	531.9	+ 4.9	1,198.1	1,205.0	– 6.9
2014 p	791.8	643.6	11.3	786.7	236.0	292.9	57.1	45.9	17.6	+ 5.1	554.5	551.1	+ 3.5	1,245.3	1,236.7	+ 8.6
2015 p	829.5	673.3	10.4	804.1	244.1	302.6	49.8	46.4	12.5	+ 25.5	575.0	573.1	+ 1.9	1,300.8	1,273.4	+ 27.4
2016 p	862.1	705.8	9.0	843.4	251.3	320.5	43.4	49.0	11.8	+ 18.7	601.8	594.8	+ 7.1	1,355.0	1,329.2	+ 25.8
2017 p	900.0	734.5	7.9	872.1	261.6	325.9	42.0	52.3	13.8	+ 27.9	631.3	621.8	+ 9.5	1,417.0	1,379.7	+ 37.4
2016 Q1 p	206.1	169.9	1.4	205.5	60.0	81.2	17.7	8.4	2.2	+ 0.6	143.0	146.6	– 3.6	322.2	325.3	– 3.0
Q2 p	216.7	176.6	2.4	194.1	60.7	77.7	5.4	10.4	2.4	+ 22.7	148.7	147.0	+ 1.7	338.5	314.2	+ 24.3
Q3 p	207.1	169.3	2.9	210.9	62.0	79.3	14.5	12.3	2.4	– 3.8	148.3	149.7	– 1.4	328.2	333.4	– 5.2
Q4 p	232.6	189.2	2.1	233.2	68.1	82.6	7.7	17.2	4.8	– 0.6	160.1	152.2	+ 7.8	365.3	358.1	+ 7.2
2017 Q1 p	216.0	180.4	0.9	199.6	62.9	80.3	13.8	10.2	1.9	+ 16.4	150.3	155.1	– 4.8	338.0	326.4	+ 11.6
Q2 p	217.9	177.3	1.2	206.6	63.9	83.6	6.6	8.8	3.6	+ 11.3	156.4	154.3	+ 2.1	346.1	332.7	+ 13.4
Q3 p	219.6	180.4	3.5	215.9	64.4	78.6	14.5	13.4	4.2	+ 3.8	154.8	155.7	– 0.9	346.1	343.2	+ 2.8
Q4 p	243.8	196.3	2.1	244.4	69.8	84.7	6.9	19.2	4.1	– 0.6	168.2	158.0	+ 10.2	383.4	373.8	+ 9.6
2018 Q1 p	225.7	189.1	1.1	210.0	66.0	81.7	14.6	9.1	2.5	+ 15.7	156.1	160.8	– 4.7	352.7	341.7	+ 11.0
Q2 p	239.9	194.7	1.0	206.2	65.9	80.9	5.8	11.4	2.1	+ 33.7	162.4	160.1	+ 2.3	373.3	337.3	+ 36.1

Source: Bundesbank calculations based on Federal Statistical Office data. **1** Annual figures based on the calculations of the Federal Statistical Office. Bundesbank supplementary estimations for the reporting years after 2011 that are not yet available. The quarterly figures contain numerous off-budget entities which are assigned to the general government sector as defined in the national accounts but are not yet included in the annual calculations. From 2012 also including the bad bank FMSW. **2** The annual figures do not tally with the sum of the quarterly figures, as the latter are all provisional. The quarterly figures for some insurance sectors are estimated. **3** The development of the types of expenditure recorded here is influenced in part by statistical changeovers. **4** Including discrepancies in clearing transactions between central, state and local government. **5** On the revenue side, this contains proceeds booked as disposals of equity interests and as loan repayments. On the expenditure side, this contains the acquisition of equity interests and loans granted. **6** Including central government liquidity assistance to the Federal Employment Agency.

4. Central, state and local government: budgetary development (as per the government finance statistics)

€ billion

	Central government			State government [2,3]			Local government [3]		
Period	Revenue [1]	Expenditure	Deficit/surplus	Revenue	Expenditure	Deficit/surplus	Revenue	Expenditure	Deficit/surplus
2011	307.1	324.9	– 17.7	286.5	295.9	– 9.4	183.9	184.9	– 1.0
2012 p	312.5	335.3	– 22.8	311.0	316.1	– 5.1	200.0	198.5	+ 1.5
2013 p	313.2	335.6	– 22.4	324.3	323.9	+ 0.4	207.6	206.3	+ 1.3
2014 p	322.9	323.3	– 0.3	338.3	336.1	+ 2.1	218.7	218.7	– 0.1
2015 p	338.3	326.5	+ 11.8	355.1	350.6	+ 4.5	232.7	229.1	+ 3.6
2016 p	344.7	338.4	+ 6.2	381.1	372.4	+ 8.8	248.9	243.1	+ 5.8
2017 p	357.8	352.8	+ 5.0	397.7	385.8	+ 11.8	260.3	249.1	+ 11.2
2016 Q1 p	81.1	82.2	– 1.1	90.5	88.2	+ 2.4	49.0	55.1	– 6.1
Q2 p	87.5	73.6	+ 13.8	92.7	88.2	+ 4.4	61.1	57.9	+ 3.2
Q3 p	85.2	88.6	– 3.5	91.5	90.0	+ 1.5	60.7	60.7	+ 0.1
Q4 p	90.9	93.9	– 3.0	104.3	104.4	– 0.0	76.3	68.0	+ 8.3
2017 Q1 p	88.2	82.9	+ 5.3	95.6	90.0	+ 5.6	52.7	57.7	– 4.9
Q2 p	81.5	80.0	+ 1.4	96.3	93.6	+ 2.7	65.0	59.5	+ 5.5
Q3 p	88.6	93.6	– 5.0	98.9	91.4	+ 7.5	63.4	61.5	+ 1.9
Q4 p	99.5	96.2	+ 3.3	104.7	109.2	– 4.5	77.2	69.1	+ 8.2
2018 Q1 p	87.9	83.9	+ 4.0	100.0	92.7	+ 7.3	54.9	60.3	– 5.3
Q2 p	94.5	79.8	+ 14.6	104.3	91.8	+ 12.5	68.5	62.4	+ 6.1

Source: Bundesbank calculations based on Federal Statistical Office data. **1** Any amounts of the Bundesbank's profit distribution exceeding the reference value that were used to repay parts of the debt of central government's special funds are not included here. **2** Including the local authority level of the city states Berlin, Bremen and Hamburg. **3** Quarterly data of core budgets and off-budget entities which are assigned to the general government sector. Annual figures up to and including 2011: excluding off-budget entities, but including special accounts and special-purpose associations based on the calculations of the Federal Statistical Office. For the following years: Bundesbank supplementary estimations.

X. Public finances in Germany

5. Central, state and local government: tax revenue

€ million

Period	Total	Central and state government and European Union				Local government [3]	Balance of untransferred tax shares [4]	Memo item: Amounts deducted in the Federal budget [5]
		Total	Central government [1]	State government [1]	European Union [2]			
2011	573,352	496,738	276,598	195,676	24,464	76,570	+ 43	28,615
2012	600,046	518,963	284,801	207,846	26,316	81,184	– 101	28,498
2013	619,708	535,173	287,641	216,430	31,101	84,274	+ 262	27,775
2014	643,624	556,008	298,518	226,504	30,986	87,418	+ 198	27,772
2015	673,276	580,485	308,849	240,698	30,938	93,003	– 212	27,241
2016	705,797	606,965	316,854	260,837	29,273	98,648	+ 186	27,836
2017	734,540	629,458	336,730	271,046	21,682	105,158	– 76	27,368
2016 Q1	170,358	144,841	74,113	61,972	8,755	17,121	+ 8,396	6,488
Q2	176,879	152,042	82,184	64,684	5,175	25,169	– 332	6,512
Q3	169,374	145,700	76,638	61,573	7,489	23,839	– 165	7,584
Q4	189,186	164,382	83,919	72,608	7,855	32,518	– 7,714	7,253
2017 Q1	181,506	154,154	85,256	66,704	2,194	17,950	+ 9,403	6,606
Q2	177,090	149,915	76,391	66,605	6,918	27,631	– 456	6,825
Q3	180,407	155,250	82,576	66,718	5,957	25,517	– 361	7,467
Q4	195,537	170,139	92,507	71,019	6,613	34,060	– 8,662	6,471
2018 Q1	189,457	159,974	83,370	69,413	7,191	19,173	+ 10,310	6,398
Q2	194,715	166,191	88,450	71,995	5,745	29,064	– 540	6,592
Q3	...	161,683	84,952	69,414	7,317	...	...	7,579
2017 Oct.	.	41,842	21,824	17,819	2,199	.	.	2,157
Nov.	.	44,181	23,658	18,349	2,175	.	.	2,157
2018 Oct.	.	45,683	23,491	19,738	2,454	.	.	2,069
Nov.	.	45,370	23,792	19,045	2,534	.	.	2,069

Sources: Federal Ministry of Finance, Federal Statistical Office and Bundesbank calculations. **1** Before deducting or adding supplementary central government grants, regionalisation funds (local public transport), compensation for the transfer of motor vehicle tax to central government and consolidation assistance, which central government remits to state government. See the last column for the volume of these amounts which are deducted from tax revenue in the Federal budget. **2** Customs duties and shares in VAT and gross national income accruing to the EU from central government tax revenue. **3** Including local government taxes in the city states Berlin, Bremen and Hamburg. Including revenue from offshore wind farms. **4** Difference between local government's share in the joint taxes received by the state government cash offices in the period in question (see Table X. 6) and the amounts passed on to local government in the same period. **5** Volume of the positions mentioned under footnote 1.

6. Central and state government and European Union: tax revenue, by type

€ million

Period	Total [1]	Joint taxes									Central government taxes [7]	State government taxes [7]	EU customs duties	Memo item: Local government share in joint taxes
		Income taxes [2]					Turnover taxes [5]			Local business tax transfers [6]				
		Total	Wage tax [3]	Assessed income tax	Corporation tax	Investment income tax [4]	Total	Turnover tax	Turnover tax on imports					
2011	527,255	213,534	139,749	31,996	15,634	26,155	190,033	138,957	51,076	6,888	99,133	13,095	4,571	30,517
2012	551,785	231,555	149,065	37,262	16,934	28,294	194,635	142,439	52,196	7,137	99,794	14,201	4,462	32,822
2013	570,213	245,909	158,198	42,280	19,508	25,923	196,843	148,315	48,528	7,053	100,454	15,723	4,231	35,040
2014	593,039	258,875	167,983	45,613	20,044	25,236	203,110	154,228	48,883	7,142	101,804	17,556	4,552	37,031
2015	620,287	273,258	178,891	48,580	19,583	26,204	209,921	159,015	50,905	7,407	104,204	20,339	5,159	39,802
2016	648,309	291,492	184,826	53,833	27,442	25,391	217,090	165,932	51,157	7,831	104,441	22,342	5,113	41,345
2017	674,598	312,462	195,524	59,428	29,259	28,251	226,355	170,498	55,856	8,580	99,934	22,205	5,063	45,141
2016 Q1	154,892	70,790	42,583	14,569	8,433	5,204	54,408	42,268	12,141	173	22,553	5,673	1,294	10,051
Q2	162,096	74,489	45,311	12,943	7,329	8,905	52,705	40,195	12,510	1,957	25,783	5,952	1,210	10,054
Q3	155,524	68,137	44,656	11,898	5,546	6,037	53,906	40,877	13,029	2,046	24,857	5,263	1,316	9,824
Q4	175,797	78,076	52,275	14,422	6,134	5,245	56,071	42,593	13,478	3,656	31,247	5,454	1,293	11,415
2017 Q1	165,352	76,990	45,309	17,009	8,511	6,161	57,502	44,196	13,306	438	23,364	5,834	1,224	11,198
Q2	161,036	78,178	48,256	14,825	7,872	7,225	54,243	39,885	14,358	2,059	19,868	5,407	1,281	11,121
Q3	165,923	75,218	47,253	12,720	6,034	9,211	56,481	42,571	13,911	2,214	25,114	5,580	1,315	10,673
Q4	182,288	82,077	54,707	14,873	6,843	5,654	58,128	43,846	14,282	3,868	31,587	5,384	1,243	12,149
2018 Q1	172,111	81,713	48,059	17,640	9,418	6,595	59,248	45,272	13,977	291	23,752	5,836	1,271	12,136
Q2	178,102	86,322	51,395	14,889	9,302	10,736	55,801	41,220	14,581	2,215	26,474	6,170	1,119	11,912
Q3	173,202	78,105	50,368	12,683	7,192	7,862	59,169	43,951	15,218	2,315	26,424	5,797	1,391	11,519
2017 Oct.	44,597	14,525	14,880	– 191	– 1,404	1,240	18,478	13,928	4,550	1,704	7,779	1,689	423	2,756
Nov.	46,997	15,686	15,083	– 391	– 376	1,371	20,491	15,745	4,746	312	8,239	1,870	399	2,816
2018 Oct.	48,718	17,053	16,120	– 228	– 101	1,262	18,908	14,245	4,663	1,894	8,369	2,108	387	3,035
Nov.	48,466	16,836	16,265	– 396	– 231	1,199	20,784	15,080	5,704	309	8,108	1,957	472	3,096

Source: Federal Ministry of Finance and Bundesbank calculations. **1** This total, unlike that in Table X. 5, does not include the receipts from the equalisation of burdens levies, local business tax (less local business tax transfers to central and state government), real property taxes and other local government taxes, or the balance of untransferred tax shares. **2** Respective percentage share of central, state and local government in revenue: wage tax and assessed income tax 42.5:42.5:15, corporation tax and non-assessed taxes on earnings 50:50:-, final withholding tax on interest income and capital gains, non-assessed taxes on earnings 44:44:12. **3** After deducting child benefit and subsidies for supplementary private pension plans. **4** Final withholding tax on interest income and capital gains, non-assessed taxes on earnings. **5** The allocation of revenue to central, state and local government, which is adjusted at more regular intervals, is regulated in Section 1 of the Revenue Adjustment Act. Respective percentage share of central, state and local government in revenue for 2017: 50.7:46.6:2.7. The EU share is deducted from central government's share. **6** Respective percentage share of central and state government for 2017: 22.6:77.4. **7** For the breakdown, see Table X. 7.

X. Public finances in Germany

7. Central, state and local government: individual taxes

€ million

Period	Central government taxes [1]								State government taxes [1]				Local government taxes		
	Energy tax	Solidarity surcharge	Tobacco tax	Insurance tax	Motor vehicle tax	Electricity tax	Alcohol tax	Other	Tax on the acquisition of land and buildings	Inheritance tax	Betting and lottery tax	Other	Total	of which: Local business tax [2]	of which: Real property taxes
2011	40,036	12,781	14,414	10,755	8,422	7,247	2,149	3,329	6,366	4,246	1,420	1,064	52,984	40,424	11,674
2012	39,305	13,624	14,143	11,138	8,443	6,973	2,121	4,047	7,389	4,305	1,432	1,076	55,398	42,345	12,017
2013	39,364	14,378	13,820	11,553	8,490	7,009	2,102	3,737	8,394	4,633	1,635	1,060	56,549	43,027	12,377
2014	39,758	15,047	14,612	12,046	8,501	6,638	2,060	3,143	9,339	5,452	1,673	1,091	57,728	43,763	12,691
2015	39,594	15,930	14,921	12,419	8,805	6,593	2,070	3,872	11,249	6,290	1,712	1,088	60,396	45,752	13,215
2016	40,091	16,855	14,186	12,763	8,952	6,569	2,070	2,955	12,408	7,006	1,809	1,119	65,319	50,103	13,654
2017	41,022	17,953	14,399	13,269	8,948	6,944	2,094	–4,695	13,139	6,114	1,837	1,115	68,522	52,899	13,966
2016 Q1	4,620	3,979	2,722	5,946	2,489	1,685	565	547	3,217	1,668	451	336	15,639	12,090	3,121
Q2	9,860	4,470	4,139	2,269	2,366	1,515	473	691	2,952	2,283	451	267	16,740	12,635	3,715
Q3	10,149	3,938	3,010	2,510	2,198	1,641	499	911	3,050	1,501	446	266	15,896	11,699	3,794
Q4	15,461	4,468	4,315	2,038	1,899	1,728	532	806	3,189	1,554	460	251	17,045	13,679	3,024
2017 Q1	4,812	4,324	2,637	6,178	2,536	1,746	578	553	3,359	1,641	490	343	16,593	12,905	3,228
Q2	10,091	4,809	3,634	2,353	2,374	1,784	476	–5,652	3,129	1,538	474	265	18,113	13,881	3,832
Q3	10,497	4,144	3,867	2,669	2,132	1,628	502	–324	3,394	1,497	417	273	16,698	12,443	3,824
Q4	15,622	4,677	4,261	2,070	1,906	1,786	538	727	3,257	1,438	456	233	17,118	13,670	3,082
2018 Q1	4,865	4,587	2,425	6,388	2,602	1,725	591	569	3,576	1,431	479	350	17,638	13,880	3,291
Q2	10,158	5,127	3,485	2,442	2,360	1,805	466	631	3,270	2,166	470	264	18,827	14,548	3,853
Q3	10,423	4,353	3,886	2,752	2,128	1,677	531	674	3,592	1,463	464	278	...	...	...
2017 Oct.	3,636	918	1,010	594	647	573	177	224	1,056	410	148	75	.	.	.
Nov.	3,471	908	1,377	817	695	558	169	244	1,120	526	158	65	.	.	.
2018 Oct.	3,615	999	1,474	631	676	567	168	239	1,250	632	151	75	.	.	.
Nov.	3,308	978	1,203	915	741	562	159	243	1,233	463	181	79	.	.	.

Sources: Federal Ministry of Finance, Federal Statistical Office and Bundesbank calculations. **1** For the sum total, see Table X. 6. **2** Including revenue from offshore wind farms.

8. German pension insurance scheme: budgetary development and assets*

€ million

Period	Revenue [1,2]			Expenditure [1,2]			Deficit/ surplus	Assets [1,4]					Memo item: Administrative assets
	Total	of which: Contributions [3]	of which: Payments from central government	Total	of which: Pension payments	of which: Pensioners' health insurance		Total	Deposits [5]	Securities	Equity interests, mortgages and other loans [6]	Real estate	
2011	254,968	177,424	76,200	250,241	212,602	15,015	+ 4,727	24,965	22,241	2,519	88	117	4,379
2012	259,700	181,262	77,193	254,604	216,450	15,283	+ 5,096	30,481	28,519	1,756	104	102	4,315
2013	260,166	181,991	77,067	258,268	219,560	15,528	+ 1,898	33,114	29,193	3,701	119	100	4,250
2014	269,115	189,080	78,940	265,949	226,204	15,978	+ 3,166	36,462	32,905	3,317	146	94	4,263
2015	276,129	194,486	80,464	277,717	236,634	16,705	– 1,588	35,556	32,795	2,506	167	88	4,228
2016	286,399	202,249	83,154	288,641	246,118	17,387	– 2,242	34,094	31,524	2,315	203	52	4,147
2017	299,826	211,424	87,502	299,297	255,261	18,028	+ 529	35,366	33,740	1,335	238	53	4,032
2016 Q1	68,182	47,397	20,665	70,076	60,143	4,239	– 1,894	33,865	31,194	2,406	179	86	4,223
Q2	71,291	50,372	20,548	70,418	60,097	4,238	+ 873	34,427	31,892	2,265	183	87	4,220
Q3	70,218	49,333	20,670	73,782	63,081	4,453	– 3,564	31,412	28,776	2,365	187	84	4,213
Q4	76,136	55,171	20,733	74,016	63,117	4,450	+ 2,120	34,088	31,529	2,315	192	53	4,161
2017 Q1	71,301	49,388	21,715	73,731	63,263	4,460	– 2,430	31,660	29,133	2,270	205	52	4,140
Q2	74,581	52,739	21,632	73,785	63,016	4,440	+ 796	32,535	30,372	1,901	210	52	4,136
Q3	73,295	51,374	21,738	75,569	64,628	4,560	– 2,274	30,801	28,831	1,701	214	54	4,115
Q4	79,956	57,910	21,790	75,842	64,694	4,562	+ 4,114	35,362	33,750	1,335	224	53	4,045
2018 Q1	74,368	51,726	22,489	75,482	64,885	4,569	– 1,114	34,219	32,775	1,146	240	58	4,029
Q2	77,824	55,186	22,451	75,747	64,742	4,557	+ 2,077	36,244	34,963	983	241	57	4,033
Q3	76,831	54,085	22,575	78,284	67,017	4,727	– 1,453	35,344	34,104	936	248	57	4,019

Sources: Federal Ministry of Labour and Social Affairs and German pension insurance scheme. * Excluding the German pension insurance scheme for the mining, railway and maritime industries. **1** The final annual figures generally differ from the total of the reported provisional quarterly figures as the latter are not revised subsequently. **2** Including financial compensation payments. Excluding investment spending and proceeds. **3** Including contributions for recipients of government cash benefits. **4** Largely corresponds to the sustainability reserves. End of year or quarter. **5** Including cash. **6** Excluding loans to other social security funds.

X. Public finances in Germany

9. Federal Employment Agency: budgetary development*

€ million

Period	Revenue				Expenditure							Deficit/ surplus	Deficit-offsetting grant or loan from central government
	Total 1	of which:			Total	of which:							
		Contributions	Insolvency compensation levy	Central government subscriptions		Unemployment benefit 2	Short-time working benefits 3	Job promotion 4	Re-integration payment 5	Insolvency benefit payment	Administrative expenditure 6		
2011	37,563	25,433	37	8,046	37,524	13,776	1,324	8,369	4,510	683	5,090	+ 40	–
2012	37,429	26,570	314	7,238	34,842	13,823	828	6,699	3,822	982	5,117	+ 2,587	–
2013	32,636	27,594	1,224	245	32,574	15,411	1,082	6,040	.	912	5,349	+ 61	–
2014	33,725	28,714	1,296	–	32,147	15,368	710	6,264	.	694	5,493	+ 1,578	–
2015	35,159	29,941	1,333	–	31,439	14,846	771	6,295	.	654	5,597	+ 3,720	–
2016	36,352	31,186	1,114	–	30,889	14,435	749	7,035	.	595	5,314	+ 5,463	–
2017	37,819	32,501	882	–	31,867	14,055	769	7,043	.	687	6,444	+ 5,952	–
2016 Q1	8,376	7,271	261	–	7,984	4,083	395	1,739	.	150	984	+ 393	–
Q2	8,991	7,737	278	–	7,807	3,648	203	1,847	.	147	1,288	+ 1,184	–
Q3	8,877	7,609	276	–	7,349	3,428	74	1,608	.	165	1,399	+ 1,529	–
Q4	10,108	8,569	299	–	7,750	3,276	77	1,841	.	134	1,642	+ 2,358	–
2017 Q1	8,859	7,564	204	–	8,834	3,973	478	1,772	.	146	1,749	+ 26	–
Q2	9,355	8,112	227	–	7,964	3,529	173	1,802	.	155	1,577	+ 1,391	–
Q3	9,159	7,897	210	–	7,281	3,360	63	1,646	.	171	1,402	+ 1,878	–
Q4	10,446	8,929	241	–	7,789	3,193	55	1,823	.	215	1,717	+ 2,657	–
2018 Q1	9,167	7,926	151	–	9,546	3,826	415	1,742	.	174	2,625	– 379	–
Q2	9,713	8,523	152	–	8,471	3,431	245	1,752	.	161	2,209	+ 1,243	–
Q3	9,515	8,355	152	–	7,288	3,296	50	1,623	.	114	1,514	+ 2,227	–

Source: Federal Employment Agency. * Including transfers to the civil servants' pension fund. **1** Excluding central government deficit-offsetting grant or loan. **2** Unemployment benefit in case of unemployment. **3** Including seasonal short-time working benefits and restructuring short-time working benefits, restructuring measures and refunds of social security contributions. **4** Vocational training, measures to encourage job take-up, rehabilitation, compensation top-up payments and promotion of business start-ups. **5** Until 2012. From 2005 to 2007: compensatory amount. **6** Including collection charges to other social security funds , excluding administrative expenditure within the framework of the basic allowance for job seekers.

10. Statutory health insurance scheme: budgetary development

€ million

Period	Revenue 1			Expenditure 1								Deficit/ surplus
	Total	of which:		Total	of which:							
		Contributions 2	Central government funds 3		Hospital treatment	Pharmaceuticals	Medical treatment	Dental treatment 4	Therapeutical treatment and aids	Sickness benefits	Administrative expenditure 5	
2011	189,049	170,875	15,300	179,599	58,501	28,939	29,056	11,651	11,193	8,529	9,488	+ 9,450
2012	193,314	176,388	14,000	184,289	60,157	29,156	29,682	11,749	11,477	9,171	9,711	+ 9,025
2013	196,405	182,179	11,500	194,537	62,886	30,052	32,799	12,619	12,087	9,758	9,979	+ 1,867
2014	203,143	189,089	10,500	205,589	65,711	33,093	34,202	13,028	13,083	10,619	10,063	– 2,445
2015	210,147	195,774	11,500	213,727	67,979	34,576	35,712	13,488	13,674	11,227	10,482	– 3,580
2016	223,692	206,830	14,000	222,936	70,450	35,981	37,300	13,790	14,256	11,677	11,032	+ 757
2017	233,814	216,227	14,500	230,773	72,303	37,389	38,792	14,070	14,776	12,281	10,912	+ 3,041
2016 Q1	53,320	49,292	3,500	55,424	18,044	8,879	9,374	3,470	3,419	2,955	2,458	– 2,104
Q2	54,988	51,009	3,500	55,603	17,686	9,005	9,362	3,478	3,528	2,963	2,599	– 615
Q3	55,632	51,377	3,500	55,114	17,421	8,929	9,166	3,399	3,585	2,842	2,628	+ 517
Q4	59,552	55,146	3,500	56,832	17,342	9,194	9,351	3,526	3,698	2,912	3,291	+ 2,720
2017 Q1	55,809	51,632	3,625	57,716	18,632	9,215	9,807	3,559	3,516	3,173	2,514	– 1,907
Q2	57,801	53,621	3,625	57,502	17,973	9,239	9,822	3,614	3,748	3,043	2,589	+ 298
Q3	57,617	53,442	3,625	57,202	17,802	9,330	9,629	3,374	3,679	2,980	2,731	+ 415
Q4	62,391	57,526	3,625	58,527	17,878	9,627	9,712	3,566	3,792	3,080	3,095	+ 3,865
2018 Q1	57,788	53,670	3,625	59,854	19,028	9,569	10,045	3,656	3,763	3,370	2,614	– 2,067
Q2	59,796	55,571	3,625	60,060	18,677	9,591	10,049	3,639	3,904	3,294	2,821	– 264
Q3	60,138	55,778	3,625	59,204	18,302	9,600	9,862	3,481	4,070	3,155	2,810	+ 934

Source: Federal Ministry of Health. **1** The final annual figures generally differ from the total of the reported provisional quarterly figures as the latter are not revised subsequently. Excluding revenue and expenditure as part of the risk structure compensation scheme. **2** Including contributions from subsidised low-paid part-time employment. **3** Federal grant and liquidity assistance. **4** Including dentures. **5** Net, i.e. after deducting reimbursements for expenses for levying contributions incurred by other social security funds.

X. Public finances in Germany

11. Statutory long-term care insurance scheme: budgetary development*

€ million

Period	Revenue 1		Expenditure 1						Deficit/ surplus	
				of which:						
	Total	of which: Contributions 2	Total	Non-cash care benefits	Inpatient care	Nursing benefit	Contributions to pension insurance scheme 3	Administrative expenditure		
2011	22,294	22,145	21,962	3,002	9,700	4,735	881	1,034	+	331
2012	23,082	22,953	22,988	3,135	9,961	5,073	881	1,083	+	95
2013	24,972	24,891	24,405	3,389	10,058	5,674	896	1,155	+	567
2014	25,974	25,893	25,457	3,570	10,263	5,893	946	1,216	+	517
2015	30,825	30,751	29,101	3,717	10,745	6,410	960	1,273	+	1,723
2016	32,171	32,100	30,936	3,846	10,918	6,673	983	1,422	+	1,235
2017	36,305	36,248	38,862	4,609	13,014	10,010	1,611	1,606	–	2,557
2016 Q1	7,600	7,578	7,587	941	2,703	1,613	238	389	+	13
Q2	7,918	7,901	7,659	949	2,724	1,665	244	331	+	259
Q3	7,958	7,942	7,810	961	2,746	1,682	247	373	+	147
Q4	8,550	8,535	7,941	975	2,741	1,877	250	322	+	608
2017 Q1	8,558	8,538	9,092	1,046	3,194	2,261	289	405	–	534
Q2	8,978	8,962	9,379	1,080	3,230	2,440	347	397	–	400
Q3	8,945	8,932	9,944	1,210	3,289	2,562	422	411	–	999
Q4	9,620	9,610	10,110	1,158	3,285	2,731	470	387	–	490
2018 Q1	8,961	8,948	10,146	1,192	3,233	2,603	496	424	–	1,185
Q2	9,338	9,322	10,118	1,160	3,217	2,658	509	389	–	780
Q3	9,349	9,334	10,428	1,202	3,251	2,781	515	397	–	1,079

Source: Federal Ministry of Health. * Including transfers to the long-term care provident fund. **1** The final annual figures generally differ from the total of the reported provisional quarterly figures as the latter are not revised subsequently. **2** Since 2005 including special contributions for childless persons (0.25% of income subject to insurance contributions). **3** For non-professional carers.

12. Central government: borrowing in the market

€ million

Period	Total new borrowing 1		of which: Change in money market loans	of which: Change in money market deposits 3
	Gross 2	Net		
2011	+ 264,572	+ 5,890	– 4,876	– 9,036
2012	+ 263,334	+ 31,728	+ 6,183	+ 13,375
2013	+ 246,781	+ 19,473	+ 7,292	– 4,601
2014	+ 192,540	– 2,378	– 3,190	+ 891
2015	+ 167,655	– 16,386	– 5,884	– 1,916
2016	+ 182,486	– 11,331	– 2,332	– 16,791
2017	+ 171,906	+ 4,531	+ 11,823	+ 2,897
2016 Q1	+ 61,598	+ 10,650	+ 8,501	– 19,345
Q2	+ 60,691	+ 4,204	+ 3,694	+ 4,084
Q3	+ 33,307	– 13,887	– 18,398	– 4,864
Q4	+ 26,890	– 12,297	+ 3,872	+ 3,333
2017 Q1	+ 47,749	– 5,700	+ 6,178	– 2,428
Q2	+ 42,941	+ 5,281	+ 318	+ 4,289
Q3	+ 44,338	+ 3,495	+ 587	+ 941
Q4	+ 36,878	+ 1,455	+ 4,741	+ 95
2018 Q1	+ 42,934	– 4,946	– 5,138	+ 3,569
Q2	+ 43,602	– 5,954	– 166	– 6,139
Q3	+ 46,500	+ 4,856	+ 1,688	+ 1,871

Source: Federal Republic of Germany – Finance Agency. **1** Including the Financial Market Stabilisation Fund, the Investment and Repayment Fund and the Restructuring Fund for Credit Institutions. **2** After deducting repurchases. **3** Excluding the central account balance with the Deutsche Bundesbank.

13. General government: debt by creditor*

€ million

Period (end of year or quarter)	Total	Banking system		Domestic non-banks		Foreign creditors pe
		Bundesbank	Domestic MFIs pe	Other domestic financial corporations pe	Other domestic creditors 1	
2011	2,125,337	11,785	606,137	206,631	53,983	1,246,801
2012	2,202,864	12,126	630,053	199,132	60,157	1,301,397
2013	2,188,128	12,438	637,529	190,555	43,994	1,303,612
2014	2,189,569	12,774	608,040	190,130	44,949	1,333,675
2015	2,159,746	85,952	595,457	186,661	45,028	1,246,649
2016	2,143,904	205,391	572,779	179,755	41,737	1,144,242
2017 p	2,092,781	319,159	521,035	175,617	41,039	1,035,932
2016 Q1	2,168,305	108,746	610,257	183,160	41,396	1,224,746
Q2	2,171,800	142,139	598,990	181,372	39,602	1,209,695
Q3	2,165,378	172,567	585,591	179,359	38,912	1,188,949
Q4	2,143,904	205,391	572,779	179,755	41,737	1,144,242
2017 Q1 p	2,117,281	239,495	558,767	178,219	39,561	1,101,238
Q2 p	2,111,075	265,130	545,118	176,514	39,305	1,085,010
Q3 p	2,104,519	290,214	532,727	176,646	39,474	1,065,459
Q4 p	2,092,781	319,159	521,035	175,617	41,039	1,035,932
2018 Q1 p	2,070,073	329,387	502,264	176,495	38,501	1,023,425
Q2 p	2,052,381	344,279	483,621	179,856	37,816	1,006,808
Q3 p	2,052,583	356,899	471,975	180,464	38,033	1,005,211

Source: Bundesbank calculations based on data from the Federal Statistical Office. * As defined in the Maastricht Treaty. **1** Calculated as a residual.

X. Public finances in Germany

14. Maastricht debt by instrument

€ million

Period (end of year or quarter)	Total	Currency and deposits [1]	Debt securities by original maturity: Short-term debt securities (up to one year)	Debt securities by original maturity: Long-term debt securities (more than one year)	Loans by original maturity: Short-term loans (up to one year)	Loans by original maturity: Long-term loans (more than one year)	Memo item: [2] Debt vis-à-vis other government subsectors	Memo item: [2] Claims vis-à-vis other government subsectors
General government								
2011	2,125,337	10,429	116,289	1,345,967	171,584	481,068	.	.
2012	2,202,864	9,742	106,945	1,441,406	124,399	520,372	.	.
2013	2,188,128	10,592	85,836	1,470,698	100,363	520,638	.	.
2014	2,189,569	12,150	72,618	1,501,494	95,770	507,536	.	.
2015	2,159,746	14,303	65,676	1,499,098	85,041	495,627	.	.
2016 Q1	2,168,305	11,976	69,372	1,491,129	104,405	491,423	.	.
Q2	2,171,800	12,181	76,710	1,485,041	111,114	486,754	.	.
Q3	2,165,378	15,370	77,249	1,491,971	98,096	482,692	.	.
Q4	2,143,904	15,845	69,715	1,484,378	91,352	482,615	.	.
2017 Q1 p	2,117,281	12,891	60,798	1,479,234	88,577	475,781	.	.
Q2 p	2,111,075	15,196	54,362	1,486,948	83,379	471,191	.	.
Q3 p	2,104,519	16,161	48,197	1,489,630	82,589	467,943	.	.
Q4 p	2,092,781	14,651	48,789	1,484,691	83,476	461,175	.	.
2018 Q1 p	2,070,073	12,540	48,449	1,479,750	71,250	458,084	.	.
Q2 p	2,052,381	12,773	54,968	1,466,057	67,160	451,423	.	.
Q3 p	2,052,583	15,811	60,047	1,466,370	64,682	445,672	.	.
Central government								
2011	1,344,082	10,429	104,121	1,017,210	138,112	74,210	1,908	11,382
2012	1,387,857	9,742	88,372	1,088,796	88,311	112,636	1,465	11,354
2013	1,390,440	10,592	78,996	1,113,029	64,970	122,852	2,696	10,303
2014	1,396,496	12,150	64,230	1,141,973	54,388	123,756	1,202	12,833
2015	1,372,604	14,303	49,512	1,139,039	45,256	124,494	2,932	13,577
2016 Q1	1,382,473	11,976	49,030	1,138,051	58,381	125,035	2,853	10,025
Q2	1,391,131	12,181	59,399	1,129,874	65,168	124,508	2,803	11,367
Q3	1,381,054	15,370	61,408	1,134,326	46,832	123,117	2,634	9,042
Q4	1,366,840	15,845	55,208	1,124,445	50,004	121,338	2,238	8,478
2017 Q1 p	1,350,988	12,891	45,510	1,124,430	48,082	120,075	2,465	7,469
Q2 p	1,353,600	15,196	40,225	1,132,686	44,682	120,811	2,547	8,136
Q3 p	1,352,975	16,161	34,216	1,136,873	45,235	120,490	2,674	10,160
Q4 p	1,351,290	14,651	36,297	1,132,542	47,758	120,041	2,935	10,603
2018 Q1 p	1,338,592	12,540	35,921	1,133,358	37,206	119,567	2,953	9,864
Q2 p	1,329,322	12,773	42,883	1,120,469	34,069	119,128	2,685	10,645
Q3 p	1,335,436	15,811	46,608	1,119,011	35,617	118,389	2,492	10,187
State government								
2011	654,143	–	12,404	330,924	11,015	299,801	12,246	3,174
2012	684,123	–	18,802	355,756	12,314	297,252	13,197	2,968
2013	663,225	–	6,847	360,706	11,573	284,099	12,141	2,655
2014	657,633	–	8,391	361,916	19,003	268,323	14,825	2,297
2015	654,287	–	16,169	362,376	18,510	257,232	15,867	4,218
2016 Q1	647,567	–	20,347	355,304	21,563	250,352	12,358	4,230
Q2	644,144	–	17,318	357,069	23,456	246,301	13,860	4,061
Q3	644,655	–	15,848	359,618	26,149	243,040	11,685	3,871
Q4	637,471	–	14,515	361,996	16,054	244,907	11,408	3,376
2017 Q1 p	627,512	–	15,308	356,832	15,301	240,071	10,407	3,527
Q2 p	620,263	–	14,167	356,647	14,516	234,933	11,180	3,578
Q3 p	618,271	–	14,021	355,342	16,095	232,813	13,313	3,581
Q4 p	611,072	–	12,543	354,941	15,753	227,836	14,325	3,609
2018 Q1 p	600,563	–	12,583	349,945	14,094	223,941	13,307	3,740
Q2 p	596,743	–	12,144	349,086	14,434	221,079	14,388	3,777
Q3 p	595,662	–	13,499	350,782	11,894	219,487	13,968	3,666
Local government								
2011	143,439	–	–	381	23,692	119,366	3,504	360
2012	147,499	–	–	423	24,801	122,275	3,124	802
2013	150,536	–	–	646	25,441	124,449	2,523	530
2014	151,995	–	–	1,297	26,126	124,572	1,959	734
2015	152,386	–	–	2,047	27,004	123,335	2,143	463
2016 Q1	154,614	–	–	2,076	26,916	125,622	2,348	476
Q2	154,257	–	–	2,453	26,476	125,328	2,216	503
Q3	155,086	–	–	2,455	26,794	125,838	2,123	527
Q4	153,914	–	–	2,404	26,529	124,982	1,819	566
2017 Q1 p	152,462	–	–	2,645	25,566	124,251	1,959	610
Q2 p	151,995	–	–	2,672	25,376	123,947	1,950	644
Q3 p	150,360	–	–	2,687	24,589	123,083	1,851	664
Q4 p	148,487	–	–	2,947	24,101	121,439	1,600	714
2018 Q1 p	147,967	–	–	2,427	22,905	122,635	1,765	719
Q2 p	144,419	–	–	2,561	22,570	119,287	1,913	724
Q3 p	139,203	–	–	2,703	20,617	115,883	2,049	757

For footnotes see end of table.

X. Public finances in Germany

14. Maastricht debt by instrument (cont'd)

€ million

Period (end of year or quarter)	Total	Currency and deposits [1]	Debt securities by original maturity		Loans by original maturity		Memo item: [2]	
			Short-term debt securities (up to one year)	Long-term debt securities (more than one year)	Short-term loans (up to one year)	Long-term loans (more than one year)	Debt vis-à-vis other government subsectors	Claims vis-à-vis other government subsectors
Social security funds								
2011	1,331	–	–	–	237	1,094	–	2,743
2012	1,171	–	–	–	195	976	–	2,661
2013	1,287	–	–	–	360	927	–	3,872
2014	1,430	–	–	–	387	1,043	–	2,122
2015	1,411	–	–	–	446	965	–	2,685
2016 Q1	1,211	–	–	–	458	753	–	2,828
Q2	1,147	–	–	–	443	704	–	2,948
Q3	1,025	–	–	–	334	691	–	3,002
Q4	1,143	–	–	–	473	670	–	3,044
2017 Q1 **p**	1,150	–	–	–	504	646	–	3,226
Q2 **p**	895	–	–	–	290	605	–	3,318
Q3 **p**	750	–	–	–	184	566	–	3,433
Q4 **p**	792	–	–	–	247	545	–	3,934
2018 Q1 **p**	975	–	–	–	424	551	–	3,702
Q2 **p**	883	–	–	–	383	500	–	3,840
Q3 **p**	790	–	–	–	400	390	–	3,900

Source: Bundesbank calculations based on data from the Federal Statistical Office and the Federal Republic of Germany – Finance Agency. **1** Particularly liabilities resulting from coins in circulation. **2** Besides direct loan relationships, claims and debt vis-à-vis other government subsectors also comprise securities holdings purchased on the market. No entry for general government as debt and claims are consolidated between different government subsectors.

15. Maastricht debt of central government by instrument and category

€ million

Period (end of year or quarter)	Total [1]	Currency and deposits [2]		Debt securities									Loans [1]
		Total [1]	of which: [3] Federal day bond	Total [1]	of which: [3] Federal bonds (Bunds)	Federal notes (Bobls)	Inflation-linked Federal bonds (Bunds) [4]	Inflation-linked Federal notes (Bobls) [4]	Capital indexation of inflation-linked securities	Federal Treasury notes (Schätze) [5]	Treasury discount paper (Bubills) [6]	Federal savings notes	
2007	984,256	6,675	.	917,584	564,137	173,949	10,019	3,444	506	102,083	37,385	10,287	59,997
2008	1,016,364	12,466	3,174	928,754	571,913	164,514	12,017	7,522	1,336	105,684	40,795	9,649	75,144
2009	1,082,644	9,981	2,495	1,013,072	577,798	166,471	16,982	7,748	1,369	113,637	104,409	9,471	59,592
2010	1,334,021	10,890	1,975	1,084,019	602,624	185,586	25,958	9,948	2,396	126,220	85,867	8,704	239,112
2011	1,344,082	10,429	2,154	1,121,331	615,200	199,284	29,313	14,927	3,961	130,648	58,297	8,208	212,322
2012	1,387,857	9,742	1,725	1,177,168	631,425	217,586	35,350	16,769	5,374	117,719	56,222	6,818	200,947
2013	1,390,440	10,592	1,397	1,192,025	643,200	234,759	41,105	10,613	4,730	110,029	50,004	4,488	187,822
2014	1,396,496	12,150	1,187	1,206,203	653,823	244,633	48,692	14,553	5,368	103,445	27,951	2,375	178,144
2015	1,372,604	14,303	1,070	1,188,551	663,296	232,387	59,942	14,553	5,607	96,389	18,536	1,305	169,750
2016	1,366,840	15,845	1,010	1,179,653	670,245	221,551	51,879	14,585	3,602	95,727	23,609	737	171,342
2017 **p**	1,351,290	14,651	966	1,168,840	693,687	203,899	58,365	14,490	4,720	91,013	10,037	289	167,800
2016 Q1	1,382,473	11,976	1,051	1,187,081	666,565	225,678	61,893	14,603	4,395	98,232	20,526	1,205	183,416
Q2	1,391,131	12,181	1,033	1,189,273	675,794	220,840	49,675	14,550	3,099	99,417	28,369	1,108	189,676
Q3	1,381,054	15,370	1,021	1,195,734	664,034	231,375	50,869	14,570	3,097	102,053	30,626	922	169,949
Q4	1,366,840	15,845	1,010	1,179,653	670,245	221,551	51,879	14,585	3,602	95,727	23,609	737	171,342
2017 Q1 **p**	1,350,988	12,891	995	1,169,939	674,049	213,371	53,838	14,535	3,362	95,148	14,910	619	168,158
Q2 **p**	1,353,600	15,196	986	1,172,911	687,278	205,203	55,842	14,465	4,507	93,795	14,431	487	165,493
Q3 **p**	1,352,975	16,161	977	1,171,089	684,134	215,029	56,905	14,490	4,092	91,893	11,851	398	165,726
Q4 **p**	1,351,290	14,651	966	1,168,840	693,687	203,899	58,365	14,490	4,720	91,013	10,037	289	167,800
2018 Q1 **p**	1,338,592	12,540	951	1,169,279	699,638	193,811	60,778	14,455	4,421	94,282	9,031	219	156,773
Q2 **p**	1,329,322	12,773	941	1,163,353	710,784	185,042	62,863	–	4,276	92,639	15,049	141	153,196
Q3 **p**	1,335,436	15,811	932	1,165,619	703,682	194,356	64,304	–	4,548	90,575	17,340	75	154,006

Sources: Federal Republic of Germany – Finance Agency, Federal Statistical Office, and Bundesbank calculations. **1** Comprises all of central government, i.e. all off-budget entities in addition to the core budget, including the government-owned bad bank FMS Wertmanagement and liabilities attributed to central government from an economic perspective under the European System of Accounts (ESA) 2010. **2** Particularly liabilities resulting from coins in circulation. **3** Issuances by the Federal Republic of Germany. Excluding issuers' holdings of own securities but including those held by other government entities. **4** Excluding inflation-induced indexation of capital. **5** Including medium-term notes issued by the Treuhand agency (expired in 2011). **6** Including Federal Treasury financing papers (expired in 2014).

XI. Economic conditions in Germany

1. Origin and use of domestic product, distribution of national income

Item	2016	2017	2018	2016	2017	2018	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3
	Index 2010 = 100			Annual percentage change									
At constant prices, chained													
I. Origin of domestic product													
Production sector (excluding construction)	118.0	120.8	122.0	4.8	2.4	1.0	4.2	– 0.6	2.6	3.5	1.7	3.4	0.1
Construction	105.5	108.0	112.0	1.8	2.4	3.6	6.0	0.3	1.8	2.3	1.9	3.9	4.2
Wholesale/retail trade, transport and storage, hotel and restaurant services	110.6	114.3	116.7	1.3	3.4	2.1	5.1	2.2	3.5	2.8	2.2	2.5	1.2
Information and communication	132.9	137.6	142.7	3.4	3.6	3.7	4.4	3.2	3.4	3.4	3.6	3.9	3.1
Financial and insurance activities	104.5	105.0	105.6	0.4	0.4	0.6	0.5	0.3	0.4	0.5	0.5	1.3	1.2
Real estate activities	104.5	105.6	106.8	0.0	1.1	1.1	1.4	0.4	1.3	1.4	1.0	1.0	0.7
Business services [1]	109.5	112.3	114.2	1.0	2.6	1.7	4.2	0.9	2.9	2.3	1.5	2.7	1.3
Public services, education and health	108.2	109.7	111.0	2.6	1.4	1.2	2.2	1.2	1.4	0.8	1.2	1.2	0.9
Other services	98.9	100.1	100.6	– 1.1	1.2	0.5	2.7	0.1	1.4	0.4	– 0.1	0.9	0.1
Gross value added	111.1	113.5	115.2	2.2	2.2	1.5	3.5	0.7	2.3	2.3	1.5	2.4	1.0
Gross domestic product [2]	111.3	113.7	115.3	2.2	2.2	1.5	3.4	0.9	2.2	2.2	1.4	2.3	1.1
II. Use of domestic product													
Private consumption [3]	108.4	110.3	111.3	2.1	1.8	1.0	2.1	1.8	2.1	1.1	1.6	1.0	0.5
Government consumption	112.3	114.1	115.3	4.0	1.6	1.1	1.7	1.4	1.5	1.7	0.6	1.1	0.9
Machinery and equipment	113.8	118.0	123.3	2.2	3.7	4.5	4.2	1.7	4.1	4.7	4.5	5.0	3.7
Premises	112.3	115.6	119.1	3.8	2.9	3.0	5.8	1.6	3.0	1.8	1.4	3.5	3.3
Other investment [4]	124.7	126.3	126.8	5.2	1.3	0.4	2.2	1.2	0.4	1.5	0.4	0.4	0.4
Changes in inventories [5,6]	.	.	.	0.2	0.1	0.4	0.0	0.3	0.1	– 0.1	0.0	0.3	1.0
Domestic demand	109.5	111.7	113.8	3.0	2.0	1.8	2.4	2.0	2.2	1.5	1.5	1.9	2.2
Net exports [6]	.	.	.	– 0.5	0.3	– 0.2	1.1	– 0.9	0.1	0.8	0.0	0.6	– 1.0
Exports	127.8	133.7	136.9	2.3	4.6	2.4	7.3	1.8	4.9	4.7	2.1	4.3	1.1
Imports	125.5	131.6	136.0	4.1	4.8	3.4	5.7	4.5	5.5	3.7	2.6	3.7	3.8
Gross domestic product [2]	111.3	113.7	115.3	2.2	2.2	1.5	3.4	0.9	2.2	2.2	1.4	2.3	1.1
At current prices (€ billion)													
III. Use of domestic product													
Private consumption [3]	1,675.6	1,732.2	1,777.5	2.7	3.4	2.6	3.9	3.4	3.6	2.7	3.0	2.6	2.1
Government consumption	615.5	638.9	663.1	4.8	3.8	3.8	3.4	3.4	3.9	4.4	3.1	3.8	3.6
Machinery and equipment	206.5	215.2	226.0	2.6	4.2	5.0	4.4	2.1	4.5	5.7	5.2	5.9	4.4
Premises	307.1	326.6	352.6	5.6	6.4	7.9	8.7	4.8	6.5	5.8	5.7	8.1	8.7
Other investment [4]	120.4	123.9	127.1	6.0	2.9	2.6	3.5	2.8	2.1	3.1	2.6	2.6	2.6
Changes in inventories [5]	– 12.8	– 7.2	8.3	.	.	.	.	.	.	.	.	.	.
Domestic use	2,912.3	3,029.5	3,154.5	3.8	4.0	4.1	4.2	4.0	4.3	3.6	3.4	4.1	4.8
Net exports	247.5	247.8	233.7	.	.	.	.	.	.	.	.	.	.
Exports	1,450.2	1,541.9	1,595.6	1.5	6.3	3.5	9.0	3.9	6.5	6.0	2.6	4.9	2.8
Imports	1,202.8	1,294.1	1,361.9	1.5	7.6	5.2	9.9	8.0	7.2	5.5	2.9	4.8	7.1
Gross domestic product [2]	3,159.8	3,277.3	3,388.2	3.6	3.7	3.4	4.3	2.5	4.2	4.0	3.2	4.2	3.0
IV. Prices (2010 = 100)													
Private consumption	106.9	108.6	110.4	0.7	1.6	1.6	1.8	1.5	1.6	1.6	1.4	1.6	1.6
Gross domestic product	110.1	111.8	113.9	1.4	1.5	1.9	0.9	1.6	2.0	1.8	1.8	1.8	1.9
Terms of trade	103.9	102.8	102.1	1.7	– 1.0	– 0.7	– 2.3	– 1.2	– 0.1	– 0.5	0.2	– 0.5	– 1.4
V. Distribution of national income													
Compensation of employees	1,601.0	1,668.8	1,746.5	3.8	4.2	4.7	4.2	4.4	4.3	4.1	4.5	4.6	4.8
Entrepreneurial and property income	762.7	787.6	785.6	3.5	3.3	– 0.3	5.4	– 1.5	5.4	3.3	0.0	3.4	– 2.1
National income	2,363.7	2,456.4	2,532.1	3.7	3.9	3.1	4.6	2.5	4.7	3.9	2.9	4.2	2.4
Memo item: Gross national income	3,222.4	3,346.3	3,460.4	3.5	3.8	3.4	4.4	2.8	4.3	3.8	3.1	4.3	3.0

Source: Federal Statistical Office; figures computed Initial annual results for 2018: figures computed in January 2019. **1** Professional, scientific, technical, administration and support service activities. **2** Gross value added plus taxes on products (netted with subsidies on products). **3** Including non-profit institutions serving households. **4** Intellectual property rights (inter alia, computer software and entertainment, literary or artistic originals) and cultivated assets. **5** Including net increase in valuables. **6** Contribution of growth to GDP.

XI. Economic conditions in Germany

2. Output in the production sector*

Adjusted for working-day variations **o**

Period	Production sector, total	of which: Construction	Energy	Industry: Total	of which: by main industrial grouping: Intermediate goods	Capital goods	Durable goods	Non-durable goods	of which: by economic sector: Manufacture of basic metals and fabricated metal products	Manufacture of computers, electronic and optical products and electrical equipment	Machinery and equipment	Motor vehicles, trailers and semi-trailers
2015 = 100												
% of total **1**	100.00	14.04	6.37	79.60	29.44	36.96	2.28	10.92	10.27	9.95	12.73	14.14
2014	98.8	101.9	95.2	99.3	99.9	98.8	97.5	100.1	99.7	99.0	100.0	99.8
2015	99.7	99.6	100.1	99.7	99.8	99.7	99.6	99.8	99.8	99.7	99.7	99.6
2016	101.5	105.3	98.7	101.1	100.9	101.3	102.6	101.0	101.6	101.0	99.6	102.1
2017	104.9	108.7	98.8	104.7	104.9	105.0	106.9	103.0	106.2	107.0	104.1	105.3
2017 Q3	106.4	116.6	92.4	105.8	107.4	104.7	106.2	105.2	107.8	109.5	103.0	105.2
Q4	109.9	122.3	104.6	108.2	104.6	111.3	109.6	107.0	106.7	111.6	115.8	104.8
2018 Q1	102.7	87.8	105.1	105.2	106.1	104.3	108.9	104.7	107.3	108.3	100.6	109.5
Q2	107.5	113.6	90.5	107.7	108.0	107.6	105.4	107.4	110.1	107.6	104.9	110.8
Q3 **2,r**	106.2	115.5	93.3	105.6	106.8	103.2	104.1	111.4	107.9	110.3	105.1	96.5
2017 Nov.	116.0	123.4	104.3	115.6	111.6	119.3	117.7	113.2	114.9	117.4	115.9	122.4
Dec.	104.3	122.7	106.6	100.9	92.4	108.3	97.1	99.8	93.2	107.9	128.6	83.8
2018 Jan.	95.7	75.2	106.0	98.5	102.4	93.8	102.8	102.8	101.5	102.0	87.9	99.4
Feb.	98.8	83.0	101.6	101.4	102.6	100.7	105.4	99.4	104.9	104.3	97.1	105.3
Mar.	113.6	105.1	107.7	115.6	113.3	118.4	118.4	112.0	115.5	118.7	116.7	123.9
Apr.	105.1	109.6	92.5	105.3	106.0	105.5	103.2	103.0	108.6	104.0	100.3	112.3
May	106.7	114.1	90.2	106.7	108.2	104.8	102.8	109.6	109.4	105.9	101.7	108.2
June	110.6	117.1	88.9	111.1	109.8	112.6	110.3	109.6	112.3	112.9	112.7	112.0
July **2,3,r**	106.9	115.5	93.6	106.5	108.6	104.3	98.4	109.9	109.3	108.9	104.7	100.6
Aug. **3,r**	100.5	111.4	94.9	99.0	102.9	93.0	95.0	110.0	102.9	105.5	98.1	80.4
Sep. **r**	111.2	119.5	91.4	111.4	108.8	112.2	118.9	114.2	111.6	116.6	112.6	108.6
Oct. **x**	110.0	121.3	97.1	109.1	109.1	108.4	111.9	111.0	111.8	112.2	108.5	104.4
Nov. **x,p**	110.6	121.0	95.7	110.0	106.9	112.9	110.9	108.0	111.4	113.3	112.1	108.0
Annual percentage change												
2014	+ 1.5	+ 2.9	– 3.8	+ 2.0	+ 1.8	+ 2.3	+ 0.4	+ 1.5	+ 2.9	+ 2.5	+ 1.2	+ 4.1
2015	+ 0.9	– 2.3	+ 5.1	+ 0.4	– 0.1	+ 0.9	+ 2.2	– 0.3	+ 0.1	+ 0.7	– 0.3	– 0.2
2016	+ 1.8	+ 5.7	– 1.4	+ 1.4	+ 1.1	+ 1.6	+ 3.0	+ 1.2	+ 1.8	+ 1.3	– 0.1	+ 2.5
2017	+ 3.3	+ 3.2	+ 0.1	+ 3.6	+ 4.0	+ 3.7	+ 4.2	+ 2.0	+ 4.5	+ 5.9	+ 4.5	+ 3.1
2017 Q3	+ 4.1	+ 3.2	– 1.8	+ 4.7	+ 5.2	+ 4.8	+ 6.1	+ 3.0	+ 6.4	+ 6.7	+ 4.7	+ 5.0
Q4	+ 4.7	+ 3.3	+ 0.3	+ 5.3	+ 6.2	+ 5.4	+ 3.1	+ 3.2	+ 5.8	+ 7.4	+ 7.2	+ 5.7
2018 Q1	+ 3.9	+ 3.5	+ 0.7	+ 4.2	+ 3.8	+ 4.3	+ 2.6	+ 5.3	+ 3.9	+ 5.9	+ 4.9	+ 4.3
Q2	+ 2.9	+ 2.2	– 3.5	+ 3.5	+ 2.4	+ 3.5	– 0.2	+ 7.0	+ 2.9	+ 2.8	+ 3.1	+ 4.6
Q3 **2,r**	– 0.2	– 1.0	+ 0.9	– 0.2	– 0.6	– 1.5	– 2.0	+ 5.9	+ 0.1	+ 0.8	+ 2.0	– 8.3
2017 Nov.	+ 5.7	+ 3.7	– 0.7	+ 6.5	+ 6.8	+ 7.1	+ 4.8	+ 4.2	+ 4.8	+ 7.7	+ 5.2	+ 11.8
Dec.	+ 6.3	+ 2.9	+ 0.7	+ 7.7	+ 7.9	+ 8.7	+ 2.1	+ 4.9	+ 8.1	+ 11.5	+ 12.1	+ 9.1
2018 Jan.	+ 6.1	+ 16.4	– 4.6	+ 5.8	+ 5.0	+ 6.0	+ 3.8	+ 7.3	+ 4.9	+ 6.4	+ 5.6	+ 5.4
Feb.	+ 2.1	– 1.3	+ 2.0	+ 2.6	+ 3.5	+ 1.6	+ 0.6	+ 4.2	+ 4.2	+ 5.2	+ 2.5	– 0.4
Mar.	+ 3.6	– 0.6	+ 5.1	+ 4.3	+ 3.0	+ 5.4	+ 3.4	+ 4.6	+ 2.8	+ 6.1	+ 6.5	+ 7.6
Apr.	+ 1.8	+ 0.3	– 3.1	+ 2.5	+ 0.8	+ 3.7	– 2.4	+ 4.5	+ 2.8	+ 1.0	+ 2.9	+ 4.9
May	+ 3.6	+ 4.2	– 4.8	+ 4.1	+ 3.7	+ 3.0	– 0.4	+ 9.2	+ 2.8	+ 3.8	+ 3.0	+ 3.5
June	+ 3.3	+ 2.2	– 2.6	+ 3.7	+ 2.8	+ 3.6	+ 2.1	+ 7.5	+ 2.9	+ 3.7	+ 3.3	+ 5.3
July **2,3,r**	+ 0.3	– 3.0	+ 2.5	+ 0.8	± 0.0	+ 0.2	– 3.1	+ 5.2	+ 0.6	– 0.3	+ 2.8	– 3.2
Aug. **3,r**	– 0.7	– 0.9	+ 2.0	– 0.9	– 0.6	– 3.5	– 3.3	+ 7.1	+ 0.7	+ 1.2	+ 3.4	– 16.0
Sep. **r**	– 0.3	+ 1.0	– 1.7	– 0.4	– 1.3	– 1.3	– 0.1	+ 5.4	– 0.8	+ 1.4	+ 0.2	– 6.5
Oct. **x**	+ 0.5	+ 0.4	– 5.7	+ 1.0	– 0.5	+ 2.0	– 1.8	+ 2.7	– 0.2	+ 2.5	+ 5.3	– 3.4
Nov. **x,p**	– 4.7	– 1.9	– 8.2	– 4.8	– 4.2	– 5.4	– 5.8	– 4.6	– 3.0	– 3.5	– 3.3	– 11.8

Source of the unadjusted figures: Federal Statistical Office. ***** For explanatory notes, see Statistical Supplement 4 – Seasonally adjusted business statistics, Tables II.10 to II.12. **o** Using JDemetra+ 2.2.1 (X13). **1** Share of gross value added at factor cost of the production sector in the base year 2015. **2** From July 2018 deflated by producer price index based on the 2015 weighting scheme. Until June 2018 the producer price index based on the 2010 weighting scheme is used. **3** Influenced by a change in holiday dates. **x** Provisional; estimated and adjusted in advance by the Federal Statistical Office to the results of the Quarterly Production Survey and the Quarterly Survey in the specialised construction industry, respectively.

XI. Economic conditions in Germany

3. Orders received by industry *

Adjusted for working-day variations o

Period	Industry		of which: Intermediate goods		Capital goods		Consumer goods		of which: Durable goods		Non-durable goods	
	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change
Total												
2013	95.2	+ 2.4	100.0	– 0.9	92.6	+ 4.6	92.5	+ 2.0	95.2	+ 2.4	91.7	+ 2.0
2014	97.8	+ 2.7	100.6	+ 0.6	96.2	+ 3.9	96.8	+ 4.6	95.8	+ 0.6	97.1	+ 5.9
2015	99.8	+ 2.0	99.8	– 0.8	99.8	+ 3.7	99.8	+ 3.1	99.7	+ 4.1	99.8	+ 2.8
2016	100.7	+ 0.9	98.9	– 0.9	101.9	+ 2.1	100.6	+ 0.8	105.3	+ 5.6	99.0	– 0.8
2017	108.6	+ 7.8	109.4	+ 10.6	108.5	+ 6.5	105.7	+ 5.1	116.5	+ 10.6	102.2	+ 3.2
2017 Nov.	114.8	+ 10.9	118.2	+ 13.8	113.1	+ 9.5	111.4	+ 8.1	129.7	+ 17.1	105.4	+ 4.8
Dec.	115.2	+ 9.1	103.4	+ 14.0	125.2	+ 7.2	94.5	+ 4.2	108.6	+ 12.3	89.8	+ 1.2
2018 Jan.	110.9	+ 9.9	115.7	+ 10.5	107.9	+ 9.7	111.3	+ 8.8	112.6	+ 5.2	110.8	+ 10.0
Feb.	110.3	+ 4.1	110.9	+ 2.3	110.1	+ 5.9	108.7	– 1.4	112.2	+ 3.1	107.5	– 2.9
Mar.	121.6	+ 3.8	121.2	+ 4.1	122.9	+ 3.5	113.6	+ 2.9	123.6	– 2.1	110.3	+ 4.7
Apr.	108.4	+ 1.5	115.9	+ 7.2	104.7	– 1.7	101.5	– 0.5	114.1	+ 2.5	97.3	– 1.8
May	109.9	+ 5.9	114.2	+ 7.2	107.6	+ 5.2	106.7	+ 5.0	121.3	+ 10.1	101.8	+ 3.0
June	111.5	+ 0.7	115.0	+ 3.7	110.2	– 1.1	105.2	+ 1.2	121.2	+ 3.1	99.9	+ 0.4
July	106.9	+ 1.0	114.7	+ 5.3	101.7	– 1.9	109.6	+ 1.7	120.3	+ 10.5	106.1	– 1.2
Aug.	98.8	– 0.2	103.8	– 1.0	94.8	+ 0.7	106.5	– 1.4	116.6	+ 1.2	103.2	– 2.3
Sep.	109.3	– 0.9	109.2	+ 0.3	109.4	– 2.1	109.1	+ 2.0	124.4	– 1.4	104.2	+ 3.5
Oct.	111.2	– 1.4	113.8	+ 0.3	109.8	– 2.6	109.4	– 0.2	127.7	– 0.2	103.4	– 0.2
Nov. p	111.5	– 2.9	110.1	– 6.9	113.1	± 0.0	105.3	– 5.5	121.9	– 6.0	99.9	– 5.2
From the domestic market												
2013	97.0	+ 0.5	102.8	– 1.3	92.3	+ 2.1	95.2	+ 1.2	100.4	+ 0.9	93.4	+ 1.3
2014	98.1	+ 1.1	101.7	– 1.1	95.2	+ 3.1	97.1	+ 2.0	100.4	± 0.0	96.0	+ 2.8
2015	99.8	+ 1.7	99.8	– 1.9	99.7	+ 4.7	99.8	+ 2.8	99.7	– 0.7	99.8	+ 4.0
2016	99.8	± 0.0	97.6	– 2.2	101.9	+ 2.2	98.0	– 1.8	103.1	+ 3.4	96.3	– 3.5
2017	107.0	+ 7.2	107.1	+ 9.7	107.8	+ 5.8	101.6	+ 3.7	108.6	+ 5.3	99.3	+ 3.1
2017 Nov.	112.8	+ 9.4	114.1	+ 10.9	111.8	+ 8.0	111.5	+ 9.9	123.0	+ 10.4	107.6	+ 9.6
Dec.	101.3	+ 1.4	98.4	+ 12.7	106.1	– 5.9	86.2	± 0.0	89.0	+ 2.5	85.2	– 0.9
2018 Jan.	107.8	+ 8.8	113.4	+ 11.0	104.0	+ 7.5	101.8	+ 4.0	103.1	+ 0.4	101.3	+ 5.2
Feb.	105.5	– 3.6	108.1	– 0.9	103.4	– 6.3	105.3	+ 0.5	109.5	+ 7.1	103.9	– 1.7
Mar.	119.7	+ 4.3	119.4	+ 5.9	121.5	+ 2.9	109.0	+ 3.6	122.1	+ 5.3	104.6	+ 3.0
Apr.	105.0	– 4.5	108.7	+ 2.7	103.0	– 11.2	97.9	+ 4.9	115.5	+ 13.2	91.9	+ 1.7
May	106.5	+ 5.0	110.2	+ 6.3	103.4	+ 3.3	106.2	+ 10.1	127.6	+ 29.3	99.0	+ 3.4
June	107.7	– 0.9	111.4	+ 5.6	105.4	– 6.6	101.4	+ 1.5	113.1	+ 5.5	97.5	+ 0.1
July	109.8	+ 2.4	113.7	+ 5.1	107.1	+ 0.5	105.4	+ 0.5	109.4	+ 6.9	104.1	– 1.6
Aug.	98.3	– 2.9	102.3	– 4.4	94.2	– 1.4	103.1	– 3.0	114.7	+ 3.4	99.2	– 5.3
Sep.	107.6	+ 0.1	107.1	+ 1.1	109.0	– 0.4	101.2	– 3.2	116.9	– 3.5	95.9	– 3.0
Oct.	106.5	– 3.9	110.0	– 2.0	103.3	– 6.0	107.6	– 0.9	120.5	– 6.3	103.2	+ 1.4
Nov. p	110.8	– 1.8	109.8	– 3.8	112.2	+ 0.4	107.3	– 3.8	120.7	– 1.9	102.7	– 4.6
From abroad												
2013	93.9	+ 3.9	97.1	– 0.4	92.8	+ 6.2	90.5	+ 2.7	91.0	+ 3.6	90.4	+ 2.5
2014	97.5	+ 3.8	99.5	+ 2.5	96.7	+ 4.2	96.5	+ 6.6	92.0	+ 1.1	97.9	+ 8.3
2015	99.8	+ 2.4	99.8	+ 0.3	99.8	+ 3.2	99.8	+ 3.4	99.8	+ 8.5	99.8	+ 1.9
2016	101.5	+ 1.7	100.3	+ 0.5	101.9	+ 2.1	102.6	+ 2.8	107.0	+ 7.2	101.1	+ 1.3
2017	109.8	+ 8.2	111.9	+ 11.6	108.9	+ 6.9	108.9	+ 6.1	122.8	+ 14.8	104.5	+ 3.4
2017 Nov.	116.4	+ 12.1	122.7	+ 16.9	113.9	+ 10.5	111.3	+ 6.6	135.1	+ 22.4	103.7	+ 1.3
Dec.	125.7	+ 14.3	108.8	+ 15.4	136.7	+ 14.6	100.9	+ 7.1	124.3	+ 18.8	93.3	+ 2.8
2018 Jan.	113.3	+ 10.9	118.2	+ 10.1	110.3	+ 11.0	118.6	+ 12.2	120.2	+ 8.8	118.1	+ 13.4
Feb.	113.9	+ 10.2	113.9	+ 5.9	114.1	+ 13.9	111.3	– 2.7	114.3	+ 0.2	110.3	– 3.7
Mar.	123.1	+ 3.4	123.2	+ 2.4	123.7	+ 3.9	117.2	+ 2.4	124.8	– 7.3	114.7	+ 6.1
Apr.	111.0	+ 6.4	123.7	+ 11.9	105.8	+ 5.0	104.3	– 4.1	112.9	– 5.0	101.5	– 4.0
May	112.4	+ 6.4	118.5	+ 8.2	110.2	+ 6.3	107.0	+ 1.3	116.3	– 2.7	104.0	+ 2.9
June	114.4	+ 2.0	118.8	+ 1.7	113.1	+ 2.3	108.2	+ 0.9	127.8	+ 1.5	101.8	+ 0.7
July	104.7	– 0.1	115.8	+ 5.7	98.4	– 3.5	112.8	+ 2.5	129.0	+ 13.0	107.6	– 0.9
Aug.	99.2	+ 2.0	105.5	+ 2.8	95.1	+ 1.9	109.1	– 0.2	118.1	– 0.5	106.2	± 0.0
Sep.	110.6	– 1.7	111.4	– 0.7	109.7	– 3.1	115.3	+ 5.8	130.4	+ 0.1	110.5	+ 8.2
Oct.	114.7	+ 0.3	117.9	+ 2.6	113.7	– 0.6	110.8	+ 0.4	133.5	+ 4.8	103.5	– 1.3
Nov. p	112.0	– 3.8	110.4	– 10.0	113.7	– 0.2	103.8	– 6.7	122.8	– 9.1	97.7	– 5.8

Source of the unadjusted figures: Federal Statistical Office. * At current prices; for explanatory notes, see Statistical Supplement 4 – Seasonally adjusted business statistics, Tables II.14 to II.16. o Using JDemetra+ 2.2.1 (X13).

XI. Economic conditions in Germany

4. Orders received by construction *

Adjusted for working-day variations o

Period	Total		Breakdown by type of construction										Breakdown by client 1			
			Building													
	Total		Total		Housing construction		Industrial construction		Public sector construction		Civil engineering		Industry		Public sector 2	
	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change
2014	95.4	– 0.4	95.2	+ 0.7	88.5	+ 4.4	102.0	– 1.0	91.8	– 3.6	95.6	– 1.7	99.2	– 0.1	95.1	– 3.5
2015	99.9	+ 4.7	99.9	+ 4.9	99.9	+ 12.9	100.0	– 2.0	99.8	+ 8.7	99.9	+ 4.5	99.9	+ 0.7	99.9	+ 5.0
2016	114.4	+ 14.5	115.0	+ 15.1	116.9	+ 17.0	114.9	+ 14.9	108.9	+ 9.1	113.7	+ 13.8	111.7	+ 11.8	116.0	+ 16.1
2017	122.4	+ 7.0	123.1	+ 7.0	123.1	+ 5.3	123.5	+ 7.5	121.9	+ 11.9	121.7	+ 7.0	119.9	+ 7.3	125.0	+ 7.8
2017 Oct.	114.0	– 2.8	115.0	– 2.9	123.5	+ 4.6	106.2	– 11.6	119.9	+ 6.8	112.8	– 2.9	108.3	– 8.6	114.8	– 0.6
Nov.	113.2	+ 10.8	118.1	+ 13.1	113.7	– 0.4	126.2	+ 29.0	102.7	+ 6.5	107.4	+ 7.6	124.7	+ 23.0	99.7	+ 4.0
Dec.	133.9	+ 26.3	148.9	+ 31.7	148.6	+ 39.8	157.5	+ 27.4	117.8	+ 22.7	116.5	+ 19.1	142.3	+ 23.8	115.4	+ 20.7
2018 Jan.	99.2	+ 8.9	100.8	+ 8.3	102.1	+ 9.9	103.4	+ 5.5	86.7	+ 15.3	97.4	+ 9.7	105.8	+ 4.5	89.9	+ 14.5
Feb.	124.1	+ 18.3	118.0	+ 9.2	112.8	+ 6.0	124.7	+ 11.3	110.3	+ 11.6	131.2	+ 29.6	136.3	+ 31.2	117.0	+ 11.4
Mar.	145.6	+ 1.7	140.2	– 0.5	138.6	– 4.9	136.9	+ 0.1	157.9	+ 12.3	151.8	+ 4.3	137.4	+ 2.8	159.1	+ 4.5
Apr.	135.9	+ 1.5	130.7	+ 1.2	141.1	+ 13.1	125.8	– 7.6	114.4	– 2.4	141.9	+ 1.7	127.0	+ 0.3	142.8	– 3.4
May	142.8	+ 14.8	136.9	+ 13.7	130.7	+ 7.9	143.0	+ 25.8	134.9	– 5.8	149.6	+ 16.0	142.7	+ 27.2	150.2	+ 7.1
June	147.2	+ 5.5	141.8	+ 0.7	142.6	– 1.0	136.3	+ 2.9	159.9	– 1.0	153.5	+ 11.2	137.0	+ 7.5	161.8	+ 7.4
July	142.1	+ 7.3	142.0	+ 12.5	142.2	+ 14.9	143.7	+ 11.1	134.8	+ 10.0	142.3	+ 1.9	144.3	+ 13.7	139.6	– 3.0
Aug.	128.7	+ 10.5	119.8	+ 5.4	125.8	+ 13.3	116.6	+ 2.6	112.3	– 8.5	139.1	+ 16.1	127.4	+ 12.9	132.0	+ 6.4
Sep.	139.8	+ 14.3	143.6	+ 17.0	156.0	+ 28.8	130.4	+ 9.1	152.2	+ 8.5	135.4	+ 11.2	134.8	+ 13.9	135.7	+ 6.3
Oct.	131.9	+ 15.7	128.5	+ 11.7	141.1	+ 14.3	122.1	+ 15.0	110.7	– 7.7	135.9	+ 20.5	134.3	+ 24.0	123.6	+ 7.7

Source of the unadjusted figures: Federal Statistical Office. * At current prices; excluding value added tax; for explanatory notes, see Statistical Supplement – Seasonally adjusted business statistics, Table II.21. o Using the Census X-12-ARIMA method, version 0.2.8. 1 Excluding housing construction orders. 2 Including road construction.

5. Retail trade turnover *

Adjusted for calendar variations o

Period	Total				of which:											
					In stores by enterprises main product range										Retail sale via mail order houses or via internet as well as other retail sale 2	
					Food, beverages, tobacco 1		Textiles, clothing, foodwear and leather goods		Information and communications equipment		Construction and flooring materials, household appliances, furniture		Retail sale of pharmaceutical and medical goods, cosmetic and toilet articles			
	At current prices		At 2010 prices 3		At current prices											
	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change	2015 = 100	Annual percentage change
2014	96.5	+ 1.6	96.4	+ 1.2	97.3	+ 2.0	99.9	+ 1.8	99.2	– 0.8	97.6	– 0.5	95.0	+ 7.1	83.3	+ 1.8
2015	4 100.1	+ 3.7	4 100.1	+ 3.8	100.1	+ 2.9	100.2	+ 0.3	100.2	+ 1.0	100.2	+ 2.7	100.0	+ 5.3	4 100.0	+ 20.0
2016	102.5	+ 2.4	102.1	+ 2.0	101.7	+ 1.6	101.0	+ 0.8	99.9	– 0.3	101.5	+ 1.3	103.9	+ 3.9	109.8	+ 9.8
2017 5	107.6	+ 5.0	105.2	+ 3.0	105.6	+ 3.8	108.3	+ 7.2	106.8	+ 6.9	104.0	+ 2.5	107.8	+ 3.8	120.6	+ 9.8
2017 Nov.	114.9	+ 5.8	111.3	+ 3.9	108.0	+ 4.7	112.5	+ 4.9	123.8	+ 7.7	111.3	+ 3.5	113.6	+ 4.6	151.4	+ 14.0
Dec.	129.3	+ 4.1	125.4	+ 2.5	125.2	+ 4.3	128.0	+ 3.2	162.7	+ 2.6	113.9	+ 3.4	123.3	+ 4.8	154.6	+ 8.0
2018 Jan.	100.4	+ 4.3	97.8	+ 2.7	99.1	+ 4.6	90.1	+ 1.3	110.8	– 1.0	90.7	+ 5.0	107.9	+ 6.4	120.1	+ 6.6
Feb.	96.4	+ 2.4	93.7	+ 1.2	98.1	+ 3.9	78.9	– 3.8	93.0	+ 1.5	89.6	± 0.0	104.8	+ 5.6	108.9	+ 2.6
Mar.	110.9	+ 1.2	107.0	– 0.2	110.2	+ 4.1	100.7	– 9.7	104.3	+ 2.3	107.6	– 4.9	113.2	+ 3.7	126.7	+ 6.0
Apr.	113.0	+ 5.7	108.6	+ 4.0	112.0	+ 3.9	120.5	+ 10.2	91.4	– 1.7	114.5	+ 4.7	113.0	+ 7.6	122.1	+ 7.3
May	110.4	+ 2.6	105.9	+ 0.8	112.0	+ 5.1	110.3	– 0.7	90.1	+ 0.6	106.7	– 1.1	107.9	+ 1.0	119.5	+ 4.0
June	109.3	+ 3.3	105.1	+ 1.2	111.4	+ 6.1	106.6	– 3.7	100.4	+ 5.1	102.0	– 1.4	109.4	+ 3.1	114.4	+ 1.9
July	110.1	+ 2.4	106.8	+ 0.8	110.1	+ 2.5	105.1	– 2.5	97.1	– 4.4	103.2	– 1.7	115.3	+ 5.5	122.7	+ 9.1
Aug.	106.1	+ 3.0	102.6	+ 1.4	106.9	+ 3.1	98.7	– 0.8	97.5	– 0.2	96.7	– 1.4	108.9	+ 4.3	115.6	+ 4.5
Sep.	107.6	+ 1.8	102.8	± 0.0	105.1	+ 2.5	109.5	– 7.8	106.7	+ 3.5	100.3	+ 0.1	109.5	+ 3.1	125.8	+ 7.4
Oct.	113.9	+ 3.3	108.4	+ 1.3	110.2	+ 4.2	115.8	– 3.2	106.1	– 3.2	109.0	– 0.7	113.8	+ 4.4	137.1	+ 12.4
Nov.	118.6	+ 3.2	113.1	+ 1.6	109.1	+ 1.0	111.6	– 0.8	128.1	+ 3.5	112.8	+ 1.3	117.2	+ 3.2	163.4	+ 7.9

Source of the unadjusted figures: Federal Statistical Office. * Excluding value added tax; for explanatory notes, see Statistical Supplement 4 – Seasonally adjusted business statistics, Table II.24. o Using the Census X-12-ARIMA method, version 0.2.8. 1 Including stalls and markets. 2 Not in stores, stalls or markets. 3 Values at current prices deflated with retail price indices at 2010 weights. 4 As of May 2015 integration of a larger online retail sales-based enterprise that founded a business establishment in Germany in May 2015. 5 As of January 2017 figures are provisional, in some cases revised, and particularly uncertain in recent months due to estimates for missing reports.

XI. Economic conditions in Germany

6. Labour market *

Period	Employment 1		Employment subject to social contributions 2					Solely jobs exempt from social contributions 2	Short-time workers 3		Unemployment 4		Unemployment rate 4,5 in %	Vacancies, 4,6 thousands
			Total		of which:					of which:		of which:		
	Thousands	Annual percentage change	Thousands	Annual percentage change	Production sector	Services excluding temporary employment	Temporary employment		Total	Cyclically induced	Total	Assigned to the legal category of the Third Book of the Social Security Code (SGB III)		
					Thousands									
2014	42,670	+ 0.8	30,197	+ 1.6	8,860	20,332	770	5,029	134	49	2,898	933	6.7	490
2015	43,071	+ 0.9	30,823	+ 2.1	8,938	20,840	806	4,856	130	44	2,795	859	6.4	569
2016	43,642	+ 1.3	31,508	+ 2.2	9,028	21,407	834	4,804	128	42	2,691	822	6.1	655
2017	44,269	+ 1.4	32,234	+ 2.3	9,146	21,980	868	4,742	113	24	2,533 7	855	5.7	731
2018	...	...	...	...	...	...	...	...	...	...	2,340	802	5.2	796
2015 Q4	43,485	+ 1.2	31,333	+ 2.3	9,049	21,204	837	4,829	101	46	2,655	775	6.0	604
2016 Q1	43,087	+ 1.4	31,077	+ 2.4	8,929	21,131	793	4,785	312	50	2,892	932	6.6	610
Q2	43,563	+ 1.3	31,350	+ 2.2	8,988	21,298	820	4,823	59	47	2,674	782	6.1	653
Q3	43,842	+ 1.3	31,593	+ 2.1	9,056	21,431	858	4,827	46	35	2,651	808	6.0	682
Q4	44,076	+ 1.4	32,014	+ 2.2	9,137	21,770	866	4,781	93	36	2,547	766	5.8	677
2017 Q1	43,729	+ 1.5	31,790	+ 2.3	9,040	21,697	830	4,728	307	41	2,734 7	987	6.2	671
Q2	44,195	+ 1.5	32,064	+ 2.3	9,110	21,857	852	4,762	36	25	2,513	822	5.6	717
Q3	44,479	+ 1.5	32,324	+ 2.3	9,172	22,011	892	4,766	28	16	2,504	833	5.6	763
Q4	44,672	+ 1.4	32,759	+ 2.3	9,263	22,354	900	4,711	79	15	2,381	780	5.3	771
2018 Q1	r 44,369	r + 1.5	32,563	+ 2.4	9,214	22,279	843	4,664	179	22	2,525	909	5.7	760
Q2	r 44,783	r + 1.3	32,802	+ 2.3	9,296	22,414	843	4,701	20	11	2,325	760 8	5.1	794
Q3	r 45,016	r + 1.2	9 33,043	9 + 2.2	9 9,387	9 22,548	9 856	9 4,699	...	9 18	2,311	784	5.1	828
Q4	...	...	...	...	...	...	...	...	...	...	2,200	755	4.9	804
2015 Aug.	43,250	+ 1.0	30,988	+ 2.2	8,993	20,901	846	4,841	40	26	2,796	851	6.4	597
Sep.	43,429	+ 1.1	31,333	+ 2.2	9,076	21,153	850	4,810	51	39	2,708	799	6.2	600
Oct.	43,517	+ 1.1	31,368	+ 2.3	9,068	21,206	846	4,814	61	47	2,649	764	6.0	612
Nov.	43,554	+ 1.3	31,389	+ 2.5	9,060	21,247	842	4,846	66	52	2,633	764	6.0	610
Dec.	43,385	+ 1.3	31,150	+ 2.5	8,964	21,167	798	4,843	177	39	2,681	798	6.1	591
2016 Jan.	42,993	+ 1.3	30,983	+ 2.3	8,906	21,073	784	4,774	343	48	2,920	961	6.7	581
Feb.	43,049	+ 1.4	31,069	+ 2.4	8,923	21,127	793	4,769	343	50	2,911	947	6.6	614
Mar.	43,218	+ 1.4	31,209	+ 2.2	8,954	21,217	804	4,782	252	52	2,845	888	6.5	635
Apr.	43,386	+ 1.3	31,314	+ 2.2	8,983	21,279	809	4,806	67	55	2,744	817	6.3	640
May	43,580	+ 1.3	31,410	+ 2.3	9,000	21,337	826	4,838	57	45	2,664	774	6.0	655
June	43,724	+ 1.3	31,443	+ 2.2	9,010	21,339	846	4,865	54	42	2,614	754	5.9	665
July	43,704	+ 1.2	31,378	+ 2.1	9,007	21,273	853	4,863	43	31	2,661	805	6.0	674
Aug.	43,810	+ 1.3	31,675	+ 2.2	9,076	21,486	865	4,802	50	38	2,684	830	6.1	685
Sep.	44,011	+ 1.3	32,007	+ 2.2	9,157	21,729	869	4,768	46	35	2,608	787	5.9	687
Oct.	44,093	+ 1.3	32,045	+ 2.2	9,154	21,773	871	4,767	50	39	2,540	756	5.8	691
Nov.	44,140	+ 1.3	32,069	+ 2.2	9,147	21,807	876	4,794	52	40	2,532	756	5.7	681
Dec.	43,994	+ 1.4	31,848	+ 2.2	9,063	21,731	835	4,794	178	30	2,568	785	5.8	658
2017 Jan.	43,644	+ 1.5	31,707	+ 2.3	9,017	21,648	825	4,719	370	43	2,777 7	1,010	6.3	647
Feb.	43,694	+ 1.5	31,774	+ 2.3	9,032	21,690	828	4,706	335	42	2,762	1,014	6.3	675
Mar.	43,850	+ 1.5	31,930	+ 2.3	9,078	21,777	838	4,722	216	40	2,662	935	6.0	692
Apr.	44,024	+ 1.5	32,013	+ 2.2	9,101	21,831	838	4,748	39	27	2,569	861	5.8	706
May	44,205	+ 1.4	32,131	+ 2.3	9,124	21,900	859	4,775	36	25	2,498	810	5.6	714
June	44,356	+ 1.4	32,165	+ 2.3	9,135	21,902	878	4,802	33	22	2,473	796	5.5	731
July	44,375	+ 1.5	32,128	+ 2.4	9,123	21,869	890	4,803	30	18	2,518	842	5.6	750
Aug.	44,445	+ 1.4	32,396	+ 2.3	9,189	22,060	896	4,739	28	15	2,545	855	5.7	765
Sep.	44,618	+ 1.4	32,732	+ 2.3	9,272	22,304	901	4,711	28	16	2,449	800	5.5	773
Oct.	44,683	+ 1.3	32,778	+ 2.3	9,274	22,355	901	4,696	27	16	2,389	772	5.4	780
Nov.	44,737	+ 1.4	32,830	+ 2.4	9,278	22,395	916	4,720	26	16	2,368	772	5.3	772
Dec.	44,595	+ 1.4	32,609	+ 2.4	9,202	22,319	867	4,722	183	12	2,385	796	5.3	761
2018 Jan.	r 44,317	r + 1.5	32,504	+ 2.5	9,191	22,249	841	4,660	256	21	2,570	941	5.8	736
Feb.	r 44,340	r + 1.5	32,551	+ 2.4	9,223	22,262	838	4,642	144	20	2,546	927	5.7	764
Mar.	r 44,451	r + 1.4	32,660	+ 2.3	9,253	22,334	837	4,656	136	24	2,458	859	5.5	778
Apr.	r 44,625	r + 1.4	32,782	+ 2.4	9,291	22,404	840	4,686	20	10	2,384	796	5.3	784
May	r 44,812	r + 1.4	32,857	+ 2.3	9,310	22,450	845	4,718	19	9	2,315	751 8	5.1	793
June	r 44,913	r + 1.3	32,870	+ 2.2	9,325	22,439	853	4,742	23	14	2,276	735	5.0	805
July	r 44,919	r + 1.2	9 32,856	9 + 2.3	9 9,342	9 22,405	9 861	9 4,739	...	9 11	2,325	788	5.1	823
Aug.	r 44,991	r + 1.2	9 33,127	9 + 2.3	9 9,411	9 22,607	9 857	9 4,669	...	9 21	2,351	804	5.2	828
Sep.	r 45,139	r + 1.2	9 33,419	9 + 2.1	9 9,494	9 22,827	9 844	9 4,636	...	9 21	2,256	759	5.0	834
Oct.	r 45,192	r + 1.1	9 33,474	9 + 2.1	9 9,509	9 22,888	9 828	9 4,634	...	9 32	2,204	742	4.9	824
Nov.	10 45,220	10 + 1.1	...	...	...	...	...	...	...	...	2,186	745	4.8	807
Dec.	...	...	...	...	...	...	...	...	...	...	2,210	777	4.9	781

Sources: Federal Statistical Office; Federal Employment Agency. * Annual and quarterly figures: averages; calculated by the Bundesbank; deviations from the official figures are due to rounding. **1** Workplace concept; averages. **2** Monthly figures: end of month. **3** Number within a given month. **4** Mid-month level. **5** Relative to the total civilian labour force. **6** Excluding government-assisted forms of employment, including jobs located abroad. **7** From January 2017 persons receiving additional income assistance (unemployment benefit and unemployment benefit II at the same time) shall be assigned to the legal category of the Third Book of the Social Security Code (SGB III). **8** From May 2018 calculated on the basis of new labour force figures. **9** Unadjusted figures estimated by the Federal Employment Agency. In 2016 and 2017 the estimated values for Germany deviated from the final data by a maximum of 1.1% for employees subject to social contributions, by a maximum of 0.4% for persons solely in jobs exempt from social contributions, and by a maximum of 70.0% for cyclically induced short-time work. **10** Initial preliminary estimate by the Federal Statistical Office.

XI. Economic conditions in Germany

7. Prices

Period	Harmonised Index of Consumer Prices						Memo item: Consumer price index (national concept)	Construction price index	Index of producer prices of industrial products sold on the domestic market [5]	Index of producer prices of agricultural products [5]	Indices of foreign trade prices		HWWI Index of World Market Prices of Raw Materials [6]	
	Total	of which: [1] Food [2]	Non-energy industrial goods	Energy [3]	Services	of which: Housing rents [4]					Exports	Imports	Energy [7]	Other raw materials [8]
	2015 = 100						2010 = 100	2015 = 100		2010 = 100	2015 = 100			
Index level														
2014	99.9	98.8	99.2	107.5	98.8	98.8	106.6	98.6	101.9	111.1	99.1	102.9	142.8	108.3
2015	100.0	100.0	100.0	100.0	100.0	100.0	106.9	100.0	100.0	106.9	100.0	100.0	100.0	100.0
2016	100.4	101.3	101.0	94.6	101.2	101.2	107.4	101.9	98.4	106.6	99.0	96.7	83.2	98.4
2017	102.1	104.0	102.3	97.5	102.5	102.9	109.3	105.3	101.1	115.2	100.7	100.1	99.6	107.1
2018	104.0	106.7	103.1	102.3	104.0	104.6	111.4	110.2	...	...	...	...	124.6	106.2
2017 Feb.	101.7	104.6	101.0	98.4	101.9	102.3	108.8	103.9	100.5	116.2	100.9	101.4	110.2	118.9
Mar.	101.8	103.4	102.6	97.5	102.0	102.4	109.0		100.6	117.6	100.9	101.1	99.7	116.4
Apr.	101.8	103.4	102.7	98.3	101.5	102.6	109.0		100.9	119.9	101.1	101.0	100.4	110.1
May	101.6	103.5	102.7	96.9	101.5	102.8	108.8	104.9	100.8	120.9	100.8	100.0	93.1	104.2
June	101.8	103.6	102.0	96.1	102.5	102.9	109.0		100.8	121.3	100.6	99.0	85.7	100.4
July	102.2	103.8	101.4	95.9	103.8	103.0	109.4		101.0	120.2	100.5	98.6	86.5	102.9
Aug.	102.4	103.8	101.8	96.3	103.8	103.1	109.5	105.7	101.1	121.2	100.3	98.6	90.1	103.3
Sep.	102.4	104.1	102.9	97.5	102.8	103.2	109.6		101.5	116.0	100.5	99.3	96.3	102.8
Oct.	102.3	104.8	103.2	97.4	102.2	103.3	109.6		101.6	114.3	100.6	99.9	101.6	102.7
Nov.	102.6	104.8	103.2	98.7	102.6	103.5	109.9	106.5	101.7	114.8	100.8	100.6	110.3	103.8
Dec.	103.4	105.5	102.8	98.5	104.2	103.6	110.6		101.9	114.4	100.8	100.8	113.7	103.6
2018 Jan.	102.4	106.2	101.8	98.9	102.4	103.9	109.8		102.4	[9] 110.6	101.1	101.4	115.9	105.4
Feb.	102.9	106.2	102.2	98.5	103.3	104.0	110.3	108.3	102.3	110.1	101.0	100.9	108.7	106.0
Mar.	103.3	106.4	103.2	97.9	103.7	104.1	110.7		102.4	111.4	101.1	100.8	109.5	104.9
Apr.	103.2	106.8	103.4	99.5	102.7	104.3	110.7		102.8	110.8	101.3	101.4	116.7	106.1
May	103.8	106.9	103.3	101.9	103.4	104.4	111.2	109.4	103.3	109.7	101.8	102.9	129.9	112.5
June	103.9	106.9	102.9	102.4	103.8	104.5	111.3		103.7	110.4	102.1	103.4	130.5	111.3
July	104.3	106.6	101.9	102.3	105.5	104.7	111.6		103.9	112.5	102.2	103.3	129.9	105.8
Aug.	104.3	106.4	102.5	103.1	105.0	104.8	111.7	111.0	104.2	115.6	102.4	103.3	130.5	105.7
Sep.	104.7	107.1	103.9	105.1	104.2	104.9	112.1		104.7	118.2	102.4	103.7	140.8	102.7
Oct.	104.8	107.1	104.3	106.1	104.0	105.0	112.3		105.0	117.8	102.6	104.7	144.7	105.5
Nov.	104.9	107.0	104.3	108.0	103.9	105.1	112.4	112.0	105.1	118.3	102.5	103.7	123.7	105.2
Dec.	105.2	107.0	103.9	103.5	105.8	105.2	112.5		...	...	...	...	111.4	103.2
Annual percentage change														
2014	+ 0.8	+ 1.5	+ 0.5	– 2.1	+ 1.4	+ 1.6	+ 0.9	+ 1.6	– 1.0	– 8.0	– 0.3	– 2.2	– 10.9	– 7.9
2015	+ 0.1	+ 1.2	+ 0.8	– 7.0	+ 1.2	+ 1.2	+ 0.3	+ 1.4	– 1.9	– 3.8	+ 0.9	– 2.8	– 30.0	– 7.7
2016	+ 0.4	+ 1.3	+ 1.0	– 5.4	+ 1.2	+ 1.2	+ 0.5	+ 1.9	– 1.6	– 0.3	– 1.0	– 3.3	– 16.8	– 1.6
2017	+ 1.7	+ 2.7	+ 1.3	+ 3.1	+ 1.3	+ 1.7	+ 1.8	+ 3.3	+ 2.7	+ 8.1	+ 1.7	+ 3.5	+ 19.7	+ 8.8
2018	+ 1.9	+ 2.6	+ 0.8	+ 4.9	+ 1.5	+ 1.7	+ 1.9	+ 4.7	...	...	...	...	+ 25.1	– 0.8
2017 Feb.	+ 2.2	+ 3.8	+ 1.1	+ 7.2	+ 1.3	+ 1.6	+ 2.2	+ 2.8	+ 3.0	+ 9.6	+ 2.4	+ 6.7	+ 72.2	+ 34.2
Mar.	+ 1.5	+ 2.2	+ 1.6	+ 5.2	+ 0.5	+ 1.6	+ 1.6		+ 3.2	+ 10.3	+ 2.3	+ 5.6	+ 37.9	+ 24.4
Apr.	+ 2.0	+ 1.8	+ 1.2	+ 5.0	+ 1.8	+ 1.7	+ 2.0		+ 3.3	+ 13.2	+ 2.6	+ 5.8	+ 33.7	+ 15.3
May	+ 1.4	+ 2.2	+ 1.3	+ 2.0	+ 1.0	+ 1.8	+ 1.5	+ 3.1	+ 2.8	+ 14.1	+ 2.1	+ 4.0	+ 12.7	+ 7.2
June	+ 1.5	+ 2.6	+ 1.3	– 0.1	+ 1.6	+ 1.8	+ 1.6		+ 2.4	+ 14.0	+ 1.6	+ 2.4	– 2.5	+ 1.5
July	+ 1.5	+ 2.5	+ 1.4	+ 0.8	+ 1.6	+ 1.8	+ 1.7		+ 2.4	+ 9.3	+ 1.5	+ 1.9	+ 2.5	+ 2.7
Aug.	+ 1.8	+ 2.9	+ 1.5	+ 2.1	+ 1.5	+ 1.7	+ 1.8	+ 3.4	+ 2.6	+ 13.6	+ 1.4	+ 2.0	+ 7.4	+ 4.8
Sep.	+ 1.8	+ 2.9	+ 1.4	+ 2.7	+ 1.4	+ 1.7	+ 1.8		+ 3.2	+ 10.8	+ 1.5	+ 2.8	+ 14.8	+ 6.0
Oct.	+ 1.5	+ 3.6	+ 1.2	+ 1.2	+ 1.0	+ 1.6	+ 1.6		+ 2.8	+ 5.1	+ 1.3	+ 2.5	+ 5.6	+ 2.9
Nov.	+ 1.8	+ 2.7	+ 1.2	+ 3.7	+ 1.5	+ 1.7	+ 1.8	+ 3.8	+ 2.6	+ 3.1	+ 1.1	+ 2.3	+ 15.6	– 4.3
Dec.	+ 1.6	+ 2.8	+ 1.2	+ 1.2	+ 1.4	+ 1.6	+ 1.7		+ 2.3	+ 1.1	+ 0.5	+ 0.7	+ 6.7	– 9.1
2018 Jan.	+ 1.4	+ 2.9	+ 1.1	+ 0.7	+ 1.4	+ 1.7	+ 1.6		+ 2.1	[9] – 3.7	+ 0.4	+ 0.6	+ 6.4	– 9.1
Feb.	+ 1.2	+ 1.5	+ 1.2	+ 0.1	+ 1.4	+ 1.7	+ 1.4	+ 4.2	+ 1.8	– 5.2	+ 0.1	– 0.5	– 1.4	– 10.8
Mar.	+ 1.5	+ 2.9	+ 0.6	+ 0.4	+ 1.7	+ 1.7	+ 1.6		+ 1.8	– 5.3	+ 0.2	– 0.3	+ 9.8	– 9.9
Apr.	+ 1.4	+ 3.3	+ 0.7	+ 1.2	+ 1.2	+ 1.7	+ 1.6		+ 1.9	– 7.6	+ 0.2	+ 0.4	+ 16.2	– 3.6
May	+ 2.2	+ 3.3	+ 0.6	+ 5.2	+ 1.9	+ 1.6	+ 2.2	+ 4.3	+ 2.5	– 9.3	+ 1.0	+ 2.9	+ 39.5	+ 8.0
June	+ 2.1	+ 3.2	+ 0.9	+ 6.6	+ 1.3	+ 1.6	+ 2.1		+ 2.9	– 9.0	+ 1.5	+ 4.4	+ 52.3	+ 10.9
July	+ 2.1	+ 2.7	+ 0.5	+ 6.7	+ 1.6	+ 1.7	+ 2.0		+ 2.9	– 6.4	+ 1.7	+ 4.8	+ 50.2	+ 2.8
Aug.	+ 1.9	+ 2.5	+ 0.7	+ 7.1	+ 1.2	+ 1.6	+ 2.0	+ 5.0	+ 3.1	– 4.6	+ 2.1	+ 4.8	+ 44.8	+ 2.3
Sep.	+ 2.2	+ 2.9	+ 1.0	+ 7.8	+ 1.4	+ 1.6	+ 2.3		+ 3.2	+ 1.9	+ 1.9	+ 4.4	+ 46.2	– 0.1
Oct.	+ 2.4	+ 2.2	+ 1.1	+ 8.9	+ 1.8	+ 1.6	+ 2.5		+ 3.3	+ 3.1	+ 2.0	+ 4.8	+ 42.4	+ 2.7
Nov.	+ 2.2	+ 2.1	+ 1.1	+ 9.4	+ 1.3	+ 1.5	+ 2.3	+ 5.2	+ 3.3	+ 3.0	+ 1.7	+ 3.1	+ 12.1	+ 1.3
Dec.	+ 1.7	+ 1.4	+ 1.1	+ 5.1	+ 1.5	+ 1.5	+ 1.7		...	...	...	...	– 2.0	– 0.4

Sources: Eurostat; Federal Statistical Office and Bundesbank calculation based on data from the Federal Statistical Office; for the Index of World Market Prices of Raw Materials: HWWI. **1** Deviations from the official figures are due to rounding. **2** Including alcoholic beverages and tobacco. **3** Electricity, gas and other fuels as well as transport fuels and lubricants. **4** Net rents. **5** Excluding value added tax. **6** For the euro area, in euro. **7** Coal, crude oil (Brent) and natural gas. **8** Food, beverages and tobacco as well as industrial raw materials. **9** From January 2018 onwards provisional figures.

XI. Economic conditions in Germany

8. Households' income *

Period	Gross wages and salaries [1]		Net wages and salaries [2]		Monetary social benefits received [3]		Mass income [4]		Disposable income [5]		Saving [6]		Saving ratio [7]
	€ billion	Annual percentage change	€ billion	Annual percentage change	€ billion	Annual percentage change	€ billion	Annual percentage change	€ billion	Annual percentage change	€ billion	Annual percentage change	As percentage
2010	1,039.0	2.9	702.2	4.4	385.3	1.2	1,087.5	3.2	1,606.4	2.4	160.1	2.5	10.0
2011	1,088.6	4.8	729.4	3.9	380.4	– 1.3	1,109.8	2.0	1,653.7	2.9	158.2	– 1.2	9.6
2012	1,133.0	4.1	756.8	3.8	387.6	1.9	1,144.5	3.1	1,695.6	2.5	157.6	– 0.4	9.3
2013	1,167.4	3.0	778.3	2.8	388.1	0.1	1,166.4	1.9	1,717.2	1.3	153.7	– 2.5	8.9
2014	1,213.0	3.9	807.2	3.7	398.4	2.6	1,205.6	3.4	1,761.3	2.6	167.2	8.8	9.5
2015	1,261.4	4.0	837.2	3.7	416.5	4.5	1,253.7	4.0	1,805.7	2.5	174.8	4.5	9.7
2016	1,311.9	4.0	869.1	3.8	430.5	3.4	1,299.6	3.7	1,857.5	2.9	181.9	4.1	9.8
2017	1,366.6	4.2	902.9	3.9	444.8	3.3	1,347.7	3.7	1,922.0	3.5	189.8	4.3	9.9
2017 Q2	333.2	4.2	215.2	3.6	109.9	3.7	325.1	3.6	478.9	3.2	44.9	2.1	9.4
Q3	337.4	4.3	227.7	4.1	111.7	2.6	339.5	3.6	480.0	3.7	39.9	4.2	8.3
Q4	377.6	4.0	249.2	3.7	110.3	2.9	359.5	3.5	485.1	2.9	42.0	6.0	8.7
2018 Q1	333.3	4.7	220.3	4.5	115.3	2.1	335.5	3.7	494.6	3.5	67.0	6.3	13.5
Q2	349.2	4.8	225.3	4.7	112.3	2.2	337.7	3.9	493.9	3.1	48.6	8.1	9.8
Q3	354.5	5.0	239.3	5.1	115.1	3.1	354.4	4.4	493.8	2.9	44.3	11.1	9.0

Source: Federal Statistical Office; figures computed in November 2018. * Households including non-profit institutions serving households. **1** Residence concept. **2** After deducting the wage tax payable on gross wages and salaries and employees' contributions to the social security funds. **3** Social security benefits in cash from the social security funds, central, state and local government and foreign countries, pension payments (net), private funded social benefits, less social contributions on social benefits, consumption-related taxes and public charges. **4** Net wages and salaries plus monetary social benefits received. **5** Mass income plus operating surplus, mixed income, property income (net), other current transfers received, income of non-profit institutions serving households, less taxes (excluding wage tax and consumption-related taxes) and other current transfers paid. Including the increase in claims on company pension funds. **6** Including the increase in claims on company pension funds. **7** Saving as a percentage of disposable income.

9. Negotiated pay rates (overall economy)

Period	Index of negotiated wages [1]								Memo item: Wages and salaries per employee [3]	
	On an hourly basis		On a monthly basis							
			Total		Total excluding one-off payments		Basic pay rates [2]			
	2010 = 100	Annual percentage change	2010 = 100	Annual percentage change	2010 = 100	Annual percentage change	2010 = 100	Annual percentage change	2010 = 100	Annual percentage change
2010	100.0	1.6	100.0	1.7	100.0	1.7	100.0	1.8	100.0	2.5
2011	101.7	1.7	101.7	1.7	101.8	1.8	101.8	1.8	103.4	3.4
2012	104.4	2.7	104.4	2.6	104.7	2.8	104.7	2.9	106.2	2.7
2013	107.0	2.4	106.9	2.4	107.2	2.4	107.2	2.4	108.4	2.1
2014	110.1	2.9	109.9	2.8	110.1	2.7	110.1	2.7	111.5	2.8
2015	112.6	2.3	112.3	2.2	112.6	2.3	112.7	2.3	114.6	2.8
2016	114.9	2.1	114.7	2.1	115.0	2.1	115.2	2.2	117.3	2.4
2017	117.4	2.2	117.1	2.1	117.5	2.2	117.8	2.3	120.3	2.5
2017 Q2	110.1	2.1	109.8	2.1	110.2	2.4	117.6	2.4	117.6	2.6
Q3	119.9	2.1	119.6	2.0	120.0	2.0	118.3	2.1	118.4	2.6
Q4	130.6	2.0	130.3	1.9	130.7	2.0	118.6	2.2	131.4	2.4
2018 Q1	111.5	2.3	111.3	2.3	111.4	2.1	119.4	2.2	116.7	2.9
Q2	113.6	3.2	113.4	3.2	113.4	2.9	121.1	2.9	121.3	3.2
Q3	123.1	2.7	122.9	2.7	123.3	2.8	121.5	2.8	122.5	3.4
2018 May	114.4	4.0	114.2	4.0	113.7	3.2	121.2	3.1	.	.
June	113.2	3.0	112.9	3.0	113.3	3.0	121.4	3.1	.	.
July	142.8	2.9	142.5	2.9	142.9	2.9	121.5	2.9	.	.
Aug.	113.3	2.7	113.0	2.7	113.4	2.7	121.5	2.7	.	.
Sep.	113.3	2.6	113.1	2.6	113.5	2.6	121.6	2.6	.	.
Oct.	113.5	2.3	113.3	2.3	113.7	2.3	121.8	2.7	.	.
Nov.	173.5	3.1	173.1	3.2	173.1	2.8	122.0	2.8	.	.

1 Current data are normally revised on account of additional reports. **2** Excluding one-off payments and covenants (capital formation benefits, special payments, such as annual bonuses, holiday pay, Christmas bonuses (13th monthly salary payment) and retirement provisions). **3** Source: Federal Statistical Office; figures computed in November 2018.

XI. Economic conditions in Germany

10. Assets, equity and liabilities of listed non-financial groups *

End of year/half

Period	Assets									Equity and liabilities						
			of which:				of which:				Liabilities					
												Long-term		Short-term		
															of which:	
	Total assets	Non-current assets	Intangible assets	Tangible assets	Financial assets	Current assets	Inventories	Trade receivables	Cash [1]	Equity	Total	Total	of which: Financial debt	Total	Financial debt	Trade payables
	Total (€ billion)															
2014	2,079.8	1,284.9	431.2	521.0	249.6	794.9	203.1	187.3	132.5	583.2	1,496.6	812.6	427.4	684.0	207.2	175.8
2015	2,226.9	1,395.2	470.9	565.6	273.1	831.7	215.5	190.5	136.1	633.6	1,593.3	861.3	466.2	732.0	222.8	180.3
2016	2,367.8	1,478.1	493.4	595.9	288.9	889.6	226.8	218.0	150.5	672.2	1,695.6	889.3	482.6	806.3	249.1	192.8
2017	2,400.8	1,490.0	500.0	602.9	295.9	910.8	230.6	225.7	158.2	758.8	1,642.0	867.3	496.4	774.7	236.4	195.7
2016 H2	2,367.8	1,478.1	493.4	595.9	288.9	889.6	226.8	218.0	150.5	672.2	1,695.6	889.3	482.6	806.3	249.1	192.8
2017 H1	2,385.4	1,471.8	502.3	584.2	288.6	913.6	238.2	220.8	149.9	701.7	1,683.6	888.0	498.3	795.7	246.2	194.9
H2	2,400.8	1,490.0	500.0	602.9	295.9	910.8	230.6	225.7	158.2	758.8	1,642.0	867.3	496.4	774.7	236.4	195.7
2018 H1 **p,3**	2,551.8	1,533.0	541.7	602.5	289.8	1,018.8	250.1	236.1	143.3	775.6	1,776.2	909.5	541.0	866.7	254.7	210.2
	As a percentage of total assets															
2014	100.0	61.8	20.7	25.1	12.0	38.2	9.8	9.0	6.4	28.0	72.0	39.1	20.6	32.9	10.0	8.5
2015	100.0	62.7	21.1	25.4	12.3	37.4	9.7	8.6	6.1	28.5	71.6	38.7	20.9	32.9	10.0	8.1
2016	100.0	62.4	20.8	25.2	12.2	37.6	9.6	9.2	6.4	28.4	71.6	37.6	20.4	34.1	10.5	8.1
2017	100.0	62.1	20.8	25.1	12.3	37.9	9.6	9.4	6.6	31.6	68.4	36.1	20.7	32.3	9.9	8.2
2016 H2	100.0	62.4	20.8	25.2	12.2	37.6	9.6	9.2	6.4	28.4	71.6	37.6	20.4	34.1	10.5	8.1
2017 H1	100.0	61.7	21.1	24.5	12.1	38.3	10.0	9.3	6.3	29.4	70.6	37.2	20.9	33.4	10.3	8.2
H2	100.0	62.1	20.8	25.1	12.3	37.9	9.6	9.4	6.6	31.6	68.4	36.1	20.7	32.3	9.9	8.2
2018 H1 **p,3**	100.0	60.1	21.2	23.6	11.4	39.9	9.8	9.3	5.6	30.4	69.6	35.6	21.2	34.0	10.0	8.2
	Groups with a focus on the production sector (€ billion) [2]															
2014	1,656.6	990.2	276.6	412.6	236.0	666.3	185.7	140.3	99.0	451.7	1,204.9	644.6	319.1	560.3	185.7	122.5
2015	1,782.4	1,077.9	304.2	447.3	259.0	704.5	198.8	147.0	104.4	485.3	1,297.1	690.3	354.0	606.8	198.4	127.5
2016	1,910.2	1,147.2	322.5	473.9	270.8	762.9	209.7	170.0	115.5	514.5	1,395.7	715.9	370.3	679.8	223.1	140.9
2017	1,936.3	1,150.3	323.1	474.5	281.8	786.0	212.5	175.2	127.0	588.2	1,348.1	698.4	381.6	649.7	215.5	148.4
2016 H2	1,910.2	1,147.2	322.5	473.9	270.8	762.9	209.7	170.0	115.5	514.5	1,395.7	715.9	370.3	679.8	223.1	140.9
2017 H1	1,923.5	1,138.9	325.3	464.9	273.1	784.6	224.2	171.9	125.5	550.6	1,372.9	709.7	379.4	663.2	224.4	153.2
H2	1,936.3	1,150.3	323.1	474.5	281.8	786.0	212.5	175.2	127.0	588.2	1,348.1	698.4	381.6	649.7	215.5	148.4
2018 H1 **p,3**	2,071.9	1,177.0	360.2	460.4	277.5	894.9	232.7	185.5	115.2	604.9	1,467.0	727.9	411.2	739.2	229.5	167.5
	As a percentage of total assets															
2014	100.0	59.8	16.7	24.9	14.3	40.2	11.2	8.5	6.0	27.3	72.7	38.9	19.3	33.8	11.2	7.4
2015	100.0	60.5	17.1	25.1	14.5	39.5	11.2	8.3	5.9	27.2	72.8	38.7	19.9	34.0	11.1	7.2
2016	100.0	60.1	16.9	24.8	14.2	39.9	11.0	8.9	6.1	26.9	73.1	37.5	19.4	35.6	11.7	7.4
2017	100.0	59.4	16.7	24.5	14.6	40.6	11.0	9.1	6.6	30.4	69.6	36.1	19.7	33.6	11.1	7.7
2016 H2	100.0	60.1	16.9	24.8	14.2	39.9	11.0	8.9	6.1	26.9	73.1	37.5	19.4	35.6	11.7	7.4
2017 H1	100.0	59.2	16.9	24.2	14.2	40.8	11.7	8.9	6.5	28.6	71.4	36.9	19.7	34.5	11.7	8.0
H2	100.0	59.4	16.7	24.5	14.6	40.6	11.0	9.1	6.6	30.4	69.6	36.1	19.7	33.6	11.1	7.7
2018 H1 **p,3**	100.0	56.8	17.4	22.2	13.4	43.2	11.2	9.0	5.6	29.2	70.8	35.1	19.9	35.7	11.1	8.1
	Groups with a focus on the services sector (€ billion)															
2014	423.2	294.7	154.6	108.4	13.6	128.6	17.4	47.0	33.5	131.5	291.7	168.0	108.3	123.7	21.6	53.4
2015	444.5	317.3	166.7	118.3	14.1	127.2	16.7	43.5	31.6	148.3	296.2	171.0	112.2	125.2	24.4	52.7
2016	457.6	330.9	170.9	122.0	18.1	126.7	17.1	48.0	34.9	157.7	299.9	173.4	112.3	126.5	25.9	51.9
2017	464.5	339.7	176.9	128.4	14.1	124.8	18.1	50.4	31.3	170.6	293.9	168.9	114.8	125.0	20.9	47.3
2016 H2	457.6	330.9	170.9	122.0	18.1	126.7	17.1	48.0	34.9	157.7	299.9	173.4	112.3	126.5	25.9	51.9
2017 H1	461.9	332.9	177.0	119.3	15.5	129.0	14.0	48.8	24.5	151.1	310.7	178.3	118.9	132.5	21.8	41.8
H2	464.5	339.7	176.9	128.4	14.1	124.8	18.1	50.4	31.3	170.6	293.9	168.9	114.8	125.0	20.9	47.3
2018 H1 **p,3**	479.8	356.0	181.4	142.1	12.3	123.8	17.4	50.5	28.1	170.7	309.2	181.6	129.8	127.6	25.2	42.7
	As a percentage of total assets															
2014	100.0	69.6	36.5	25.6	3.2	30.4	4.1	11.1	7.9	31.1	68.9	39.7	25.6	29.2	5.1	12.6
2015	100.0	71.4	37.5	26.6	3.2	28.6	3.8	9.8	7.1	33.4	66.6	38.5	25.3	28.2	5.5	11.9
2016	100.0	72.3	37.3	26.7	4.0	27.7	3.7	10.5	7.6	34.5	65.5	37.9	24.5	27.7	5.7	11.3
2017	100.0	73.1	38.1	27.6	3.0	26.9	3.9	10.9	6.7	36.7	63.3	36.4	24.7	26.9	4.5	10.2
2016 H2	100.0	72.3	37.3	26.7	4.0	27.7	3.7	10.5	7.6	34.5	65.5	37.9	24.5	27.7	5.7	11.3
2017 H1	100.0	72.1	38.3	25.8	3.4	27.9	3.0	10.6	5.3	32.7	67.3	38.6	25.7	28.7	4.7	9.0
H2	100.0	73.1	38.1	27.6	3.0	26.9	3.9	10.9	6.7	36.7	63.3	36.4	24.7	26.9	4.5	10.2
2018 H1 **p,3**	100.0	74.2	37.8	29.6	2.6	25.8	3.6	10.5	5.9	35.6	64.4	37.8	27.1	26.6	5.2	8.9

***** Non-financial groups admitted to the Prime Standard segment of the Frankfurt Stock Exchange which publish IFRS consolidated financial statements on a quarterly or half-yearly basis and make a noteworthy contribution to value added in Germany. Excluding groups engaged in real estate activities. **1** Including cash equivalents. **2** Including groups in agriculture and forestry. **3** From this point onwards: significant changes in IFRS standards, impairing comparability with previous periods.

XI. Economic conditions in Germany

11. Revenues and operating income of listed non-financial groups *

Period	Revenues		Operating income before depreciation and amortisation (EBITDA [1])		Operating income before depreciation and amortisation (EBITDA [1]) as a percentage of revenues					Operating income (EBIT)		Operating income (EBIT) as a percentage of revenues				
					Weighted average		Distribution [2]					Weighted average		Distribution [2]		
							First quartile	Median	Third quartile					First quartile	Median	Third quartile
	€ billion [3]	Annual percentage change [4]	€ billion [3]	Annual percentage change [4]	%	Annual change in percentage points [4]	%	%	%	€ billion [3]	Annual percentage change [4]	%	Annual change in percentage points [4]	%	%	%
	Total															
2010	1,320.9	13.3	181.4	30.6	13.7	1.8	6.6	11.4	18.6	98.3	66.7	7.4	2.4	3.2	6.9	12.1
2011	1,414.3	8.5	175.9	0.5	12.4	– 1.0	5.5	11.0	17.4	93.8	– 4.1	6.6	– 0.9	2.7	6.6	12.0
2012	1,532.9	6.6	188.8	3.2	12.3	– 0.4	5.2	10.2	17.5	95.7	– 7.7	6.2	– 0.9	1.9	6.1	11.0
2013	1,541.1	– 0.6	187.2	– 2.8	12.2	– 0.3	5.1	10.3	18.5	99.5	5.5	6.5	0.4	1.9	5.9	11.1
2014	1,565.7	1.0	198.9	4.9	12.7	0.5	5.9	10.3	17.4	109.4	8.5	7.0	0.5	1.9	6.1	11.1
2015	1,635.4	6.9	196.2	– 1.0	12.0	– 1.0	6.1	10.6	17.9	91.6	– 16.3	5.6	– 1.5	1.7	6.6	11.4
2016	1,626.1	– 0.4	214.9	8.0	13.2	1.0	6.6	11.4	18.0	112.1	9.2	6.9	0.5	2.6	6.7	12.0
2017	1,722.9	5.2	243.9	14.6	14.2	1.2	6.8	11.0	18.0	142.3	33.2	8.3	1.7	2.5	6.7	12.1
2013 H2	780.0	– 1.1	93.9	– 2.0	12.0	– 0.1	5.4	10.9	19.2	45.7	25.6	5.9	1.3	1.7	6.3	12.2
2014 H1	757.3	– 0.9	97.2	4.6	12.8	0.7	4.8	9.6	16.1	57.9	9.4	7.6	0.7	1.0	5.2	10.5
H2	808.8	2.9	101.7	5.3	12.6	0.3	5.4	10.8	19.1	51.5	7.6	6.4	0.3	1.7	7.1	12.0
2015 H1	815.3	8.7	102.9	5.7	12.6	– 0.4	4.8	10.2	17.6	59.1	1.3	7.3	– 0.5	1.1	5.9	10.9
H2	831.4	5.1	93.5	– 7.6	11.3	– 1.5	6.3	11.5	18.5	32.7	– 36.6	3.9	– 2.5	2.3	7.2	11.7
2016 H1	782.7	– 1.9	111.8	6.3	14.3	1.1	6.1	10.5	18.0	65.7	2.8	8.4	0.4	1.7	6.4	11.4
H2	843.4	1.1	103.1	9.8	12.2	1.0	6.8	11.9	19.1	46.4	21.0	5.5	0.8	2.9	7.5	12.5
2017 H1	845.0	6.8	125.9	14.5	14.9	1.0	5.7	10.1	17.2	78.6	29.3	9.3	1.6	1.8	5.8	11.6
H2	881.1	3.7	117.8	14.7	13.4	1.3	6.8	11.9	19.2	63.3	38.4	7.2	1.8	3.0	7.3	12.4
2018 H1 p,6	849.5	– 0.1	120.7	– 2.4	14.2	– 0.3	5.1	10.5	18.2	72.9	– 5.0	8.6	– 0.5	1.6	6.3	12.5
	Groups with a focus on the production sector [5]															
2010	980.7	15.8	136.2	38.7	13.9	2.3	6.6	11.4	16.3	75.7	72.5	7.7	2.6	3.0	7.3	12.0
2011	1,079.0	10.6	130.0	– 1.7	12.1	– 1.5	5.5	11.3	16.4	74.1	– 4.9	6.9	– 1.1	2.1	6.8	11.5
2012	1,173.8	7.7	140.8	5.3	12.0	– 0.3	5.4	10.2	16.1	81.7	2.2	7.0	– 0.4	1.8	6.1	9.8
2013	1,179.0	– 0.8	138.8	– 2.6	11.8	– 0.2	4.4	10.3	15.7	74.5	– 5.8	6.3	– 0.3	1.3	5.8	10.5
2014	1,197.4	1.0	148.1	5.8	12.4	0.6	5.4	9.8	15.5	82.0	9.3	6.9	0.5	1.4	5.9	10.2
2015	1,282.5	7.0	144.0	– 2.7	11.2	– 1.1	6.1	10.5	16.0	65.2	– 20.3	5.1	– 1.8	1.8	6.5	10.3
2016	1,267.1	– 1.0	156.5	6.0	12.4	0.8	6.5	10.5	16.0	80.6	4.3	6.4	0.3	2.7	6.3	10.4
2017	1,362.9	5.5	181.6	16.8	13.3	1.3	6.7	10.9	15.6	108.0	41.1	7.9	2.0	2.9	6.7	10.4
2013 H2	591.8	– 1.4	67.1	– 0.2	11.3	0.1	4.0	10.5	16.2	31.4	1.7	5.3	0.2	0.6	5.8	11.2
2014 H1	584.4	– 1.1	74.3	3.8	12.7	0.6	4.7	9.6	15.2	46.3	8.9	7.9	0.7	1.4	5.5	9.7
H2	613.1	3.0	73.8	7.8	12.0	0.5	4.2	9.8	15.9	35.8	9.8	5.8	0.4	0.7	6.3	10.8
2015 H1	636.4	8.7	80.1	7.8	12.6	– 0.1	5.1	10.1	15.5	48.8	4.8	7.7	– 0.3	2.1	6.1	10.0
H2	646.7	5.3	63.9	– 13.3	9.9	– 2.1	5.3	11.1	15.6	16.4	– 52.4	2.5	– 3.3	1.8	6.9	10.7
2016 H1	611.3	– 2.6	84.0	1.3	13.7	0.5	6.7	10.6	15.8	50.7	– 6.5	8.3	– 0.3	2.9	6.4	10.0
H2	655.9	0.5	72.5	11.9	11.1	1.1	6.1	11.2	16.0	29.9	34.8	4.6	0.9	2.4	6.3	10.5
2017 H1	678.7	7.2	98.5	18.7	14.5	1.4	5.9	10.1	16.1	64.0	37.5	9.4	2.1	2.3	5.8	10.6
H2	684.9	3.9	83.1	14.7	12.1	1.2	6.6	11.7	16.5	44.0	46.4	6.4	1.9	3.0	7.1	10.8
2018 H1 p,6	665.8	– 0.2	90.9	– 3.7	13.7	– 0.5	6.2	10.8	16.7	57.1	– 5.6	8.6	– 0.5	2.8	6.6	11.5
	Groups with a focus on the services sector															
2010	340.2	5.8	45.1	9.0	13.3	0.4	6.0	11.2	19.7	22.6	47.0	6.7	1.8	3.4	6.0	12.8
2011	335.3	1.7	45.9	7.6	13.7	0.8	6.0	10.4	20.7	19.7	– 0.7	5.9	– 0.1	3.2	6.2	13.8
2012	359.1	2.8	48.0	– 3.3	13.4	– 0.8	5.1	10.1	23.0	14.0	– 47.2	3.9	– 3.0	2.1	5.7	14.2
2013	362.0	– 0.1	48.4	– 3.4	13.4	– 0.5	5.2	10.5	21.6	25.0	84.4	6.9	3.0	2.4	5.9	12.5
2014	368.3	1.1	50.8	2.2	13.8	0.1	6.2	12.7	22.6	27.3	5.7	7.4	0.3	2.9	6.5	13.7
2015	352.9	6.4	52.2	4.8	14.8	– 0.2	6.1	11.4	22.1	26.4	– 1.6	7.5	– 0.6	1.4	6.7	14.1
2016	358.9	2.4	58.4	14.6	16.3	1.8	6.9	13.5	25.8	31.6	24.7	8.8	1.5	2.5	8.3	15.5
2017	360.0	3.8	62.3	7.7	17.3	0.6	7.3	11.6	23.0	34.3	10.0	9.5	0.5	2.4	7.2	15.1
2013 H2	188.2	0.2	26.7	– 6.7	14.2	– 1.1	5.6	11.4	21.8	14.3	241.4	7.6	5.2	2.2	7.4	13.5
2014 H1	172.9	– 0.5	23.0	7.7	13.3	1.0	4.8	9.3	20.4	11.6	11.7	6.7	0.7	1.0	5.1	13.5
H2	195.6	2.5	27.8	– 2.2	14.2	– 0.7	6.4	13.5	23.8	15.7	1.5	8.1	– 0.1	3.6	8.1	18.0
2015 H1	178.9	8.4	22.8	– 2.2	12.7	– 1.5	4.4	10.9	21.5	10.3	– 15.7	5.8	– 1.6	– 0.5	4.5	14.2
H2	184.7	4.6	29.7	10.8	16.1	0.9	7.0	12.1	23.5	16.3	9.3	8.8	0.4	2.5	7.7	15.0
2016 H1	171.5	1.2	27.8	27.7	16.2	3.5	5.1	10.3	23.8	15.0	62.1	8.7	3.3	1.0	6.4	14.9
H2	187.4	3.6	30.6	4.6	16.3	0.2	7.4	13.7	24.4	16.6	2.7	8.8	– 0.1	4.0	9.0	17.2
2017 H1	166.3	4.8	27.4	– 0.2	16.5	– 0.8	5.3	10.5	21.2	14.6	– 0.8	8.8	– 0.5	1.3	5.8	14.6
H2	196.2	2.8	34.7	14.9	17.7	1.9	6.9	12.5	24.6	19.3	20.2	9.8	1.4	3.0	7.8	17.9
2018 H1 p,6	183.7	0.4	29.8	3.0	16.2	0.4	4.0	9.7	22.9	15.8	– 1.8	8.6	– 0.2	– 0.9	5.1	15.5

***** Non-financial groups admitted to the Prime Standard segment of the Frankfurt Stock Exchange which publish IFRS consolidated financial statements on a quarterly or half-yearly basis and make a noteworthy contribution to value added in Germany. Excluding groups engaged in real estate activities. **1** Earnings before interest, taxes, depreciation and amortisation. **2** Quantile data are based on the groups' unweighted return on sales. **3** Annual figures do not always match the sum of the two half-year figures. See Quality report on consolidated financial statement statistics, p. 3. **4** Adjusted for substantial changes in the basis of consolidation of large groups and in the reporting sample. See the explanatory notes in Statistical Supplement 4 – Seasonally adjusted business statistics. **5** Including groups in agriculture and forestry. **6** From this point onwards: significant changes in IFRS standards, impairing comparability with previous periods.

XII. External sector

1. Major items of the balance of payments of the euro area *

€ million

Item	2015	2016	2017	2018					
				Q1	Q2	Q3	Aug.	Sep.	Oct. p
A. Current account	+ 308,770	+ 346,639	+ 363,675	+ 80,534	+ 82,083	+ 90,378	+ 28,946	+ 28,456	+ 26,629
1. Goods									
Exports	2,135,337	2,136,518	2,269,381	569,359	590,117	579,579	187,935	191,695	213,304
Imports	1,784,550	1,766,321	1,929,840	496,056	504,941	512,203	167,720	170,733	193,763
Balance	+ 350,785	+ 370,199	+ 339,542	+ 73,303	+ 85,176	+ 67,377	+ 20,215	+ 20,962	+ 19,541
2. Services									
Receipts	800,971	808,509	863,630	202,669	221,414	238,634	78,397	77,539	74,199
Expenditure	748,527	764,271	761,114	179,475	189,457	200,347	67,208	64,316	63,752
Balance	+ 52,443	+ 44,238	+ 102,510	+ 23,194	+ 31,956	+ 38,287	+ 11,189	+ 13,223	+ 10,446
3. Primary income									
Receipts	665,060	650,888	679,298	157,938	194,270	169,555	56,457	57,675	51,893
Expenditure	621,692	581,073	615,994	130,844	201,099	149,887	48,564	51,280	41,510
Balance	+ 43,368	+ 69,814	+ 63,305	+ 27,095	– 6,830	+ 19,668	+ 7,893	+ 6,395	+ 10,383
4. Secondary income									
Receipts	114,843	108,095	111,776	26,109	31,299	26,946	8,958	9,448	8,625
Expenditure	252,670	245,709	253,461	69,168	59,519	61,901	19,309	21,573	22,367
Balance	– 137,827	– 137,612	– 141,686	– 43,058	– 28,218	– 34,954	– 10,351	– 12,124	– 13,742
B. Capital account	+ 16,566	+ 3,132	– 21,333	+ 2,614	+ 1,728	+ 2,297	+ 1,231	+ 88	+ 1,018
C. Financial account (increase: +)	+ 267,248	+ 344,767	+ 419,094	+ 121,309	+ 62,630	+ 92,802	+ 30,063	+ 59,870	+ 13,606
1. Direct investment	+ 142,673	+ 177,293	+ 124,515	+ 140,501	+ 27,464	+ 20,181	– 11,123	+ 25,173	+ 74,018
By resident units abroad	+1,080,356	+ 521,802	+ 261,966	+ 62,653	– 2,223	+ 49,096	– 2,363	+ 8,398	+ 74,613
By non-resident units in the euro area	+ 937,683	+ 344,509	+ 137,448	– 77,849	– 29,687	+ 28,915	+ 8,760	– 16,775	+ 595
2. Portfolio investment	+ 199,249	+ 478,497	+ 266,390	– 4,175	+ 39,467	+ 34,791	+ 71,348	– 43,994	– 16,138
By resident units abroad	+ 401,926	+ 387,046	+ 640,812	+ 192,278	– 1,890	+ 41,046	+ 29,002	– 8,829	– 32,305
Equity and investment fund shares	+ 15,478	+ 19,987	+ 177,740	+ 53,364	+ 5,436	+ 11,613	+ 288	– 4,045	– 12,083
Long-term debt securities	+ 378,796	+ 359,327	+ 396,457	+ 110,501	+ 13,033	+ 69,962	+ 28,711	+ 20,959	– 19,434
Short-term debt securities	+ 7,654	+ 7,733	+ 66,616	+ 28,412	– 20,357	– 40,530	+ 2	– 25,743	– 789
By non-resident units in the euro area	+ 202,678	– 91,447	+ 374,421	+ 196,452	– 41,356	+ 6,256	– 42,345	+ 35,165	– 16,167
Equity and investment fund shares	+ 208,634	+ 104,219	+ 507,604	+ 122,820	+ 21,484	+ 11,087	– 5,224	+ 4,519	+ 2,346
Long-term debt securities	+ 33,199	– 242,180	– 142,739	+ 45,390	– 33,506	+ 6,558	– 38,322	+ 39,077	– 4,964
Short-term debt securities	– 39,158	+ 46,513	+ 9,556	+ 28,242	– 29,335	– 11,390	+ 1,200	– 8,431	– 13,550
3. Financial derivatives and employee stock options	+ 81,917	+ 18,431	+ 17,087	+ 3,119	+ 38,008	+ 33,327	+ 14,120	+ 6,381	+ 1,547
4. Other investment	– 167,256	– 344,931	+ 12,502	– 29,513	– 48,877	+ 3,340	– 47,550	+ 70,064	– 45,071
Eurosystem	– 26,457	– 152,798	– 175,527	+ 3,844	– 27,444	+ 40,556	+ 13,814	– 43,527	+ 29,687
General government	+ 20,154	+ 12,380	+ 18,894	– 2,049	– 4,050	– 9,479	– 4,765	– 3,580	– 3,268
MFIs (excluding the Eurosystem)	– 120,160	– 123,767	+ 136,830	– 20,455	– 38,741	– 20,286	– 61,291	+ 113,546	– 44,884
Enterprises and households	– 40,793	– 80,745	+ 32,305	– 10,852	+ 21,358	– 7,450	+ 4,691	+ 3,626	– 26,606
5. Reserve assets	+ 10,664	+ 15,480	– 1,400	+ 11,376	+ 6,567	+ 1,164	+ 3,269	+ 2,246	– 750
D. Net errors and omissions	– 58,089	– 5,003	+ 76,753	+ 38,161	– 21,181	+ 129	– 113	+ 31,327	– 14,041

* Source: ECB, according to the international standards of the International Monetary Fund's Balance of Payments Manual (sixth edition).

XII. External sector

2. Major items of the balance of payments of the Federal Republic of Germany (balances)

€ million

Period	Current account						Balance of capital account [4]	Financial account (Net lending: +/net borrowing: -)		Errors and omissions [5]
	Total	Goods (f.o.b./f.o.b.) [1] Total	of which: Supplementary trade items [2]	Services [3]	Primary income	Secondary income		Total	of which: Reserve assets	
2003	+ 31,347	+ 130,021	– 2,105	– 48,708	– 18,920	– 31,047	+ 5,920	+ 47,559	– 445	+ 10,292
2004	+ 101,205	+ 153,166	– 6,859	– 38,713	+ 16,860	– 30,109	– 119	+ 112,834	– 1,470	+ 11,748
2005	+ 105,730	+ 157,010	– 6,068	– 40,600	+ 20,905	– 31,585	– 2,334	+ 96,436	– 2,182	– 6,960
2006	+ 135,959	+ 161,447	– 4,205	– 34,641	+ 41,453	– 32,300	– 1,328	+ 157,142	– 2,934	+ 22,511
2007	+ 169,636	+ 201,989	– 922	– 34,881	+ 36,332	– 33,804	– 1,597	+ 183,169	+ 953	+ 15,130
2008	+ 143,318	+ 184,521	– 3,586	– 31,467	+ 24,724	– 34,461	– 893	+ 121,336	+ 2,008	– 21,088
2009	+ 141,233	+ 141,167	– 6,064	– 19,648	+ 54,757	– 35,043	– 1,858	+ 129,693	+ 8,648	– 9,683
2010	+ 144,890	+ 161,146	– 5,892	– 27,041	+ 50,665	– 39,880	+ 1,219	+ 92,757	+ 1,613	– 53,351
2011	+ 165,078	+ 163,426	– 8,900	– 31,574	+ 68,235	– 35,010	+ 419	+ 120,857	+ 2,836	– 44,639
2012	+ 193,590	+ 200,401	– 10,518	– 32,775	+ 64,858	– 38,894	– 413	+ 151,417	+ 1,297	– 41,759
2013	+ 190,092	+ 212,662	– 3,663	– 41,376	+ 62,444	– 43,639	– 563	+ 225,360	+ 838	+ 35,831
2014	+ 218,965	+ 228,185	– 5,741	– 24,485	+ 56,549	– 41,283	+ 2,936	+ 240,116	– 2,564	+ 18,215
2015	+ 271,403	+ 261,135	– 2,565	– 16,910	+ 67,222	– 40,044	+ 534	+ 239,418	– 2,213	– 32,520
2016	+ 268,812	+ 267,999	– 1,845	– 19,948	+ 60,639	– 39,879	+ 3,468	+ 257,693	+ 1,686	– 14,587
2017	+ 261,225	+ 268,862	+ 1,256	– 20,874	+ 67,357	– 54,120	– 254	+ 279,967	– 1,269	+ 18,995
2015 Q4	+ 78,172	+ 64,632	– 435	– 2,391	+ 26,238	– 10,307	– 2,004	+ 68,701	– 272	– 7,467
2016 Q1	+ 66,589	+ 63,353	+ 566	– 3,042	+ 19,599	– 13,320	– 205	+ 40,617	+ 1,228	– 25,767
Q2	+ 69,819	+ 76,770	– 54	– 3,707	+ 125	– 3,370	+ 1,009	+ 62,621	+ 761	– 8,207
Q3	+ 61,051	+ 66,795	– 346	– 11,309	+ 16,175	– 10,610	+ 307	+ 59,558	– 261	– 1,801
Q4	+ 71,353	+ 61,082	– 2,012	– 1,889	+ 24,740	– 12,579	+ 2,356	+ 94,897	– 43	+ 21,188
2017 Q1	+ 68,671	+ 67,077	+ 2,402	– 2,921	+ 21,296	– 16,781	+ 616	+ 67,316	– 360	– 1,972
Q2	+ 54,185	+ 67,753	– 187	– 4,785	+ 3,058	– 11,841	– 727	+ 72,061	+ 385	+ 18,604
Q3	+ 63,967	+ 68,874	– 113	– 11,794	+ 17,922	– 11,035	+ 904	+ 54,979	+ 152	– 9,892
Q4	+ 74,402	+ 65,158	– 846	– 1,374	+ 25,082	– 14,463	– 1,047	+ 85,610	– 1,446	+ 12,255
2018 Q1	+ 71,111	+ 64,605	– 1,397	– 630	+ 21,620	– 14,483	+ 214	+ 69,348	+ 699	– 1,977
Q2	+ 64,342	+ 69,551	+ 848	– 3,608	+ 3,772	– 5,373	+ 85	+ 69,954	– 374	+ 5,527
Q3	+ 52,254	+ 56,224	+ 506	– 11,211	+ 19,286	– 12,045	– 1,025	+ 48,965	– 493	– 2,264
2016 June	+ 23,122	+ 25,923	– 284	– 2,209	+ 513	– 1,106	– 571	+ 22,115	– 711	– 435
July	+ 18,927	+ 20,453	+ 413	– 3,460	+ 5,372	– 3,437	– 103	+ 17,363	+ 342	– 1,461
Aug.	+ 17,632	+ 20,933	– 435	– 4,807	+ 6,016	– 4,510	– 101	+ 17,217	+ 93	– 314
Sep.	+ 24,492	+ 25,409	– 324	– 3,042	+ 4,788	– 2,662	+ 511	+ 24,977	– 695	– 26
Oct.	+ 19,777	+ 20,598	+ 294	– 3,425	+ 6,117	– 3,513	– 117	+ 28,457	– 145	+ 8,797
Nov.	+ 25,394	+ 23,647	– 347	– 255	+ 6,949	– 4,948	– 69	+ 22,295	+ 140	– 3,031
Dec.	+ 26,182	+ 16,837	– 1,959	+ 1,790	+ 11,675	– 4,119	+ 2,541	+ 44,145	– 38	+ 15,422
2017 Jan.	+ 12,379	+ 16,200	+ 171	– 979	+ 6,851	– 9,693	– 145	+ 7,119	– 124	– 5,115
Feb.	+ 23,381	+ 22,690	+ 1,022	– 955	+ 6,280	– 4,634	+ 291	+ 14,387	– 216	– 9,285
Mar.	+ 32,911	+ 28,187	+ 1,209	– 987	+ 8,165	– 2,453	+ 470	+ 45,810	– 21	+ 12,429
Apr.	+ 16,218	+ 19,883	+ 21	– 1,181	+ 5,852	– 8,336	– 321	+ 21,216	– 2	+ 5,319
May	+ 15,352	+ 23,194	– 968	– 1,674	– 5,295	– 872	+ 85	+ 11,773	– 47	– 3,664
June	+ 22,614	+ 24,676	+ 760	– 1,930	+ 2,501	– 2,632	– 491	+ 39,072	+ 434	+ 16,949
July	+ 19,015	+ 21,320	+ 679	– 4,043	+ 6,159	– 4,420	+ 525	+ 14,479	+ 463	– 5,062
Aug.	+ 18,054	+ 21,764	– 765	– 5,392	+ 5,158	– 3,476	+ 174	+ 8,062	– 912	– 10,167
Sep.	+ 26,897	+ 25,790	– 27	– 2,359	+ 6,605	– 3,139	+ 204	+ 32,438	+ 602	+ 5,336
Oct.	+ 19,522	+ 21,065	+ 393	– 3,846	+ 6,527	– 4,224	– 206	+ 15,799	+ 1,176	– 3,517
Nov.	+ 26,432	+ 25,333	– 587	– 508	+ 6,868	– 5,260	– 536	+ 29,624	– 270	+ 3,728
Dec.	+ 28,448	+ 18,759	– 652	+ 2,980	+ 11,687	– 4,979	– 305	+ 40,187	– 2,353	+ 12,044
2018 Jan.	+ 20,211	+ 18,211	– 1,171	– 550	+ 7,601	– 5,052	+ 489	+ 27,562	– 121	+ 6,861
Feb.	+ 21,437	+ 20,698	+ 351	+ 710	+ 5,419	– 5,390	+ 19	+ 19,584	+ 583	– 1,872
Mar.	+ 29,463	+ 25,695	– 576	– 791	+ 8,600	– 4,041	– 294	+ 22,202	+ 236	– 6,966
Apr.	+ 23,791	+ 22,989	+ 97	– 576	+ 4,014	– 2,636	+ 357	+ 32,072	– 670	+ 7,924
May	+ 13,713	+ 21,907	+ 195	– 1,003	– 7,293	+ 102	+ 50	+ 17,186	+ 83	+ 3,424
June	+ 26,838	+ 24,655	+ 555	– 2,029	+ 7,050	– 2,839	– 321	+ 20,697	+ 213	– 5,820
July	+ 14,973	+ 18,322	+ 1,101	– 4,297	+ 5,613	– 4,664	– 203	+ 10,516	+ 266	– 4,254
Aug.	+ 15,867	+ 18,511	– 88	– 5,508	+ 6,595	– 3,731	+ 90	+ 18,960	– 640	+ 3,002
Sep.	+ 21,413	+ 19,391	– 506	– 1,406	+ 7,079	– 3,650	– 912	+ 19,489	– 119	– 1,012
Oct.	+ 18,876	+ 20,051	– 586	– 3,648	+ 6,845	– 4,372	– 818	+ 9,230	+ 700	– 8,827
Nov. p	+ 21,432	+ 19,988	– 1,882	– 275	+ 7,355	– 5,636	– 681	+ 23,184	– 124	+ 2,433

1 Excluding freight and insurance costs of foreign trade. **2** For example, warehouse transactions for the account of residents, deductions of goods returned and deductions of exports and imports in connection with goods for processing. **3** Including freight and insurance costs of foreign trade. **4** Including net acquisition/disposal of non-produced non-financial assets. **5** Statistical errors and omissions resulting from the difference between the balance on the financial account and the balances on the current account and the capital account.

XII. External sector

3. Foreign trade (special trade) of the Federal Republic of Germany, by country and group of countries*

€ million

Group of countries/country		2015	2016	2017	2018 Jan./Oct.	July	Aug.	Sep.	Oct.	Nov. p
All countries [1]	Exports	1,193,555	1,203,833	1,278,958	1,105,456	110,975	105,381	109,216	117,360	116,274
	Imports	949,245	954,917	1,031,013	911,831	94,603	87,745	90,921	98,445	95,741
	Balance	+ 244,310	+ 248,916	+ 247,946	+ 193,624	+ 16,372	+ 17,636	+ 18,295	+ 18,915	+ 20,533
I. European countries	Exports	803,425	818,644	872,427	757,986	74,727	69,312	74,386	80,524	78,744
	Imports	653,782	657,753	699,677	623,725	64,408	58,746	62,099	66,622	65,666
	Balance	+ 149,643	+ 160,891	+ 172,749	+ 134,261	+ 10,319	+ 10,566	+ 12,287	+ 13,901	+ 13,077
1. EU Member States (28)	Exports	692,493	705,548	749,850	655,276	64,553	59,451	64,809	69,938	68,041
	Imports	543,334	551,344	586,071	520,839	53,698	48,522	52,354	55,189	54,529
	Balance	+ 149,159	+ 154,204	+ 163,780	+ 134,437	+ 10,855	+ 10,929	+ 12,456	+ 14,749	+ 13,512
Euro area (19) countries	Exports	434,075	441,092	471,213	414,479	41,478	36,517	41,130	44,226	42,831
	Imports	356,643	358,848	378,700	338,978	36,098	31,481	34,228	35,438	34,849
	Balance	+ 77,432	+ 82,244	+ 92,513	+ 75,501	+ 5,381	+ 5,037	+ 6,902	+ 8,787	+ 7,982
of which:										
Austria	Exports	58,217	59,778	62,656	54,378	5,434	5,153	5,512	5,956	5,741
	Imports	37,250	38,543	40,686	36,204	3,785	3,426	3,664	3,922	3,802
	Balance	+ 20,967	+ 21,235	+ 21,970	+ 18,174	+ 1,649	+ 1,727	+ 1,848	+ 2,034	+ 1,939
Belgium and Luxembourg	Exports	46,196	46,931	50,071	42,518	4,148	3,802	4,097	4,427	4,269
	Imports	40,116	40,960	43,689	41,340	4,627	4,084	4,376	3,840	4,324
	Balance	+ 6,079	+ 5,971	+ 6,381	+ 1,178	– 479	– 282	– 279	+ 587	– 55
France	Exports	102,762	101,106	105,687	88,359	8,999	7,198	8,959	8,997	9,144
	Imports	66,819	65,651	64,329	54,396	5,906	4,672	5,232	5,949	5,634
	Balance	+ 35,943	+ 35,454	+ 41,359	+ 33,963	+ 3,094	+ 2,526	+ 3,727	+ 3,048	+ 3,511
Italy	Exports	57,987	61,265	65,422	59,113	6,022	4,433	5,749	7,129	6,124
	Imports	49,038	51,737	55,342	51,104	5,584	4,476	5,194	5,323	4,980
	Balance	+ 8,949	+ 9,528	+ 10,080	+ 8,009	+ 438	– 43	+ 556	+ 1,806	+ 1,144
Netherlands	Exports	79,191	78,433	84,661	76,454	7,374	7,187	7,411	8,175	8,161
	Imports	87,889	83,142	90,597	81,782	8,214	7,887	8,239	8,851	8,422
	Balance	– 8,697	– 4,709	– 5,935	– 5,328	– 840	– 700	– 828	– 677	– 261
Spain	Exports	38,715	40,497	43,067	37,175	3,848	3,015	3,519	3,946	3,927
	Imports	26,442	27,870	31,396	27,158	2,624	2,205	2,603	2,707	2,743
	Balance	+ 12,273	+ 12,627	+ 11,671	+ 10,016	+ 1,225	+ 810	+ 916	+ 1,240	+ 1,184
Other EU Member States	Exports	258,417	264,456	278,638	240,796	23,074	22,933	23,680	25,712	25,210
	Imports	186,691	192,496	207,371	181,861	17,600	17,041	18,125	19,751	19,680
	Balance	+ 71,727	+ 71,960	+ 71,267	+ 58,936	+ 5,474	+ 5,892	+ 5,554	+ 5,961	+ 5,529
of which:										
United Kingdom	Exports	89,018	85,939	85,440	69,382	6,706	6,342	6,536	7,115	7,050
	Imports	38,414	35,654	36,820	30,924	2,897	2,611	2,902	3,287	3,249
	Balance	+ 50,604	+ 50,285	+ 48,620	+ 38,457	+ 3,809	+ 3,731	+ 3,634	+ 3,828	+ 3,800
2. Other European countries	Exports	110,932	113,096	122,576	102,711	10,174	9,862	9,577	10,586	10,703
	Imports	110,448	106,409	113,607	102,886	10,711	10,225	9,746	11,433	11,137
	Balance	+ 484	+ 6,687	+ 8,969	– 176	– 537	– 363	– 169	– 848	– 434
of which:										
Switzerland	Exports	49,070	50,161	53,913	45,483	4,384	4,475	4,459	4,966	4,919
	Imports	42,089	43,896	45,689	38,524	4,227	3,644	3,813	4,349	4,243
	Balance	+ 6,981	+ 6,265	+ 8,224	+ 6,959	+ 158	+ 831	+ 646	+ 617	+ 677
II. Non-European countries	Exports	387,398	382,486	403,490	344,238	35,898	35,675	34,464	36,461	37,212
	Imports	295,461	297,164	328,606	287,339	30,055	29,395	28,641	31,631	29,885
	Balance	+ 91,936	+ 85,322	+ 74,884	+ 56,899	+ 5,843	+ 6,281	+ 5,824	+ 4,830	+ 7,328
1. Africa	Exports	23,897	24,434	25,431	18,813	2,048	1,964	1,813	1,942	1,935
	Imports	18,307	16,675	20,428	18,650	1,889	2,011	1,861	2,196	2,081
	Balance	+ 5,590	+ 7,759	+ 5,003	+ 163	+ 158	– 47	– 48	– 254	– 146
2. America	Exports	156,982	147,542	154,644	133,139	14,019	13,857	12,930	14,281	14,185
	Imports	85,582	83,499	89,927	77,658	8,121	7,410	7,584	8,052	7,959
	Balance	+ 71,400	+ 64,043	+ 64,717	+ 55,481	+ 5,898	+ 6,447	+ 5,347	+ 6,228	+ 6,226
of which:										
United States	Exports	113,733	106,822	111,805	94,788	10,091	9,445	9,274	10,095	10,187
	Imports	60,217	57,968	61,902	54,126	5,502	5,315	5,475	5,877	5,697
	Balance	+ 53,516	+ 48,855	+ 49,903	+ 40,662	+ 4,589	+ 4,130	+ 3,800	+ 4,218	+ 4,490
3. Asia	Exports	196,297	200,158	212,070	182,005	18,812	18,812	18,754	19,246	20,010
	Imports	188,621	193,979	214,393	188,001	19,742	19,630	18,944	21,069	19,502
	Balance	+ 7,676	+ 6,179	– 2,323	– 5,996	– 931	– 817	– 190	– 1,823	+ 508
of which:										
Middle East	Exports	39,518	36,659	33,104	23,283	2,347	2,305	2,486	2,431	2,943
	Imports	7,330	6,581	6,963	6,931	906	816	651	757	596
	Balance	+ 32,188	+ 30,079	+ 26,141	+ 16,352	+ 1,440	+ 1,489	+ 1,835	+ 1,674	+ 2,347
Japan	Exports	16,968	18,307	19,546	17,052	2,002	1,784	1,888	1,726	1,757
	Imports	20,180	21,922	22,955	20,025	2,014	2,004	1,957	2,113	2,078
	Balance	– 3,213	– 3,615	– 3,410	– 2,972	– 13	– 221	– 69	– 387	– 322
People's Republic of China [2]	Exports	71,284	76,046	86,141	77,643	7,966	7,857	7,958	8,527	8,359
	Imports	91,930	94,172	101,837	87,924	9,320	9,348	8,806	10,497	9,766
	Balance	– 20,646	– 18,126	– 15,695	– 10,281	– 1,353	– 1,491	– 848	– 1,970	– 1,407
New industrial countries and emerging markets of Asia [3]	Exports	51,510	51,921	53,425	46,211	4,569	4,805	4,428	4,677	4,742
	Imports	42,478	42,966	50,873	44,419	4,516	4,434	4,559	4,932	4,521
	Balance	+ 9,032	+ 8,955	+ 2,552	+ 1,792	+ 52	+ 371	– 132	– 255	+ 221
4. Oceania and polar regions	Exports	10,221	10,352	11,344	10,281	1,020	1,042	967	992	1,082
	Imports	2,951	3,011	3,857	3,030	303	344	251	314	342
	Balance	+ 7,271	+ 7,341	+ 7,487	+ 7,251	+ 717	+ 698	+ 716	+ 678	+ 740

***** Source: Federal Statistical Office. Exports (f.o.b.) by country of destination, imports (c.i.f.) by country of origin. Individual countries and groups of countries according to the current position. **1** Including fuel and other supplies for ships and aircraft and other data not classifiable by region. **2** Excluding Hong Kong. **3** Brunei Darussalam, Hong Kong, Indonesia, Malaysia, Philippines, Republic of Korea, Singapore, Taiwan and Thailand.

XII. External sector

4. Services and primary income of the Federal Republic of Germany (balances)

€ million

Period	Services [1]								Primary income		
		of which:									
	Total	Transport	Travel [2]	Financial services	Charges for the use of intellectual property	Telecommunications, computer and information services	Other business services	Government goods and services [3]	Compensation of employees	Investment income	Other primary income [4]
2013	– 41,376	– 9,881	– 37,713	+ 8,056	+ 3,656	– 870	– 5,518	+ 3,073	+ 541	+ 60,681	+ 1,223
2014	– 24,485	– 6,902	– 37,653	+ 7,007	+ 3,549	+ 2,666	– 700	+ 2,971	+ 1,184	+ 54,473	+ 891
2015	– 16,910	– 5,258	– 36,595	+ 9,587	+ 4,830	+ 4,064	– 2,488	+ 3,160	+ 1,521	+ 66,048	– 347
2016	– 19,948	– 6,185	– 38,247	+ 9,856	+ 6,203	+ 3,224	– 3,004	+ 3,094	+ 750	+ 60,943	– 1,054
2017	– 20,874	– 4,047	– 43,588	+ 10,683	+ 6,494	+ 3,252	– 1,683	+ 2,092	– 36	+ 68,622	– 1,229
2017 Q1	– 2,921	– 1,257	– 6,332	+ 2,207	+ 1,029	+ 377	– 855	+ 551	+ 589	+ 21,868	– 1,162
Q2	– 4,785	– 407	– 10,675	+ 2,655	+ 1,538	+ 893	– 608	+ 625	– 203	+ 5,303	– 2,042
Q3	– 11,794	– 1,134	– 17,166	+ 2,746	+ 1,433	+ 512	+ 53	+ 545	– 620	+ 19,690	– 1,148
Q4	– 1,374	– 1,249	– 9,415	+ 3,076	+ 2,494	+ 1,470	– 274	+ 370	+ 197	+ 21,761	+ 3,123
2018 Q1	– 630	– 787	– 6,238	+ 2,684	+ 1,059	+ 867	– 314	+ 655	+ 559	+ 21,896	– 835
Q2	– 3,608	– 46	– 10,459	+ 2,219	+ 1,657	+ 1,515	– 703	+ 738	– 248	+ 6,112	– 2,092
Q3	– 11,211	– 564	– 17,100	+ 1,904	+ 1,580	+ 938	– 228	+ 651	– 694	+ 20,907	– 927
2018 Jan.	– 550	– 301	– 1,649	+ 842	+ 161	– 365	– 49	+ 191	+ 188	+ 7,806	– 393
Feb.	+ 710	– 249	– 1,577	+ 693	+ 762	+ 675	– 162	+ 218	+ 208	+ 5,446	– 235
Mar.	– 791	– 237	– 3,012	+ 1,149	+ 136	+ 557	– 103	+ 246	+ 162	+ 8,645	– 207
Apr.	– 576	– 46	– 2,230	+ 796	+ 456	+ 194	– 515	+ 247	– 79	+ 4,532	– 439
May	– 1,003	+ 46	– 3,775	+ 709	+ 780	+ 474	– 152	+ 243	– 80	– 5,905	– 1,307
June	– 2,029	– 46	– 4,455	+ 713	+ 421	+ 847	– 35	+ 248	– 89	+ 7,485	– 345
July	– 4,297	– 80	– 5,541	+ 773	+ 174	+ 62	– 587	+ 231	– 252	+ 6,213	– 348
Aug.	– 5,508	– 214	– 6,763	+ 350	+ 986	– 38	– 471	+ 161	– 225	+ 7,133	– 313
Sep.	– 1,406	– 270	– 4,797	+ 782	+ 421	+ 913	+ 830	+ 259	– 217	+ 7,562	– 266
Oct.	– 3,648	– 275	– 5,628	+ 995	+ 696	+ 103	– 236	+ 212	+ 34	+ 7,348	– 537
Nov. p	– 275	– 294	– 2,327	+ 845	+ 1,459	– 231	– 613	+ 136	+ 43	+ 7,612	– 299

1 Including freight and insurance costs of foreign trade. **2** Since 2001 the sample results of a household survey have been used on the expenditure side. **3** Domestic public authorities' receipts from and expenditure on services, not included elsewhere; including the receipts from foreign military bases. **4** Includes, inter alia, taxes on leasing, production and imports transferred to the EU as well as subsidies received from the EU.

5. Secondary income of the Federal Republic of Germany (balances)

€ million

Period	General government				All sectors excluding general government [2]			
			of which:			of which:		
	Total	Total	Current international cooperation [1]	Current taxes on income, wealth, etc.	Total	Personal transfers between resident and non-resident households [3]	of which: Workers' remittances	
2013	– 43,639	– 28,923	– 4,733	+ 6,174	– 14,715	– 3,250	– 3,229	
2014	– 41,283	– 28,146	– 6,419	+ 8,105	– 13,137	– 3,477	– 3,451	
2015	– 40,044	– 23,965	– 6,805	+ 10,638	– 16,079	– 3,540	– 3,523	
2016	– 39,879	– 24,870	– 11,523	+ 10,994	– 15,009	– 4,214	– 4,196	
2017	– 54,120	– 23,688	– 11,496	+ 10,584	– 30,432	– 4,632	– 4,613	
2017 Q1	– 16,781	– 7,604	– 2,995	+ 1,796	– 9,176	– 1,158	– 1,153	
Q2	– 11,841	– 1,706	– 1,500	+ 6,239	– 10,135	– 1,159	– 1,153	
Q3	– 11,035	– 5,432	– 1,557	+ 1,755	– 5,603	– 1,157	– 1,153	
Q4	– 14,463	– 8,946	– 5,444	+ 794	– 5,517	– 1,159	– 1,153	
2018 Q1	– 14,483	– 9,356	– 2,233	+ 1,655	– 5,127	– 1,291	– 1,286	
Q2	– 5,373	– 529	– 1,260	+ 6,154	– 4,844	– 1,287	– 1,286	
Q3	– 12,045	– 7,476	– 1,940	+ 1,131	– 4,569	– 1,288	– 1,286	
2018 Jan.	– 5,052	– 3,518	– 1,332	+ 230	– 1,534	– 430	– 429	
Feb.	– 5,390	– 3,679	– 558	+ 814	– 1,712	– 429	– 429	
Mar.	– 4,041	– 2,160	– 343	+ 612	– 1,881	– 432	– 429	
Apr.	– 2,636	– 994	– 314	+ 1,479	– 1,643	– 429	– 429	
May	+ 102	+ 1,640	– 281	+ 3,635	– 1,538	– 429	– 429	
June	– 2,839	– 1,176	– 665	+ 1,040	– 1,663	– 429	– 429	
July	– 4,664	– 2,833	– 857	+ 150	– 1,831	– 430	– 429	
Aug.	– 3,731	– 2,525	– 543	+ 251	– 1,206	– 429	– 429	
Sep.	– 3,650	– 2,118	– 540	+ 730	– 1,532	– 429	– 429	
Oct.	– 4,372	– 3,243	– 1,074	+ 150	– 1,130	– 429	– 429	
Nov. p	– 5,636	– 3,252	– 998	+ 158	– 2,384	– 429	– 429	

1 Excluding capital transfers, where identifiable. Includes current international cooperation and other current transfers. **2** Includes insurance premiums and claims (excluding life insurance policies). **3** Transfers between resident and non-resident households.

6. Capital account of the Federal Republic of Germany (balances)

€ million

Period	Total	Non-produced non-financial assets	Capital transfers
2013	– 563	+ 1,105	– 1,668
2014	+ 2,936	+ 2,841	+ 95
2015	+ 534	+ 2,366	– 1,832
2016	+ 3,468	+ 3,372	+ 96
2017	– 254	+ 3,021	– 3,275
2017 Q1	+ 616	+ 734	– 118
Q2	– 727	+ 384	– 1,111
Q3	+ 904	+ 1,531	– 627
Q4	– 1,047	+ 372	– 1,419
2018 Q1	+ 214	– 431	+ 645
Q2	+ 85	+ 99	– 14
Q3	– 1,025	– 290	– 735
2018 Jan.	+ 489	+ 118	+ 371
Feb.	+ 19	– 269	+ 288
Mar.	– 294	– 281	– 14
Apr.	+ 357	+ 505	– 148
May	+ 50	– 108	+ 158
June	– 321	– 297	– 24
July	– 203	+ 101	– 304
Aug.	+ 90	+ 237	– 147
Sep.	– 912	– 628	– 284
Oct.	– 818	– 591	– 228
Nov. p	– 681	– 508	– 173

XII. External sector

7. Financial account of the Federal Republic of Germany (net)

€ million

Item	2015	2016	2017	2018					
				Q1	Q2	Q3	Sep.	Oct.	Nov. p
I. Net domestic investment abroad (increase: +)	+ 270,235	+ 397,043	+ 363,024	+ 156,350	+ 117,234	+ 61,003	+ 71,312	– 21,090	+ 48,783
1. Direct investment	+ 116,141	+ 82,985	+ 111,797	+ 42,552	+ 55,587	+ 24,229	+ 10,797	+ 7,391	+ 3,060
Equity	+ 75,292	+ 70,623	+ 71,205	+ 35,042	+ 58,113	+ 22,601	– 739	+ 7,314	+ 5,707
of which: Reinvestment of earnings [1]	+ 16,804	+ 10,867	+ 23,779	+ 12,044	+ 5,656	+ 7,859	+ 1,386	+ 4,580	+ 4,945
Debt instruments	+ 40,849	+ 12,362	+ 40,592	+ 7,510	– 2,526	+ 1,627	+ 11,536	+ 76	– 2,646
2. Portfolio investment	+ 124,062	+ 98,236	+ 105,157	+ 42,396	+ 6,146	+ 28,440	+ 8,354	– 7,336	+ 6,510
Shares [2]	+ 19,692	+ 17,254	+ 14,042	+ 8,182	– 1,361	+ 3,862	– 2,462	– 590	+ 408
Investment fund shares [3]	+ 35,750	+ 36,142	+ 47,747	+ 8,585	+ 4,412	+ 4,088	+ 1,756	– 1,927	+ 640
Long-term debt securities [4]	+ 74,342	+ 51,037	+ 47,101	+ 25,157	+ 4,358	+ 21,055	+ 11,703	– 3,490	+ 7,151
Short-term debt securities [5]	– 5,723	– 6,196	– 3,733	+ 473	– 1,262	– 565	– 2,643	– 1,329	– 1,690
3. Financial derivatives and employee stock options [6]	+ 26,026	+ 32,535	+ 8,937	+ 1,154	+ 9,583	+ 10,045	+ 3,934	– 1,500	+ 10,177
4. Other investment [7]	+ 6,219	+ 181,602	+ 138,402	+ 69,548	+ 46,291	– 1,217	+ 48,347	– 20,344	+ 29,160
Monetary financial institutions [8]	– 90,288	+ 18,627	– 21,008	+ 41,060	+ 6,134	+ 1,171	– 6,750	+ 14,952	– 3,219
Long-term	– 2,804	+ 44,980	+ 19,619	– 1,407	– 494	+ 3,336	– 3,944	+ 2,116	– 2,347
Short-term	– 87,484	– 26,353	– 40,627	+ 42,467	+ 6,628	– 2,165	– 2,806	+ 12,836	– 872
Enterprises and households [9]	– 14,618	– 6,248	+ 7,927	+ 13,383	– 8,122	+ 19,553	+ 11,760	– 4,004	+ 16,953
Long-term	+ 19,127	+ 1,725	– 3,372	+ 1,660	+ 4,573	+ 3,109	+ 2,518	+ 1,941	+ 187
Short-term	– 33,744	– 7,974	+ 11,298	+ 11,723	– 12,695	+ 16,445	+ 9,242	– 5,945	+ 16,766
General government	– 12,239	– 1,268	– 5,154	+ 1,523	– 4,915	– 4,736	– 3,229	– 18	– 201
Long-term	– 7,591	– 7,595	– 3,730	– 310	– 832	– 13	+ 7	– 224	+ 22
Short-term	– 4,648	+ 6,327	– 1,424	+ 1,833	– 4,083	– 4,723	– 3,236	+ 206	– 223
Bundesbank	+ 123,364	+ 170,491	+ 156,637	+ 13,583	+ 53,195	– 17,206	+ 46,566	– 31,275	+ 15,627
5. Reserve assets	– 2,213	+ 1,686	– 1,269	+ 699	– 374	– 493	– 119	+ 700	– 124
II. Net foreign investment in the reporting country (increase: +)	+ 30,817	+ 139,350	+ 83,057	+ 87,001	+ 47,279	+ 12,039	+ 51,823	– 30,320	+ 25,599
1. Direct investment	+ 48,606	+ 51,816	+ 69,548	+ 20,537	+ 23,454	+ 14,510	+ 8,943	+ 213	+ 18,107
Equity	+ 10,567	+ 11,894	+ 24,077	+ 2,089	+ 541	+ 3,233	– 254	+ 1,462	+ 4,757
of which: Reinvestment of earnings [1]	– 1,524	+ 3,935	+ 9,216	+ 2,671	+ 941	+ 1,938	+ 982	+ 1,661	+ 1,697
Debt instruments	+ 38,039	+ 39,921	+ 45,471	+ 18,449	+ 22,914	+ 11,277	+ 9,197	– 1,249	+ 13,350
2. Portfolio investment	– 68,808	– 108,471	– 95,045	+ 7,592	– 17,519	– 8,821	+ 405	+ 6,496	+ 9,379
Shares [2]	+ 10,605	+ 342	– 1,126	+ 4,306	+ 3,548	– 1,643	+ 178	+ 2,019	+ 1,650
Investment fund shares [3]	+ 7,357	– 6,919	– 3,441	– 1,792	– 3,038	– 338	– 608	– 975	– 129
Long-term debt securities [4]	– 96,048	– 97,281	– 70,559	+ 16,555	– 18,710	– 8,467	+ 908	+ 1,266	+ 7,068
Short-term debt securities [5]	+ 9,278	– 4,613	– 19,919	– 11,476	+ 682	+ 1,627	– 73	+ 4,187	+ 790
3. Other investment [7]	+ 51,019	+ 196,006	+ 108,554	+ 58,872	+ 41,344	+ 6,350	+ 42,475	– 37,029	– 1,887
Monetary financial institutions [8]	– 41,165	+ 86,742	+ 17,476	+ 45,097	+ 19,374	+ 8,519	– 8,868	– 12,901	– 20,620
Long-term	– 19,535	+ 5,774	+ 7,541	– 7,418	+ 3,309	– 3,878	– 2,482	+ 1,856	– 574
Short-term	– 21,630	+ 80,968	+ 9,935	+ 52,515	+ 16,065	+ 12,397	– 6,386	– 14,757	– 20,046
Enterprises and households [9]	+ 18,920	+ 3,716	+ 17,557	+ 4,463	+ 3,658	+ 12,720	+ 10,612	– 7,937	+ 6,976
Long-term	+ 23,006	+ 8,579	+ 3,339	+ 1,879	+ 10,204	– 1,887	– 340	– 34	– 301
Short-term	– 4,085	– 4,863	+ 14,218	+ 2,584	– 6,546	+ 14,607	+ 10,952	– 7,903	+ 7,277
General government	– 11,105	– 5,309	– 6,313	+ 1,660	– 592	+ 4,069	+ 472	+ 3,452	– 436
Long-term	– 3,941	– 4,682	– 3,290	– 1	+ 153	+ 101	+ 129	+ 14	+ 326
Short-term	– 7,164	– 626	– 3,023	+ 1,662	– 746	+ 3,968	+ 342	+ 3,438	– 761
Bundesbank	+ 84,369	+ 110,857	+ 79,834	+ 7,652	+ 18,904	– 18,957	+ 40,259	– 19,643	+ 12,193
III. Net financial account (net lending: +/net borrowing: -)	+ 239,418	+ 257,693	+ 279,967	+ 69,348	+ 69,954	+ 48,965	+ 19,489	+ 9,230	+ 23,184

1 Estimate based on data on direct investment stocks abroad and in the Federal Republic of Germany (see Special Statistical Publication 10). **2** Including participation certificates. **3** Including reinvestment of earnings. **4** Up to and including 2012 without accrued interest. Long-term: original maturity of more than one year or unlimited. **5** Short-term: original maturity up to one year. **6** Balance of transactions arising from options and financial futures contracts as well as employee stock options. **7** Includes in particular loans, trade credits as well as currency and deposits. **8** Excluding Bundesbank. **9** Includes the following sectors: financial corporations (excluding monetary financial institutions) as well as non-financial corporations, households and non-profit institutions serving households.

XII. External sector

8. External position of the Bundesbank o

€ million

End of reporting period	External assets									External liabilities 3,4	Net external position (col. 1 minus col. 10)
		Reserve assets					Other investment				
	Total	Total	Gold and gold receivables	Special drawing rights	Reserve position in the IMF	Currency, deposits and securities	Total	of which: Clearing accounts within the ESCB 1	Portfolio investment 2		
	1	2	3	4	5	6	7	8	9	10	11
1999 Jan. 5	95,316	93,940	29,312	1,598	6,863	56,167	1,376	–	–	9,628	85,688
1999	141,958	93,039	32,287	1,948	6,383	52,420	48,919	26,275	–	7,830	134,128
2000	100,762	93,815	32,676	1,894	5,868	53,377	6,947	– 6,851	–	8,287	92,475
2001	76,147	93,215	35,005	2,032	6,689	49,489	– 17,068	– 30,857	–	10,477	65,670
2002	103,948	85,002	36,208	1,888	6,384	40,522	18,780	4,995	166	66,278	37,670
2003	95,394	76,680	36,533	1,540	6,069	32,538	18,259	4,474	454	83,329	12,065
2004	93,110	71,335	35,495	1,512	5,036	29,292	21,110	7,851	665	95,014	– 1,904
2005	130,268	86,181	47,924	1,601	2,948	33,708	43,184	29,886	902	115,377	14,891
2006	104,389	84,765	53,114	1,525	1,486	28,640	18,696	5,399	928	134,697	– 30,308
2007	179,492	92,545	62,433	1,469	949	27,694	84,420	71,046	2,527	176,569	2,923
2008	230,775	99,185	68,194	1,576	1,709	27,705	129,020	115,650	2,570	237,893	– 7,118
2009	323,286	125,541	83,939	13,263	2,705	25,634	190,288	177,935	7,458	247,645	75,641
2010	524,695	162,100	115,403	14,104	4,636	27,957	337,921	325,553	24,674	273,241	251,454
2011	714,662	184,603	132,874	14,118	8,178	29,433	475,994	463,311	54,065	333,730	380,932
2012	921,002	188,630	137,513	13,583	8,760	28,774	668,672	655,670	63,700	424,999	496,003
2013	721,741	143,753	94,876	12,837	7,961	28,080	523,153	510,201	54,834	401,524	320,217
2014	678,804	158,745	107,475	14,261	6,364	30,646	473,274	460,846	46,784	396,314	282,490
2015	800,709	159,532	105,792	15,185	5,132	33,423	596,638	584,210	44,539	481,787	318,921
2016	990,450	175,765	119,253	14,938	6,581	34,993	767,128	754,263	47,557	592,731	397,719
2017	1,142,845	166,842	117,347	13,987	4,294	31,215	923,765	906,941	52,238	671,359	471,486
2018	1,209,982	173,138	121,445	14,378	5,518	31,796	980,560	966,190	56,284	770,494	439,487
2016 Apr.	856,266	175,738	121,562	14,793	6,759	32,623	638,201	625,774	42,327	495,580	360,687
May	884,887	173,927	118,133	14,970	6,839	33,984	667,972	655,544	42,988	501,620	383,267
June	922,232	184,628	128,963	14,746	6,780	34,139	693,498	681,070	44,106	518,491	403,741
July	904,044	186,300	130,417	14,698	6,736	34,449	672,748	660,320	44,996	518,946	385,099
Aug.	918,692	183,951	128,171	14,685	6,642	34,452	689,906	677,479	44,834	525,347	393,345
Sep.	957,860	183,796	128,795	14,657	6,605	33,738	728,554	715,738	45,510	549,909	407,951
Oct.	947,718	181,623	126,245	14,708	6,631	34,039	720,795	708,029	45,300	543,001	404,717
Nov.	991,108	177,348	121,032	14,917	6,572	34,826	766,905	754,057	46,855	552,565	438,543
Dec.	990,450	175,765	119,253	14,938	6,581	34,993	767,128	754,263	47,557	592,731	397,719
2017 Jan.	1,034,804	177,256	121,656	14,806	6,523	34,270	809,862	795,621	47,687	577,969	456,835
Feb.	1,060,894	184,666	128,507	14,976	6,248	34,935	828,264	814,375	47,964	609,255	451,639
Mar.	1,075,039	181,898	126,158	14,886	6,183	34,671	843,892	829,751	49,249	623,579	451,460
Apr.	1,089,144	180,726	126,011	14,697	6,055	33,963	858,281	843,439	50,137	601,538	487,606
May	1,098,879	175,958	122,486	14,459	5,907	33,107	871,724	857,272	51,197	601,130	497,749
June	1,098,880	171,295	118,235	14,349	5,695	33,016	875,312	860,764	52,273	623,941	474,939
July	1,092,769	169,735	117,330	14,124	5,531	32,750	871,752	856,510	51,282	614,300	478,469
Aug.	1,089,883	171,044	119,770	14,071	5,530	31,673	867,696	852,511	51,143	623,104	466,780
Sep.	1,115,200	169,937	118,208	14,089	5,471	32,169	894,441	878,888	50,821	622,729	492,470
Oct.	1,085,916	172,047	118,569	14,208	5,446	33,824	862,772	848,443	51,097	604,141	481,775
Nov.	1,091,832	169,539	117,208	14,069	5,168	33,094	869,988	855,548	52,305	579,766	512,066
Dec.	1,142,845	166,842	117,347	13,987	4,294	31,215	923,765	906,941	52,238	671,359	471,486
2018 Jan.	1,114,634	164,944	117,008	13,776	4,166	29,994	896,525	882,043	53,165	618,843	495,792
Feb.	1,147,979	166,370	117,138	13,949	4,138	31,146	928,275	913,989	53,333	637,646	510,333
Mar.	1,157,102	165,830	116,630	13,906	4,114	31,181	937,348	923,466	53,924	678,869	478,233
Apr.	1,137,942	166,970	117,867	14,043	4,150	30,910	916,858	902,364	54,115	632,732	505,210
May	1,196,227	171,469	120,871	14,287	4,172	32,139	970,555	956,150	54,203	654,573	541,654
June	1,212,477	167,078	116,291	14,245	4,983	31,559	990,543	976,266	54,857	698,155	514,323
July	1,145,236	163,308	112,693	14,131	4,881	31,603	927,466	913,270	54,463	662,027	483,210
Aug.	1,142,982	162,346	111,986	14,208	4,879	31,273	926,771	912,448	53,864	638,899	504,083
Sep.	1,189,133	161,078	110,755	14,236	4,889	31,199	973,337	956,487	54,717	679,190	509,943
Oct.	1,165,423	168,272	116,314	14,440	5,259	32,258	942,063	927,555	55,089	668,621	496,802
Nov.	1,181,915	168,198	116,409	14,405	5,244	32,140	957,690	941,130	56,026	671,927	509,987
Dec.	1,209,982	173,138	121,445	14,378	5,518	31,796	980,560	966,190	56,284	770,494	439,487

o Assets and liabilities vis-à-vis all countries within and outside the euro area. Up to December 2000 the levels at the end of each quarter are shown, owing to revaluations, at market prices; within each quarter, however, the levels are computed on the basis of cumulative transaction values. From January 2001 all end-of-month levels are valued at market prices. **1** Mainly net claims on TARGET2 balances (according to the respective country designation), since November 2000 also balances with non-euro area central banks within the ESCB. **2** Mainly long-term debt securities from issuers within the euro area. **3** Including estimates of currency in circulation abroad. **4** See Deutsche Bundesbank, Monthly Report, October 2014, p. 22. **5** Euro opening balance sheet of the Bundesbank as at 1 January 1999.

XII. External sector

9. Assets and liabilities of enterprises in Germany (other than banks) vis-à-vis non-residents *

€ million

End of year or month	Claims on non-residents							Liabilities vis-à-vis non-residents						
			Claims on foreign non-banks							Liabilities vis-à-vis foreign non-banks				
					from trade credits							from trade credits		
	Total	Balances with foreign banks	Total	from financial operations	Total	Credit terms granted	Advance payments effected	Total	Loans from foreign banks	Total	from financial operations	Total	Credit terms used	Advance payments received
All countries														
2014	835,476	280,176	555,301	365,738	189,562	174,764	14,798	963,495	154,960	808,534	639,186	169,348	102,535	66,813
2015	876,992	264,561	612,431	416,692	195,739	181,240	14,499	1,018,628	152,364	866,264	681,975	184,289	112,668	71,621
2016	877,132	245,991	631,141	420,851	210,290	196,110	14,180	1,051,138	132,151	918,987	722,253	196,734	124,129	72,605
2017	879,462	216,300	663,162	438,824	224,338	210,673	13,666	1,073,004	136,001	937,003	738,896	198,107	129,693	68,413
2018 June	897,781	215,723	682,058	447,376	234,682	220,361	14,321	1,130,077	137,373	992,705	784,491	208,214	136,433	71,780
July	909,598	227,451	682,147	451,542	230,605	215,987	14,618	1,138,487	142,643	995,844	792,830	203,014	130,806	72,208
Aug.	897,840	225,010	672,830	451,202	221,628	207,157	14,471	1,136,688	139,575	997,113	804,749	192,365	119,515	72,849
Sep.	921,660	230,436	691,224	457,904	233,319	218,914	14,405	1,158,686	149,527	1,009,159	804,205	204,954	133,245	71,709
Oct.	920,790	225,577	695,213	458,608	236,604	221,953	14,651	1,152,825	138,463	1,014,362	809,873	204,489	131,857	72,632
Nov.	934,591	239,463	695,127	454,846	240,281	225,650	14,631	1,169,501	140,985	1,028,516	821,274	207,242	135,347	71,895
Industrial countries [1]														
2014	735,152	275,277	459,876	330,740	129,136	116,037	13,099	872,950	153,807	719,142	598,249	120,894	85,432	35,461
2015	768,263	260,659	507,604	374,690	132,915	119,868	13,047	919,095	147,507	771,588	644,558	127,030	91,119	35,911
2016	760,622	242,112	518,510	378,804	139,705	127,025	12,680	946,894	128,163	818,731	685,120	133,611	96,436	37,174
2017	761,078	212,247	548,830	396,409	152,422	140,229	12,193	969,214	129,153	840,060	701,848	138,212	104,583	33,629
2018 June	773,499	211,375	562,123	401,514	160,610	148,005	12,605	1,024,871	131,379	893,491	747,453	146,038	111,441	34,597
July	785,200	222,842	562,359	406,930	155,428	142,614	12,815	1,027,476	130,424	897,052	755,931	141,121	106,413	34,708
Aug.	776,673	220,355	556,318	407,029	149,289	136,649	12,640	1,026,266	126,827	899,439	767,269	132,170	97,033	35,137
Sep.	798,542	225,895	572,646	414,636	158,011	145,356	12,655	1,040,724	131,154	909,570	766,446	143,124	108,112	35,012
Oct.	796,144	220,834	575,309	414,730	160,579	147,723	12,856	1,039,744	124,654	915,090	772,268	142,822	107,588	35,234
Nov.	811,872	234,790	577,082	412,282	164,801	151,967	12,834	1,052,583	126,792	925,790	780,618	145,172	110,237	34,936
EU Member States [1]														
2014	618,804	260,133	358,671	266,920	91,752	81,141	10,611	727,491	139,209	588,282	504,292	83,989	56,842	27,147
2015	631,596	242,588	389,007	294,555	94,452	83,957	10,495	752,188	136,630	615,558	531,136	84,422	58,673	25,749
2016	614,938	224,194	390,744	293,305	97,439	87,421	10,018	770,003	118,015	651,988	563,776	88,212	61,312	26,901
2017	605,152	192,336	412,815	305,890	106,925	97,037	9,889	796,346	112,898	683,448	587,325	96,123	71,906	24,217
2018 June	610,761	189,449	421,312	306,100	115,212	105,032	10,180	843,179	114,037	729,141	627,124	102,018	77,311	24,707
July	622,069	202,008	420,061	310,625	109,436	99,078	10,358	843,038	111,823	731,215	632,670	98,545	73,888	24,658
Aug.	615,469	198,865	416,603	312,490	104,113	93,943	10,170	839,872	111,671	728,201	637,077	91,123	66,310	24,813
Sep.	632,796	204,704	428,092	316,743	111,349	101,231	10,117	855,888	116,070	739,818	638,557	101,260	76,530	24,730
Oct.	629,302	199,848	429,454	317,841	111,614	101,339	10,274	851,661	109,601	742,059	642,051	100,008	75,046	24,962
Nov.	647,219	214,630	432,589	316,714	115,874	105,759	10,115	865,382	111,138	754,243	651,904	102,340	77,614	24,726
of which: Euro area [2]														
2014	457,077	204,589	252,488	194,201	58,288	52,067	6,221	607,716	107,561	500,155	445,643	54,513	37,580	16,933
2015	469,103	195,348	273,755	212,286	61,469	54,890	6,579	606,161	94,619	511,542	458,734	52,808	38,164	14,644
2016	450,353	171,625	278,728	214,125	64,603	57,876	6,727	616,804	75,803	541,001	484,967	56,034	41,167	14,867
2017	451,112	148,460	302,652	230,442	72,211	64,753	7,458	634,898	74,496	560,402	495,566	64,836	50,038	14,798
2018 June	449,044	146,537	302,507	226,220	76,287	68,610	7,678	683,244	71,357	611,887	542,305	69,582	53,730	15,852
July	453,625	155,487	298,138	224,694	73,444	65,620	7,824	681,024	68,957	612,067	544,369	67,698	51,689	16,009
Aug.	451,171	153,236	297,935	228,492	69,442	61,803	7,639	678,295	66,930	611,365	549,161	62,205	46,058	16,146
Sep.	461,764	155,744	306,019	232,246	73,773	66,137	7,637	690,147	69,624	620,523	552,087	68,436	52,432	16,004
Oct.	460,566	151,613	308,953	235,209	73,744	66,052	7,692	684,291	67,816	616,475	549,890	66,586	50,313	16,273
Nov.	472,673	161,889	310,784	234,311	76,473	68,895	7,578	695,025	69,310	625,715	556,795	68,920	52,737	16,183
Emerging economies and developing countries [3]														
2014	100,274	4,849	95,425	34,998	60,427	58,728	1,699	90,545	1,153	89,392	40,937	48,455	17,103	31,352
2015	107,753	3,094	104,659	42,003	62,656	61,204	1,452	95,363	886	94,477	37,218	57,259	21,549	35,710
2016	115,100	2,632	112,468	42,031	70,437	68,937	1,500	101,101	1,061	100,039	36,933	63,107	27,693	35,414
2017	116,755	2,619	114,136	42,373	71,764	70,291	1,472	97,759	1,110	96,650	36,848	59,802	25,110	34,692
2018 June	122,355	2,729	119,626	45,734	73,892	72,176	1,716	100,262	1,354	98,908	36,837	62,071	24,954	37,117
July	122,313	2,869	119,443	44,484	74,959	73,156	1,803	99,821	1,324	98,498	36,699	61,799	24,355	37,443
Aug.	119,064	2,864	116,200	44,044	72,156	70,325	1,831	98,699	1,315	97,384	37,280	60,104	22,443	37,662
Sep.	121,024	2,759	118,265	43,140	75,125	73,375	1,750	100,512	1,224	99,288	37,559	61,729	25,094	36,635
Oct.	122,551	2,959	119,591	43,749	75,842	74,047	1,795	100,259	1,287	98,972	37,405	61,567	24,230	37,336
Nov.	120,642	2,889	117,754	42,436	75,318	73,521	1,797	103,711	1,290	102,421	40,456	61,964	25,072	36,893

* The assets and liabilities vis-à-vis non-residents of banks (MFIs) in Germany are shown in Table 4 of Section IV, "Banks". Statistical increases and decreases have not been eliminated; to this extent, the changes in totals are not comparable with the figures shown in Table XI.7. **1** From July 2013 including Croatia. **2** From January 2014 including Latvia; from January 2015 including Lithuania. **3** All countries that are not regarded as industrial countries. Up to June 2013 including Croatia.

XII. External sector

10. ECB's euro foreign exchange reference rates of selected currencies *

EUR 1 = currency units ...

Yearly or monthly average	Australia AUD	Canada CAD	China CNY	Denmark DKK	Japan JPY	Norway NOK	Sweden SEK	Switzerland CHF	United Kingdom GBP	United States USD
2007	1.6348	1.4678	10.4178	7.4506	161.25	8.0165	9.2501	1.6427	0.68434	1.3705
2008	1.7416	1.5594	10.2236	7.4560	152.45	8.2237	9.6152	1.5874	0.79628	1.4708
2009	1.7727	1.5850	9.5277	7.4462	130.34	8.7278	10.6191	1.5100	0.89094	1.3948
2010	1.4423	1.3651	8.9712	7.4473	116.24	8.0043	9.5373	1.3803	0.85784	1.3257
2011	1.3484	1.3761	8.9960	7.4506	110.96	7.7934	9.0298	1.2326	0.86788	1.3920
2012	1.2407	1.2842	8.1052	7.4437	102.49	7.4751	8.7041	1.2053	0.81087	1.2848
2013	1.3777	1.3684	8.1646	7.4579	129.66	7.8067	8.6515	1.2311	0.84926	1.3281
2014	1.4719	1.4661	8.1857	7.4548	140.31	8.3544	9.0985	1.2146	0.80612	1.3285
2015	1.4777	1.4186	6.9733	7.4587	134.31	8.9496	9.3535	1.0679	0.72584	1.1095
2016	1.4883	1.4659	7.3522	7.4452	120.20	9.2906	9.4689	1.0902	0.81948	1.1069
2017	1.4732	1.4647	7.6290	7.4386	126.71	9.3270	9.6351	1.1117	0.87667	1.1297
2018	1.5797	1.5294	7.8081	7.4532	130.40	9.5975	10.2583	1.1550	0.88471	1.1810
2017 Sep.	1.4946	1.4639	7.8257	7.4401	131.92	9.3275	9.5334	1.1470	0.89470	1.1915
Oct.	1.5099	1.4801	7.7890	7.4429	132.76	9.3976	9.6138	1.1546	0.89071	1.1756
Nov.	1.5395	1.4978	7.7723	7.4420	132.39	9.6082	9.8479	1.1640	0.88795	1.1738
Dec.	1.5486	1.5108	7.8073	7.4433	133.64	9.8412	9.9370	1.1689	0.88265	1.1836
2018 Jan.	1.5340	1.5167	7.8398	7.4455	135.25	9.6464	9.8200	1.1723	0.88331	1.2200
Feb.	1.5684	1.5526	7.8068	7.4457	133.29	9.6712	9.9384	1.1542	0.88396	1.2348
Mar.	1.5889	1.5943	7.7982	7.4490	130.86	9.5848	10.1608	1.1685	0.88287	1.2336
Apr.	1.5972	1.5622	7.7347	7.4479	132.16	9.6202	10.3717	1.1890	0.87212	1.2276
May	1.5695	1.5197	7.5291	7.4482	129.57	9.5642	10.3419	1.1780	0.87726	1.1812
June	1.5579	1.5327	7.5512	7.4493	128.53	9.4746	10.2788	1.1562	0.87886	1.1678
July	1.5792	1.5356	7.8504	7.4523	130.23	9.4975	10.3076	1.1622	0.88726	1.1686
Aug.	1.5762	1.5063	7.9092	7.4558	128.20	9.6161	10.4668	1.1413	0.89687	1.1549
Sep.	1.6189	1.5211	7.9930	7.4583	130.54	9.6205	10.4426	1.1286	0.89281	1.1659
Oct.	1.6158	1.4935	7.9481	7.4597	129.62	9.4793	10.3839	1.1413	0.88272	1.1484
Nov.	1.5681	1.4998	7.8880	7.4611	128.79	9.6272	10.2918	1.1377	0.88118	1.1367
Dec.	1.5849	1.5278	7.8398	7.4653	127.88	9.8055	10.2766	1.1293	0.89774	1.1384

* Averages: Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB; for additional euro foreign exchange reference rates, see Statistical Supplement 5 – Exchange rate statistics.

11. Euro area countries and irrevocable euro conversion rates in the third stage of Economic and Monetary Union

From	Country	Currency	ISO currency code	EUR 1 = currency units ...
1999 January 1	Austria	Austrian schilling	ATS	13.7603
	Belgium	Belgian franc	BEF	40.3399
	Finland	Finnish markka	FIM	5.94573
	France	French franc	FRF	6.55957
	Germany	Deutsche Mark	DEM	1.95583
	Ireland	Irish pound	IEP	0.787564
	Italy	Italian lira	ITL	1,936.27
	Luxembourg	Luxembourg franc	LUF	40.3399
	Netherlands	Dutch guilder	NLG	2.20371
	Portugal	Portuguese escudo	PTE	200.482
	Spain	Spanish peseta	ESP	166.386
2001 January 1	Greece	Greek drachma	GRD	340.750
2007 January 1	Slovenia	Slovenian tolar	SIT	239.640
2008 January 1	Cyprus	Cyprus pound	CYP	0.585274
	Malta	Maltese lira	MTL	0.429300
2009 January 1	Slovakia	Slovak koruna	SKK	30.1260
2011 January 1	Estonia	Estonian kroon	EEK	15.6466
2014 January 1	Latvia	Latvian lats	LVL	0.702804
2015 January 1	Lithuania	Lithuanian litas	LTL	3.45280

XII. External sector

12. Effective exchange rates of the euro and indicators of the German economy's price competitiveness *

1999Q1=100

Period	Effective exchange rate of the euro vis-à-vis the currencies of the group						Indicators of the German economy's price competitiveness						
	EER-19 1				EER-38 2		Based on the deflators of total sales 3 vis-à-vis				Based on consumer price indices vis-à-vis		
							26 selected industrial countries 4						
								of which:					
	Nominal	In real terms based on consumer price indices	In real terms based on the deflators of gross domestic product 3	In real terms based on unit labour costs of national economy 3	Nominal	In real terms based on consumer price indices	Total	Euro area countries	Non-euro area countries	37 countries 5	26 selected industrial countries 4	37 countries 5	56 countries 6
1999	96.3	96.1	96.1	96.0	96.5	95.8	97.9	99.5	95.9	97.6	98.2	98.0	97.7
2000	87.2	86.7	86.0	85.2	88.0	85.8	91.9	97.3	85.3	90.9	93.0	92.0	90.9
2001	87.8	87.1	86.5	86.0	90.6	86.9	91.7	96.4	86.2	90.2	93.0	91.4	90.8
2002	90.1	90.2	89.5	89.4	95.2	90.5	92.3	95.5	88.7	90.7	93.5	91.9	91.7
2003	100.7	101.2	100.4	100.5	107.1	101.4	95.7	94.5	97.8	94.8	97.0	96.5	96.7
2004	104.6	104.9	103.2	103.8	111.7	105.0	95.9	93.3	100.2	95.1	98.4	98.0	98.3
2005	102.9	103.4	101.0	101.8	109.6	102.4	94.8	91.9	99.3	92.9	98.4	96.9	96.6
2006	102.8	103.3	100.2	100.5	109.6	101.7	93.5	90.3	98.7	91.2	98.5	96.4	95.8
2007	106.1	106.0	102.0	102.7	113.0	103.6	94.4	89.5	102.5	91.4	100.7	97.8	96.9
2008	109.3	108.1	103.3	105.9	117.1	105.5	94.6	88.1	105.6	90.5	102.1	97.7	97.0
2009	110.7	108.8	104.2	110.8	120.2	106.5	94.8	88.8	105.0	91.0	101.7	97.9	97.4
2010	103.6	101.1	96.0	102.6	111.6	97.6	92.3	88.5	98.6	87.2	98.7	93.6	91.9
2011	103.3	100.1	93.8	101.2	112.3	97.0	92.0	88.4	97.9	86.4	98.1	92.7	91.3
2012	97.7	94.8	88.3	95.1	107.2	92.2	90.1	88.3	92.9	83.7	95.8	89.7	88.2
2013	101.0	97.7	91.0	97.7	111.8	95.0	92.4	88.8	98.1	85.6	98.1	91.4	90.1
2014	101.4	97.2	91.1	98.6	114.1	95.4	93.0	89.6	98.4	86.3	98.1	91.6	90.7
2015	91.7	87.6	82.9	88.4	105.7	87.0	90.2	90.5	89.7	82.7	94.1	86.4	85.8
2016	94.4	89.5	85.1	p 89.1	109.7	p 88.9	91.1	91.0	91.2	84.1	94.7	87.5	p 87.0
2017	96.6	91.4	86.0	p 89.9	112.0	p 90.0	92.4	91.2	94.2	85.1	96.0	88.6	p 87.8
2018	98.9	p 93.5	...	...	117.9	p 93.8	...	...	...	...	p 97.3	p 89.8	p 89.8
2016 Jan.	93.0	88.4			108.9	p 88.6					93.9	86.8	p 86.7
Feb.	94.2	89.3	84.8	p 89.0	110.3	p 89.5	91.1	91.2	90.8	84.0	94.5	87.3	p 87.2
Mar.	93.6	88.8			109.0	p 88.5					94.5	87.0	p 86.7
Apr.	94.4	89.5			109.8	p 89.0					94.9	87.5	p 87.1
May	94.6	89.8	85.2	p 89.4	110.2	p 89.4	91.1	91.0	91.1	84.3	94.7	87.6	p 87.3
June	94.4	89.6			109.8	p 89.0					94.5	87.6	p 87.1
July	94.6	89.7			109.5	p 88.7					94.8	87.6	p 86.9
Aug.	94.9	90.0	85.4	p 89.3	110.0	p 89.0	91.2	90.9	91.6	84.3	95.0	87.6	p 87.0
Sep.	95.1	90.1			110.2	p 89.2					95.1	87.8	p 87.2
Oct.	95.1	90.3			110.0	p 89.0					95.4	87.9	p 87.1
Nov.	94.6	89.6	84.8	p 88.9	109.6	p 88.6	91.1	90.9	91.2	84.0	94.8	87.5	p 86.8
Dec.	93.7	89.0			108.6	p 87.8					94.7	87.3	p 86.6
2017 Jan.	93.9	89.1			109.0	p 88.0					94.5	87.2	p 86.4
Feb.	93.4	88.9	83.6	p 87.9	108.1	p 87.4	90.8	90.9	90.6	83.6	94.5	87.1	p 86.2
Mar.	94.0	89.2			108.5	p 87.5					94.7	87.2	p 86.2
Apr.	93.7	89.0			108.2	p 87.2					94.5	87.1	p 86.0
May	95.6	90.5	85.0	p 88.8	110.5	p 88.8	91.8	91.2	92.5	84.6	95.3	87.9	p 87.0
June	96.3	91.2			111.4	p 89.5					95.9	88.5	p 87.6
July	97.6	92.4			113.3	p 91.0					96.6	89.2	p 88.5
Aug.	99.0	93.6	87.8	p 91.5	115.0	p 92.3	93.3	91.3	96.4	86.1	97.2	89.8	p 89.2
Sep.	99.0	93.6			115.0	p 92.3					97.3	89.9	p 89.3
Oct.	98.6	93.1			114.8	p 91.9					97.1	89.5	p 89.0
Nov.	98.5	93.0	87.6	p 91.3	115.0	p 92.0	93.6	91.3	97.0	86.0	97.2	89.5	p 89.0
Dec.	98.8	93.3			115.3	p 92.2					97.5	89.8	p 89.3
2018 Jan.	99.4	93.9			116.1	p 92.8					97.6	89.8	p 89.4
Feb.	99.6	93.9	p 88.2	p 91.8	117.3	p 93.6	94.0	91.2	98.5	86.3	97.7	89.9	p 89.5
Mar.	99.7	94.2			117.7	p 93.9					97.8	90.0	p 89.7
Apr.	99.5	p 93.9			117.9	p 94.0					97.9	p 90.0	p 89.8
May	98.1	p 92.7	p 87.3	p 90.6	116.6	p 93.1	93.6	91.3	97.3	85.8	p 97.3	p 89.3	p 89.3
June	97.9	p 92.6			116.7	p 93.0					p 97.2	p 89.4	p 89.4
July	99.2	p 93.8			118.2	p 94.2					p 97.1	p 89.9	p 89.9
Aug.	99.0	p 93.4	p 87.8	p 91.4	119.0	p 94.6	p 93.5	p 91.3	p 96.8	p 86.2	p 96.9	p 89.6	p 90.0
Sep.	99.5	p 94.0			120.4	p 95.6					p 97.4	p 90.2	p 91.0
Oct.	98.9	p 93.4			119.0	p 94.4					p 97.0	p 89.8	p 90.2
Nov.	98.3	p 92.8	...	...	117.9	p 93.5	...	...	...	...	p 96.9	p 89.6	p 89.8
Dec.	98.4	p 92.8			118.0	p 93.5					p 97.1	p 89.7	p 89.9

***** The effective exchange rate corresponds to the weighted external value of the currency concerned. The method of calculating the indicators of the German economy's price competitiveness is consistent with the procedure used by the ECB to compute the effective exchange rates of the euro (see Monthly Report, November 2001, pp. 50-53, May 2007, pp. 31-35 and August 2017, pp. 41-43). For more detailed information on methodology, see the ECB's Occasional Paper No 134 (www.ecb.eu). A decline in the figures implies an increase in competitiveness. **1** ECB calculations are based on the weighted averages of the changes in the bilateral exchange rates of the euro vis-à-vis the currencies of the following countries: Australia, Bulgaria, Canada, China, Croatia, Czechia, Denmark, Hong Kong, Hungary, Japan, Norway, Poland, Romania, Singapore, South Korea, Sweden, Switzerland, the United Kingdom and the United States. Where current price and wage indices were not available, estimates were used. **2** ECB calculations. Includes countries belonging to the group EER-19 (see footnote 1) and additionally Algeria, Argentina, Brazil, Chile, Iceland, India, Indonesia, Israel, Malaysia, Mexico, Morocco, New Zealand, Philippines, Russian Federation, South Africa, Taiwan, Thailand, Turkey and Venezuela. Due to the redenomination of the Venezuelan bolívar on 20 August 2018, the spot rate from 17 August 2018 is used since then. **3** Annual and quarterly averages. **4** Euro area countries (from 2001 including Greece, from 2007 including Slovenia, from 2008 including Cyprus and Malta, from 2009 including Slovakia, from 2011 including Estonia, from 2014 including Latvia, from 2015 including Lithuania) as well as Canada, Denmark, Japan, Norway, Sweden, Switzerland, the United Kingdom and the United States. **5** Euro area countries (current composition) and countries belonging to the group EER-19. **6** Euro area countries (current composition) and countries belonging to the group EER-38 (see footnote 2).

Overview of publications by the Deutsche Bundesbank

This overview provides information about selected recent economic and statistical publications by the Deutsche Bundesbank. Unless otherwise indicated, these publications are available in both English and German, in printed form and on the Bundesbank's website.

The publications are available free of charge from the External Communication Division. Up-to-date figures for some statistical datasets are also available on the Bundesbank's website.

Annual Report

Financial Stability Review

Monthly Report

For information on the articles published between 2000 and 2018 see the index attached to the January 2019 Monthly Report.

Monthly Report articles

March 2018

- German balance of payments in 2017
- The demand for euro banknotes at the Bundesbank
- Contingent convertible bonds: design, regulation, usefulness

April 2018

- Wage growth in Germany: assessment and determinants of recent developments
- Germany's external position: new statistical approaches and results since the financial crisis
- Current regulatory developments in the field of payments and in the settlement of securities and derivatives
- Maastricht debt: methodological principles, compilation and development in Germany

May 2018

- The current economic situation in Germany

June 2018

- Outlook for the German economy – macroeconomic projections for 2018 and 2019 and an outlook for 2020
- Lower bound, inflation target and the anchoring of inflation expectations

July 2018

- The market for Federal securities: holder structure and the main drivers of yield movements
- The realignment of the Chinese economy and its global implications
- Trends in the financing structures of German non-financial corporations as reflected in the corporate financial statements statistics

August 2018

- The current economic situation in Germany

September 2018

- Models for short-term economic forecasts: an update
- The performance of German credit institutions in 2017

October 2018
- State government finances: comparison of developments, debt brakes and fiscal surveillance
- The macroeconomic impact of uncertainty
- Activities of multinational enterprise groups and national economic statistics
- The growing importance of exchange-traded funds in the financial markets

November 2018
- The current economic situation in Germany

December 2018
- Outlook for the German economy – macroeconomic projections for 2019 and 2020 and an outlook for 2021
- German enterprises' profitability and financing in 2017
- Germany's international investment position: amount, profitability and risks of cross-border assets

January 2019
- The impact of an interest rate normalisation on the private non-financial sector in the euro area from a balance sheet perspective
- Price competitiveness in individual euro area countries: developments, drivers and the influence of labour market reforms
- Financial cycles in the euro area
- IFRS 9 from the perspective of banking supervision

Statistical Supplements to the Monthly Report

1 Banking statistics[1, 2]
2 Capital market statistics[1, 2]
3 Balance of payments statistics[1, 2]
4 Seasonally adjusted business statistics[1, 2]
5 Exchange rate statistics[2]

Special Publications

Makro-ökonometrisches Mehr-Länder-Modell, November 1996[3]

Europäische Organisationen und Gremien im Bereich von Währung und Wirtschaft, May 1997[3]

Die Zahlungsbilanz der ehemaligen DDR 1975 bis 1989, August 1999[3]

The market for German Federal securities, May 2000

Macro-Econometric Multi-Country Model: MEMMOD, June 2000

Bundesbank Act, September 2002

Weltweite Organisationen und Gremien im Bereich von Währung und Wirtschaft, March 2013[3]

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For footnotes, see p. 88•.

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1 Banking statistics guidelines, January 2018[2, 4]

2 Banking statistics customer classification, January 2018[2]

3 Aufbau der bankstatistischen Tabellen, July 2013[2, 3]

4 Financial accounts for Germany 2011 to 2016, May 2017[2]

5 Extrapolated results from financial statements of German enterprises 1997 to 2015, December 2016[2]

6 Verhältniszahlen aus Jahresabschlüssen deutscher Unternehmen von 2014 bis 2015, May 2018[2, 3]

7 Notes on the coding list for the balance of payments statistics, September 2013[2]

8 The balance of payments statistics of the Federal Republic of Germany, 2nd edition, February 1991[o]

9 Securities deposits, August 2005

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12 Technologische Dienstleistungen in der Zahlungsbilanz, June 2011[3]

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o Not available on the website.
* As of 2000 these publications have been made available on the Bundesbank's website in German and English. Since the beginning of 2012, no longer subdivided into series 1 and series 2.
For footnotes, see p. 88•.

Banking legislation

1 Bundesbank Act, July 2013, and Statute of the European System of Central Banks and of the European Central Bank, June 1998

2 Banking Act, July 2014[2]

2a Solvency Regulation, December 2006[2]
Liquidity Regulation, December 2006[2]

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1 Only the headings and explanatory notes to the data contained in the German originals are available in English.
2 Available on the website only.
3 Available in German only.
4 Only some parts of the Special Statistical Publications are provided in English. The date refers to the German issue, which may be of a more recent date than the English one.