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Contents

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- **.** Data unknown, not to be published or not meaningful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

Robust recovery in German economic output in Q2 2021

The second quarter of 2021 likely saw a robust recovery in economic output in Germany. This is likely to have more or less offset the severe setback the economy suffered in the first quarter, which was primarily brought on by the temporary tightening of pandemic containment measures. The services sector played a large role in driving this recovery. The loosening of restrictions, made possible by a lower incidence of COVID-19 infections, led to a significant increase in activity from May onwards. However, ongoing bottlenecks in the supply of intermediate products slowed industrial output, causing a considerable slowdown in production in the automotive industry. According to Ifo Institute surveys, materials shortages are also a growing problem in the construction sector. Nevertheless, construction output increased substantially compared with the first quarter. Provided the pandemic does not lead to any notable setbacks and the supply bottlenecks begin to at least gradually be resolved, the aggregate pace of growth is likely to accelerate even further in the third quarter, and real gross domestic product could potentially return to its pre-crisis level as early as the third quarter.

Industry

Industrial output down somewhat

Industrial output dropped again somewhat in Germany in May 2021, with a reduction of ½% on the month (adjusted for seasonal and calendar effects). On an average of April and May, industrial output was ¾% down on the first quarter. Ongoing supply bottlenecks for certain raw materials and intermediate products continued to have a dampening effect. The automotive sector was hit particularly hard, with a considerable drop in output compared with the first quarter (-9%).[1] Excluding the automotive sector, industrial output increased somewhat (+½%), however. Broken down by sector, the production of intermediate goods rose slightly and the production of consumer goods increased markedly. The production of capital goods, when considered without the automotive sector, remained unchanged. Robust growth was seen in the manufacture of computer, electronic and optical products. The manufacture of machinery and equipment saw a marked increase in output.

Industrial orders dropped sharply in May from very high level

The volume of industrial orders fell sharply in May 2021 in seasonally adjusted terms (-3¾%) compared with the figure for April, which was very high and had additionally undergone a marked upward revision. Looking at April and May in aggregate, however, reveals a significant rise on the first quarter (+1¾%), with an even stronger increase if large orders are excluded. Broken down by region, domestic orders and, in particular, orders from within the euro area saw strong growth compared with the first quarter of 2021. Demand from non-euro area countries, however, increased only somewhat. Broken down by sector, orders of consumer goods and capital goods rose sharply. Automotive manufacturers also saw a strong increase. Producers of intermediate goods saw a slight reduction in new orders, however. In contrast to industrial output, which was still significantly below its pre-crisis level from the fourth quarter of 2019, demand for German industrial products substantially exceeded its pre-crisis level by more than 10% in the first two months of the second quarter.

After adjustment for seasonal variations, nominal industrial sales rose somewhat in May 2021 (+½%) compared with April, when they had

1 According to data provided by the German Association of the Automotive Industry (VDA), the (seasonally adjusted) unit production of cars declined sharply again in June.

Economic conditions in Germany*

Seasonally adjusted

Period	Orders received (volume); 2015 = 100			
	Industry			Main con-struction
		of which:		
	Total	Domestic	Foreign	
2020 Q3	98.7	93.0	103.1	121.3
Q4	106.4	101.0	110.5	128.1
2021 Q1	109.3	102.6	114.3	124.9
Mar.	112.0	106.3	116.3	111.7
Apr.	113.3	104.4	120.0	122.6
May	109.1	105.3	112.0	…

Period	Output; 2015 = 100			
	Industry			Con-struction
		of which:		
	Total	Inter-mediate goods	Capital goods	
2020 Q3	90.5	93.5	85.8	112.8
Q4	96.4	100.8	92.4	118.8
2021 Q1	96.4	102.9	90.6	113.7
Mar.	96.3	103.0	89.5	120.3
Apr.	95.9	103.4	89.4	118.1
May	95.4	104.0	86.4	119.6

Period	Foreign trade; € billion			Memo item: Current account balance in € billion
	Exports	Imports	Balance	
2020 Q3	305.07	255.37	49.70	62.15
Q4	319.19	269.08	50.11	67.15
2021 Q1	330.99	277.10	53.89	68.68
Mar.	111.66	97.71	13.95	18.90
Apr.	111.91	96.31	15.60	21.48
May	112.20	99.62	12.58	19.25

Period	Labour market			
	Employ-ment	Vacan-cies 1	Un-employ-ment	Un-employ-ment rate
	Number in thousands			%
2020 Q4	44,655	592	2,820	6.2
2021 Q1	44,612	608	2,747	6.0
Q2	…	659	2,723	5.9
Apr.	44,632	637	2,748	6.0
May	44,647	658	2,729	5.9
June	…	683	2,691	5.9

Period	Prices; 2015 = 100			
	Import prices	Producer prices of industrial products	Con-struction prices 2	Harmon-ised con-sumer prices
2020 Q4	97.8	104.3	116.0	105.4
2021 Q1	101.7	106.9	121.2	107.6
Q2	…	…	125.1	108.6
Apr.	104.7	108.7	.	108.3
May	106.5	110.3	.	108.6
June	…	…	.	109.0

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

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Industrial sales somewhat higher, slight rise in nominal goods exports

sunk significantly. On an average of April and May, sales were up slightly on the first quarter (+¼%). In regional terms, a marked domestic increase and a substantial rise in euro area countries contrasted with a considerable decline in sales in non-euro area countries. Broken down by sector, sales of intermediate goods saw robust growth, while sales of consumer goods rose markedly. By contrast, sales of capital goods dropped sharply. This can be traced back to a sizeable decline in sales in automotive and other vehicle manufacturing. In May 2021, nominal exports of goods saw a slight seasonally adjusted rise on the previous month (+¼%). Looking at April and May in aggregate, there was a marked rise when compared with the first quarter (+1½%). There was no change in real terms, however, where a considerable increase in the euro area was balanced out by a similar drop in non-euro area countries. May saw a steep rise in nominal goods imports (+3½%). On an average of April and May, they significantly exceeded the value of the previous quarter (+6%), with price effects playing an important role here. Even after price adjustment, however, there was a considerable increase (+2¼%), with the majority accounted for by non-euro area countries.

Construction

Significant increase in construction output

After adjustment for seasonal variations, output in the construction sector increased significantly in May 2021 when compared with the previous month (+1¼%), which had been revised up markedly. On an average of April and May, construction output rose sharply compared with the first quarter (+4½%). The finishing trades and the main construction sector both saw strong growth. This growth was also partially due to construction output having been hampered at the beginning of the year by anticipatory effects connected to the return to higher VAT rates and unfavourable weather conditions. However, the Ifo Institute reports that materials shortages during the second quarter placed a growing burden on construction activity. Nevertheless, the overall situation in the construction sector remains positive. While enterprises in the main construction sector received significantly fewer orders in April – the most recent month for which statistics are available – than in the first quarter, the reach of the order books, as measured by the Ifo Institute, increased somewhat in the average of the second quarter from its already high level. Additionally, the level of utilisation of machinery and equipment in the main construction sector rose markedly.

Labour market

First signs of recovery in the labour market, primarily via reduction in short-time work

The recovery in the labour market has manifested itself primarily in the reduced prominence of short-time work, after the large-scale deployment of this instrument in winter stabilised employment and unemployment figures. After a steep decline in March 2021, the number of short-time workers continued to drop in April – albeit at a slower rate than in the previous month – despite the resurgence of the pandemic during the third wave. In April, the Federal Employment Agency reported that, according to its initial estimate, there were still 2.34 million persons in economically induced short-time work, more than a quarter fewer than two months prior. The volume of hours lost to short-time work even fell by more than a third in the same period. The further loosening of restrictions in May and June is likely to have led to a further sizeable reduction in the use of this instrument. Based on its own economic surveys, the Ifo Institute estimates that there were still 1.5 million people in short-time work in June.

Slight growth in employment

As in the previous two months, May saw only slight growth in the total number of persons in work. Although employment subject to social security contributions has remained especially stable during the crisis – having almost returned to pre-crisis levels – the number of persons in this form of employment grew only slightly in April. By contrast, the ongoing reduction in the number of persons in exclusively low-paid part-time employment and self-employment continued, with a sizeable gap remaining between the levels of both forms of employment and their levels at the beginning of 2020. The following months are likely to see a significant increase in the rate of employment growth, however. Indicators of willingness to recruit new staff moved deep into expansionary territory, and the number of vacancies rose once again.

Unemployment down considerably in June

Registered unemployment was down by 38,000 (seasonally adjusted) in June, a considerably greater reduction than in previous months, with the unemployment rate dropping to 5.9%. While there was a continued sizeable decline in unemployment driven primarily by cyclical factors, unemployment covered by the basic welfare allowance did not rise any further. The IAB’s unemployment barometer rose again in June, reaching its highest level since it began taking measurements more than 12 years ago. The next three months could therefore see a steep drop in unemployment.

Prices

Marked rise in crude oil prices

Crude oil prices rose markedly in June 2021. One key factor in said rise was a vigorous recovery in demand alongside the rigorous ongoing implementation of production cuts by OPEC and its partners. Prices were up by 7½% on May and by around 80% on the year. Prices were continuing to rise at the beginning of July. As this report went to press, the price of a barrel of Brent crude oil stood at US$74. Crude oil futures were trading at marked discounts, however: US$3¼ for deliveries six months ahead and US$5½ for deliveries 12 months ahead.

Import and producer prices continue to rise steeply

The substantial increase in import prices in Germany persisted in May. Energy prices played a larger role in this increase than in the previous two months, however. Excluding energy, the increase actually weakened slightly, although it remained fairly strong. By contrast, at the industrial producer level, the price increase excluding energy continued to strengthen somewhat. At the same time, the growth in energy prices gained traction, meaning prices in general rose more strongly than in previous months. At last report, import prices and industrial producer prices exceeded prior-year levels by nearly 12% and just over 7%, respectively. Excluding energy, those figures came to roughly 6% and 5%, respectively.

Stronger consumer price inflation

Consumer prices as measured by the Harmonised Index of Consumer Prices (HICP) rose substantially by 0.5% (seasonally adjusted) in June, following an average increase of 0.3% in the previous months.[2] As in May, the prices of industrial goods excluding energy rose very steeply. Once again, this was especially noticeable in the prices for shoes and clothing. By contrast, price increases for other industrial goods excluding energy, which had been notable in the previous month, were somewhat weaker. Price increases for services were also stronger. This was likely due in part to the fact that the resumption of certain services came with a marked price increase. By contrast, prices for energy and food rose only moderately. Annual headline HICP inflation fell from 2.4% to 2.1%,[3] while the core rate excluding energy and food declined from 1.6% to 1.2%. This decline was caused by last year's later Whitsun holiday, which meant travel was significantly cheaper in a year-on-year comparison. Excluding this component and clothing, inflation rose slightly from 1.6% to 1.7%. From the current month onwards, the base effect of the temporary cut in VAT rates in 2020[4] means that HICP inflation can be expected to return to significantly higher rates, even if a one-off statistical effect will still have a dampening impact at first. This effect is due to the adjustment of some HICP weights to the consumption habits of 2020 being fairly large as a result of the pandemic. It caused the HICP rate to rise markedly in the first quarter of 2021 and will curb it significantly at times from July to October.[5] As things stand, rates of over 4% could be seen temporarily when this dampening effect abates towards the end of the year.

Public finances[6]

Local government finances

High deficit covered by reserves at start of year

In the first quarter of 2021, local government (core budgets and off-budget entities) recorded a high deficit of €8½ billion, compared with €9½ billion at the start of 2020. The deficit was funded (on balance) from reserves, which were generated, not least, from the high surplus in the final quarter of 2020.

Revenue up significantly …

Revenue rose substantially on the year, by 5½% (€3 billion). Tax revenue grew just as strongly (+€1 billion in total), though the first quarter of 2020 was probably still fairly unaffected by the pandemic. After deducting the shares accruing to other government levels, revenue from local business tax increased by 2%. The improvement in total tax revenue was largely the result of the state of Lower Saxony forwarding income tax shares to its local governments earlier than in previous years. Transfers received from state government rose more strongly than tax revenue (+8%, or €2 billion). This was due to the expanded central government contribution to accommodation costs for job seekers. General purpose grants from state government stagnated overall, however. Receipts from fees fell by 4½% because childcare and other public facilities had restrictions on opening or were closed entirely on account of the pandemic.

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2 As the measures to contain the pandemic were further relaxed, only around 5% of all prices had to be imputed. See also Federal Statistical Office (2021).
3 The annual rate of consumer inflation according to the national Consumer Price Index (CPI) declined from 2.5% to 2.3%.
4 See also Deutsche Bundesbank (2020a).
5 See also Deutsche Bundesbank (2021).
6 In the short commentaries on public finances, the emphasis is on recent outturns. The quarterly editions of the Monthly Report (published in February, May, August and November), by contrast, contain an in-depth description of public finance developments during the preceding quarter. For detailed data on budgetary developments and public debt, see the statistical section of this report.

… and expenditure grew more slowly again

Overall expenditure grew by 3%. Spending on social benefits rose especially steeply (6%), which was down to integration assistance in particular. By contrast, fixed asset formation declined (-4%), notably construction investment. In particular, this was more adversely affected by weather conditions than last year.

Sizeable local government deficit expected for year as a whole, to be reduced over medium term

A significant deficit is expected for the year as a whole (2020: surplus of €2 billion). The coronavirus crisis is likewise continuing to place a strain on local government finances, and the relief provided by central and state government is much smaller than in 2020. Based on the current tax estimate, the Federal Ministry of Finance's projection for the Stability Council shows just a slight increase in revenue. In particular, this reflects the absence of the €11 billion in compensation for shortfalls in local business tax paid by central and state government last year. Expenditure is expected to rise significantly, particularly on fixed asset formation. On balance, then, this leaves a deficit of close to €10 billion. In the medium term, local government budgets will be more or less balanced according to the tax revenue-adjusted forecast. Even so, it would still be advisable to fundamentally reform local government finances to put local government budgets on a stable footing and ensure they are commensurate with their tasks.[7] This is important not least in view of the political objectives with regard to investing more heavily in local infrastructure.

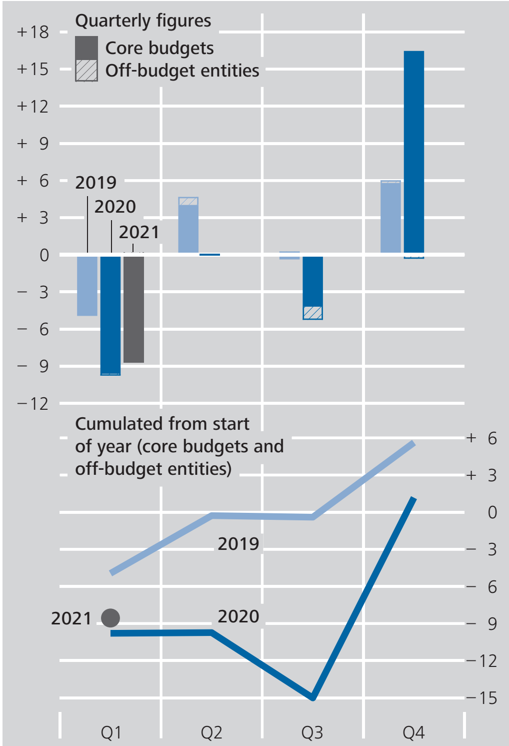
Statutory health insurance scheme

Small surplus in first quarter due to extra central government funds

The statutory health insurance (SHI) scheme – comprising the health insurance institutions and the health fund – posted a small surplus (+€½ billion) in the first quarter of 2021.[8] This amounted to an improvement of €5 billion on the year, which was largely due to additional funds provided by central government. In addition, expenditure saw relatively weak growth only, starting from an elevated level last year.

Local government fiscal balance

€ billion



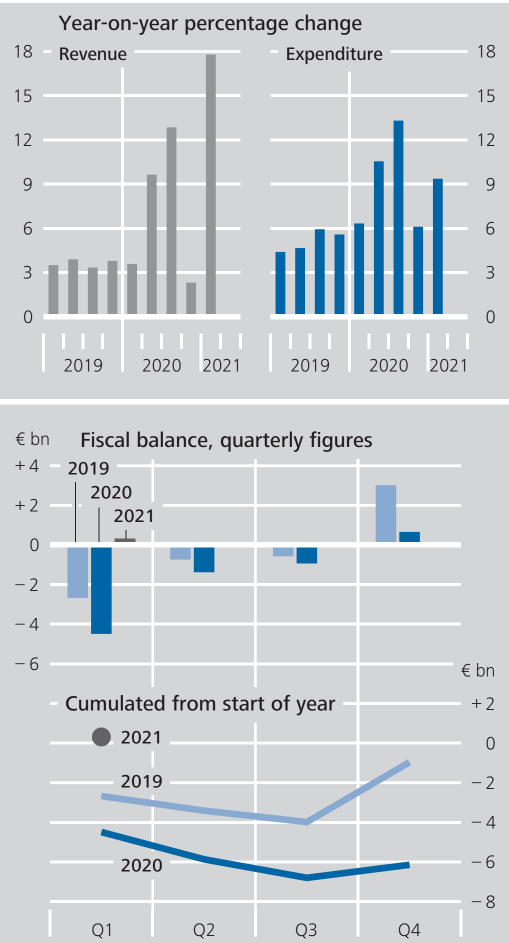
Source: Federal Statistical Office.
Deutsche Bundesbank

Health fund: sharply improved result amid higher contribution rates and due to one-off effects

The health fund recorded a surplus of €½ billion, following a deficit of €3 billion in the previous year. The strong improvement in the first quarter is chiefly attributable to additional central government funds of €5 billion[9] given that the fund passes on just one-quarter of this to the health insurance institutions each quarter. By contrast, there was a burden of almost €1 billion on the balance, because central government in some cases did not reimburse special

7 See Deutsche Bundesbank (2020b).
8 In 2021, reserves totalling €8 billion will be redistributed among the health insurance institutions via the health fund (€2 billion per quarter). The payment flows associated with this redistribution between the health insurance institutions and the health fund do not influence the financial situation of the statutory health insurance scheme as a whole and its two constituent parts. The revenue and expenditure growth figures in this report are therefore adjusted for this.
9 The health fund will also receive €300 million for temporarily increased child sick pay on account of the pandemic. The extra funds will initially increase the health fund's reserves before being passed on to the health insurance institutions.

Finances of the statutory health insurance scheme*



Source: Federal Ministry of Health. * Health fund and health insurance institutions (consolidated). Preliminary quarterly figures. The final annual figures differ from the total of the reported preliminary quarterly figures as the latter are not revised subsequently.
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expenses related to the pandemic until later.[10] Excluding the delayed outflows and reimbursements mentioned above, the health fund's result was virtually unchanged on the year. On the revenue side, contributions increased by 3½%. At the start of the year, the current supplementary contribution rates rose by an average of almost 0.3 percentage point to around 1.3%. Without the higher rates, contributions would have risen by 2%. Contributions on short-time working benefits and unemployment benefits dampened the negative employment effects. Contributions payable on pensions increased by 4½%.[11] Overall, fund revenue went up by 19%. Expenditure grew by a total of 12½%, mainly owing to pandemic-related special expenses. The regular transfers to the health insurance institutions rose by 4½%.

Health insurance institutions: distinctly better result due to moderate expenditure growth

The health insurance institutions achieved a broadly balanced result. Last year, they had posted a deficit of €1½ billion. Their total revenue increased by 3½%. Expenditure rose by just 1½%. Spending on pharmaceuticals grew by 1% only, although the previous year's level was elevated: given the uncertainty prevailing at the start of the coronavirus crisis, prescriptions were brought forward to the first quarter last year. Spending on hospital treatments, a major expenditure item, fell by 2%. Because of the pandemic, significantly fewer treatments were carried out than in the same quarter of the previous year.[12] By contrast, there was steep growth in spending on outpatient treatment (+7%). Sick pay saw another considerable increase of 5½%. Overall, spending on benefits rose by 2%. At the end of the quarter, the health insurance institutions still had reserves of €16½ billion (just under three-quarters of average monthly expenditure).

2021: significant deficit for health insurance institutions, but probably smaller than planned

The health insurance institutions are expected to post a significant deficit for 2021 as a whole. However, it could be smaller than the €8 billion that the Federal Ministry of Health had planned for in the autumn of last year. The Ministry expected a major increase in expenditure of 6½%. After the weak growth in the first quarter, take-up of benefits should normalise going forward as the pandemic subsides, and some treatments that had previously been cancelled

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10 The pandemic-related special expenses amounted to just over €5 billion. They consisted of financial assistance of €3 billion for hospitals to compensate them for empty beds owing to the pandemic. There was also spending on protective masks for risk groups (almost €1½ billion). Testing and vaccinations (mainly the cost share accruing to vaccination centres) each accounted for around €½ billion.
11 The higher rates barely played a role here, because they are generally carried over to pensions with a two-month delay.
12 Ongoing payments from the statutory health insurance scheme to hospitals still saw a strong year-on-year increase of 13%, since hospitals were compensated for empty beds in some cases.

are likely to be undertaken. The surge in expenditure needed to reach the annual rate expected back then would be very high, however. All the same, allowance should be made for the continuing high level of uncertainty.

Health fund: small deficit

The health fund is set to post a deficit of €1 billion for 2021: funds are intended to flow from the reserves to the health insurance institutions to provide some compensation for the lower contributions on occupational pensions since 2020. There will also be transfers to the innovation fund and hospital structures fund. Growth in the contribution base could be very much in line with expectations, which would mean only limited deviations from the planned deficit.

Ongoing pressure on finances after pandemic

Even beyond that, there is set to be strong pressure on finances. In order to avoid an increase in supplementary contribution rates next year if possible, the statutory health insurance scheme will again receive additional central government funds. At €7 billion, these are €2 billion higher than this year. The remaining funding gap is to be covered using the freely available reserves of the health insurance institutions, meaning that much of these will probably be used up. From 2023, significantly higher supplementary contributions are likely: no more substantial central government grants are planned, nor will the Federal budget have the scope for this.

Securities markets

Bond market

High net issuance in the German bond market in May 2021

At €138.8 billion, gross issuance in the German bond market in May 2021 was down slightly on the previous month's figure (€146.8 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, net issuance of domestic debt securities came to €31.6 billion. The outstanding volume of foreign debt securities in Germany rose by €1.8 billion during the reporting month, boosting the outstanding volume of debt instruments in the German market by €33.4 billion overall.

Higher public sector capital market debt

The public sector issued debt securities to the tune of €28.3 billion net in the reporting month, compared with €9.0 billion in April. On balance, central government was the sole issuer of new securities (€28.9 billion), placing above all ten-year and 30-year Federal bonds in the market (Bunds; €9.5 billion and €6.2 billion, respectively), but also two-year Federal Treasury notes (Schätze; €5.6 billion), five-year Federal notes (Bobls; €5.0 billion), and Treasury discount paper (Bubills; €4.8 billion). State and local governments redeemed bonds worth €0.6 billion on balance.

Net issuance by enterprises

Domestic enterprises issued bonds with a net value of €6.9 billion in the reporting month, compared with €6.1 billion in April. On balance, other financial intermediaries were the chief issuers.

Credit institutions' capital market debt down slightly

In May, domestic credit institutions reduced their capital market debt by €3.6 billion net, following €2.7 billion in April. The outstanding volume of debt securities issued by specialised credit institutions – which include, for example, public promotional banks – fell by €3.5 billion, thereby accounting for the bulk of the decline. The outstanding volume of public Pfandbriefe and other bank debt securities that can be structured flexibly also shrank slightly (by €0.9 billion and €0.3 billion, respectively). Only mortgage Pfandbriefe recorded net issuance (€1.1 billion).

Purchases of debt securities

The Bundesbank was the main buyer of bonds in May. It acquired debt securities amounting to €25.5 billion net, predominantly under the Eurosystem's asset purchase programmes. Domestic non-banks purchased bonds worth €5.9 billion net. For the most part, this was foreign paper. Non-resident investors acquired German debt securities amounting to €4.2 billion net, while domestic credit institutions scaled back their bond portfolios by €2.2 billion net.

Sales and purchases of debt securities

€ billion

Item	2020 May	2021 Apr.	2021 May
Sales			
Domestic debt securities[1]	81.1	12.4	31.6
of which:			
Bank debt securities	– 1.8	– 2.7	– 3.6
Public debt securities	65.7	9.0	28.3
Foreign debt securities[2]	2.2	4.9	1.8
Purchases			
Residents	41.2	25.9	29.2
Credit institutions[3]	9.7	– 17.6	– 2.2
Deutsche Bundesbank	35.2	24.1	25.5
Other sectors[4]	– 3.7	19.5	5.9
of which:			
Domestic debt securities	– 4.4	4.5	1.5
Non-residents[2]	42.0	– 8.7	4.2
Total sales/purchases	83.2	17.3	33.4

1 Net sales at market values adjusted for 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

Hardly any net issuance of German equities

In the reporting month, domestic enterprises placed new shares worth €1.2 billion net in the German equity market. The volume of foreign equities in the German market rose by €2.8 billion over the same period. On balance, shares were purchased chiefly by domestic non-banks (€3.6 billion), but also by foreign investors (€0.8 billion). By contrast, domestic credit institutions scaled back their equity exposure by €0.4 billion on balance.

Mutual funds

Inflows to mutual funds

In May, German mutual funds recorded net inflows of €7.9 billion (April: €10.9 billion). On balance, specialised funds reserved for institutional investors were the chief beneficiaries of such inflows (€4.5 billion). Among the various asset classes, new shares were placed in the market primarily by mixed securities funds (€5.6 billion) and, to a lesser extent, by open-end real estate funds (€1.2 billion). The outstanding volume of foreign mutual fund units distributed in Germany rose by €4.7 billion in the reporting month. In May, domestic non-banks purchased mutual fund shares worth €10.9 billion net. German credit institutions and foreign investors acquired mutual fund shares worth €1.5 billion and €0.3 billion net, respectively.

Balance of payments

Sharp decrease in current account surplus

Germany's current account recorded a surplus of €13.1 billion in May 2021, down €7.9 billion on the previous month's level. In addition to the declining surplus in the goods account, the main reason for this decrease was the balance in invisible current transactions, which comprise primary and secondary income as well as services, switching from a surplus to a deficit.

Surplus in goods account down somewhat

In May, the surplus in the goods account fell by €1.1 billion on the month to €14.4 billion, with the exports of goods dipping somewhat, while goods imports remained virtually unchanged from the level in April.

Sharp drop in invisibles particularly owing to dividend payments

The balance in invisible current transactions changed from a surplus in April, falling by €6.8 billion to a deficit of €1.3 billion, largely because the net position in primary income contracted by €6.7 billion to a slight deficit of €0.1 billion. This was particularly driven by higher dividend payments to non-residents for portfolio investment. In May, the surplus in the services account narrowed as well, albeit to a lesser extent, falling by €1.6 billion to €1.2 billion. Receipts were down in various sub-items such as other business services. By contrast, the secondary income deficit shrank by €1.4 billion to €2.4 billion, with general government revenue from current taxes on income and wealth increasing in particular.

In May 2021, developments in the international financial markets were influenced by a bright-

Portfolio investment sees outflows

ening growth outlook in conjunction with rising inflation expectations. It was against this backdrop that Germany's cross-border portfolio investment recorded net capital exports of €2.9 billion (after €25.9 billion in April). Domestic investors added €8.1 billion worth of securities issued by non-residents to their portfolios. They acquired bonds (€4.9 billion), mutual fund shares (€4.7 billion) and shares (€1.6 billion) but offloaded money market paper (€3.2 billion). Conversely, foreign investors purchased German securities in all asset classes amounting to €5.2 billion in total. They mainly invested in money market paper (€3.0 billion) and bonds (€1.1 billion) but also stocked up on shares (€0.7 billion) and mutual fund shares (€0.3 billion).

In May, financial derivatives again recorded net capital exports: these amounted to €3.6 billion.

Direct investment records capital imports

Direct investment generated net capital imports of €1.8 billion in May (up from €0.1 billion in April). Non-resident investors injected their affiliated enterprises in Germany with direct investment funds worth €4.7 billion net. They increased their equity by €1.2 billion and provided €3.4 billion via intra-group lending. German enterprises made net direct investment flows of €2.9 billion abroad. The increases they made to their equity in branches abroad of €5.2 billion were partly offset by repayments to affiliates abroad (€2.3 billion) for loans they had received previously.

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 outflows amounting to €1.8 billion in May (following inflows totalling €9.2 billion in April). Bundesbank accounts also recorded net capital exports (€35.3 billion). This was attributable to the €52.2 billion increase in TARGET2 claims on the ECB; non-residents' deposits with the Bundesbank likewise rose, albeit to a lesser extent. Monetary financial institutions (excluding the Bundesbank) recorded net capital imports

Major items of the balance of payments

€ billion

Item	2020r May	2021 Apr.	2021 Mayp
I. Current account	+ 7.1	+ 21.0	+ 13.1
1. Goods	+ 9.0	+ 15.5	+ 14.4
Receipts	80.5	111.0	110.1
Expenditure	71.5	95.5	95.6
Memo item:			
Foreign trade[1]	+ 7.0	+ 15.2	+ 12.3
Exports	80.2	111.8	109.4
Imports	73.3	96.6	97.1
2. Services	+ 1.6	+ 2.8	+ 1.2
Receipts	19.4	23.8	22.0
Expenditure	17.9	21.0	20.8
3. Primary income	− 0.0	+ 6.5	− 0.1
Receipts	16.3	16.8	17.5
Expenditure	16.3	10.2	17.7
4. Secondary income	− 3.5	− 3.8	− 2.4
II. Capital account	+ 0.0	− 1.0	− 0.3
III. Financial account (increase: +)	+ 0.1	+ 21.1	+ 6.8
1. Direct investment	− 3.6	− 0.1	− 1.8
Domestic investment abroad	+ 7.0	+ 18.2	+ 2.9
Foreign investment in the reporting country	+ 10.6	+ 18.4	+ 4.7
2. Portfolio investment	− 26.0	+ 25.9	+ 2.9
Domestic investment in foreign securities	+ 13.8	+ 16.1	+ 8.1
Shares[2]	+ 6.0	+ 2.0	+ 1.6
Investment fund shares[3]	+ 5.6	+ 9.3	+ 4.7
Short-term debt securities[4]	− 2.8	+ 0.1	− 3.2
Long-term debt securities[5]	+ 5.0	+ 4.8	+ 4.9
Foreign investment in domestic securities	+ 39.7	− 9.8	+ 5.2
Shares[2]	− 1.9	− 2.7	+ 0.7
Investment fund shares	− 0.4	+ 1.5	+ 0.3
Short-term debt securities[4]	+ 12.5	− 3.4	+ 3.0
Long-term debt securities[5]	+ 29.5	− 5.3	+ 1.1
3. Financial derivatives[6]	+ 5.5	+ 4.7	+ 3.6
4. Other investment[7]	+ 24.1	− 9.2	+ 1.8
Monetary financial institutions[8]	− 3.1	+ 10.3	− 31.8
of which: Short-term	− 3.2	− 4.4	− 29.6
Enterprises and households[9]	+ 28.2	− 2.4	+ 0.0
General government	− 1.8	− 2.6	− 1.7
Bundesbank	+ 0.8	− 14.5	+ 35.3
5. Reserve assets	+ 0.0	− 0.3	+ 0.2
IV. Errors and omissions[10]	− 7.0	+ 1.1	− 6.0

1 Special trade according to the official foreign trade statistics (source: Federal Statistical Office). **2** Including participation certificates. **3** Including reinvestment of earnings. **4** Short-term: original maturity of up to one year. **5** Long-term: original maturity of more than one year or unlimited. **6** Balance of transactions arising from options and financial futures contracts as well as employee stock options. **7** Includes, in particular, loans and trade credits as well as currency and deposits. **8** Excluding the 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. **10** 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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(€31.8 billion), as did general government (€1.7 billion). Cross-border transactions by enterprises and households offset each other on balance.

Reserve assets

The Bundesbank's reserve assets grew slightly – at transaction values – by €0.2 billion in May.

List of references

Deutsche Bundesbank (2021), One-off effects relating to COVID-19 in the HICP in 2021, Monthly Report, February 2021, pp. 63-66.

Deutsche Bundesbank (2020a), Impact of the temporary reduction in VAT on consumer prices, Monthly Report, November 2020, pp. 56-58.

Deutsche Bundesbank (2020b), Reform of local government finances: making financing crisis-proof and stable, Monthly Report, July 2020, pp. 10-11.

Federal Statistical Office (2021), Impact of the corona crisis on the CPI/HICP price collection, method report of 13 July 2021, available at https://www.destatis.de/EN/Themes/Economy/Prices/Consumer-Price-Index/notification-corona.html

Cross-border corporate takeovers: the impact of internationalisation on enterprises in Germany

Over the past few decades, the German economy has contributed greatly to the increasing international division of labour. Its integration into the global economy is the cornerstone of prosperity in Germany. Alongside foreign trade, the free movement of capital has also played a significant role in this. Direct investment is particularly relevant for domestic enterprises; in this vein, German firms have made significant investments abroad over the past few years, but the equity capital held in Germany by foreign companies is also substantial.

This article investigates the economic impact of the internationalisation of enterprises through direct investment. Such internationalisation occurs either when a previously national enterprise is taken over by a foreign company or when a previously national enterprise engages in foreign direct investment (FDI) for the first time. In general, enterprises profit from internationalisation through direct investment. Compared with their national competitors, such internationally linked enterprises show increasing productivity, more innovations and/or higher turnover. Positive effects predominate on the labour market, too. However, this is not the case for all firms. The effects vary depending on the sector and the size of the enterprise. Enterprises which have restricted their activities to the national level may see themselves as the relative losers of globalisation, although the study does not explicitly state whether or not they regard themselves to be worse off than before in absolute terms in view of the globalisation of their competitors.

Overall, the results reiterate that the German economy is reaping substantial economic advantages from direct investment in both directions, allaying the occasionally-voiced concern that foreign investors are primarily interested in German expertise and that a technology transfer could threaten the competitiveness of the German economy. Beyond this, however, there are also fears that foreign governments could have an influence on other countries' security-related sectors or their systemically important infrastructures. These reservations apply, first and foremost, to state-affiliated investors from authoritarian states and have culminated both in Germany and the European Union in stricter regulation of corporate takeovers from third countries.

In view of the economic advantages of international corporate investments presented here, takeovers of German firms by foreign firms should be prohibited for political reasons in exceptional cases only. It should also be borne in mind that due to a potential reciprocity of foreign governments' measures, German enterprises may also be restricted in their investments abroad. This aspect is even more pertinent considering that the investment stocks of domestic multinational enterprises abroad amount to approximately twice the equivalent stocks of foreign companies held in Germany.

Introduction

Germany as part of the global economy

Over the past few decades, multilateral regulations under the aegis of the World Trade Organization (WTO) as well as the formation of economic blocs and bilateral free trade and investment protection agreements have reduced investment and trade barriers and boosted globalisation.[1] Here, direct investment represents a key form of global integration. It enables enterprises to profit from competitive advantages in different countries. Local production also makes it easier to consider consumer preferences in these countries. Germany has made a particularly great contribution towards continued international interconnectivity. In this vein, many major multinational enterprises are domiciled in Germany and run their production sites or distributors in countries all over the world. However, smaller firms also often have branches based abroad or are planning to establish these in order to take their operations to the next strategic level. Conversely, foreign companies have reinforced their presence in Germany through purchases; economic output and the number of persons employed at domestic enterprises with foreign parent companies have attained considerable relevance for the German economy. In Germany, the broad consensus reached over the past few decades is that the international focus of the German economy has contributed significantly to the country's high level of prosperity.

Increasing criticism of corporate takeovers

In the more recent past, however, potential negative side effects of this process have also come to the forefront of political and societal debate. Corporate takeovers, above all, are being viewed increasingly critically. In Germany, the purchase of a robot manufacturer and the failed takeover bid of a mechanical engineering company by foreign investors have even fuelled public debate. Critics of such takeovers argue that the new shareholders are usually only interested in the use of specific technologies and that the economic performance of the company they have acquired is of secondary importance – which could be linked to job losses, amongst other things. Furthermore, particularly in the case of state-affiliated enterprises from authoritarian states, they speculate that political and possibly also military aims are being pursued. A further criticism is that gaining access to foreign markets is, in some cases, more difficult for German enterprises than vice versa. However, calls for general reciprocity in terms of restrictions have also come up against criticism.[2] In its Annual Reports of 2016/17 and 2017/18, the German Council of Economic Experts calls in its majority for open access to the German market for foreign investors, even if foreign markets do not open to German investors to the same degree.[3]

Legislation to control corporate takeovers

As a political consequence of the debate surrounding foreign corporate takeovers with potentially negative implications for the domestic economy, Germany's Foreign Trade and Payments Regulation *(Außenwirtschaftsverordnung)* underwent a reform in 2017 and was tightened further in December 2018. The new provisions stipulate that takeovers of strategically important enterprises by investors from non-EU countries are to be screened more

1 Here, there may also be a relationship between foreign trade and direct investment, as branches based abroad may support or even replace cross-border trade. In some instances, trading activities are also the preliminary steps towards direct investment. Furthermore, a significant share of foreign trade is attributable to cross-border trade within multinational enterprises. In the case of the United States, it accounted for around one-half of all trade with other advanced economies on an average of the years 2002 to 2014 (Lakatos and Ohnsorge (2017), based on data from the US Census Bureau). Unsurprisingly, Germany's foreign trade has also seen sizeable growth over the past few decades.

2 In China, for example, foreign investment was only possible through joint ventures for a long time. However, this obstacle did not constitute a burden in the view of some economic actors, as it facilitated integration into the local economic process. There are also enterprises in Germany that would have experienced economic issues without an affluent foreign investor. For information on joint ventures and technology transfer, see Jiang et al. (2019). For information on the restrictions European enterprises in China face, see EURObiz (2016).

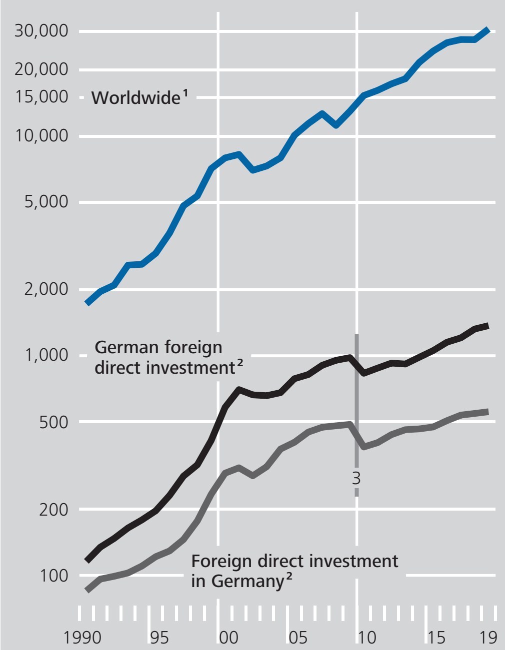
3 See German Council of Economic Experts (2016), p. 495 and German Council of Economic Experts (2017), p. 68.

stringently and may potentially be prohibited.[4] Pursuing the same aim, the European Parliament and the European Council passed a regulation in 2019 establishing a joint European legal framework for the screening of foreign direct investment. This provides 17 EU Member States (including Germany) with the necessary screening mechanisms to safeguard security and public order.[5]

Against the backdrop of this debate, this article first describes key developments in the direct investment of German enterprises abroad and foreign enterprises in Germany. Following this, the results of an empirical study by the author are presented. The aim of this study is to examine the extent to which key enterprise metrics of the German subsidiaries of foreign enterprises differ from those of purely German enterprises. The same question is analysed for German enterprises which have engaged in FDI for the first time.

Direct investment stocks – Germany and worldwide

€ billion, log scale



1 Source: UNCTAD. Outward FDI converted into euro. 2 Consolidated total of primary FDI and secondary FDI held via holding companies. 3 Decline due in part to the changeover from BPM5 to BPM6.

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Globalisation in direct investment

Steep global rise in FDI stocks

International capital links through direct investment have exhibited very strong dynamics since the 1990s. According to UNCTAD,[6] global investment stocks at end-2019, at the equivalent of around €31 trillion, far exceeded the level recorded at end-1990 (just over €1½ trillion). Robust stock growth was interrupted only temporarily by declines, which were in part due to value adjustments. This was seen during the dotcom crisis of 2002 and the international financial crisis of 2008, for instance. Given the greatly reduced activity in many economic sectors, the coronavirus pandemic is also likely to leave its mark. However, as direct investment is generally planned on a long-term basis and with a lead time, there will be a lag before the full impact of the crisis-related decline is visible in future stock figures. It remains to be seen whether a changed risk assessment of international interdependencies will result in a permanent adjustment to value chains, with corresponding effects on direct investment.

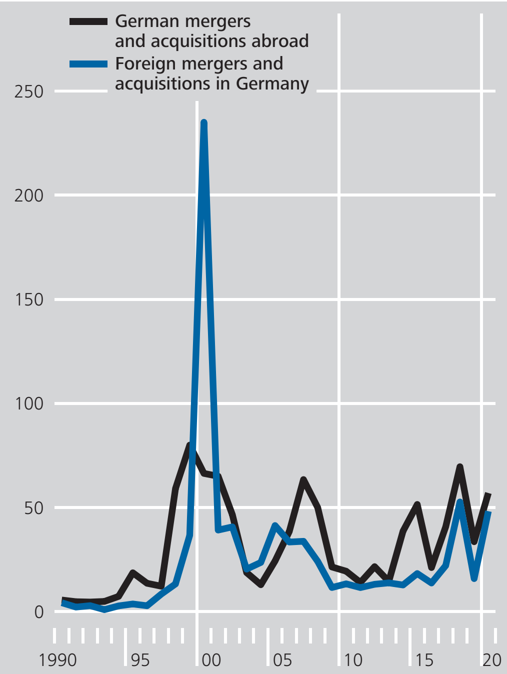
Cross-border mergers and acquisitions account for significant share of direct investment

Cross-border mergers and acquisitions (M&A for short) have been a driving force behind the increasing importance of direct investment, accounting for high transaction volumes in some instances. Corporate takeovers frequently occur

4 The Regulation also defines the corporate actions that could affect public order in concrete terms. In particularly sensitive fields, a transaction may be subject to screening at a voting rights threshold as low as 10% (previously 25%). See Federal Ministry for Economic Affairs and Energy (2019, 2020).
5 The investment screening relates to the European level. FDI is thus to be interpreted as investment from third countries outside of the European Union. However, the actual form the regulations take may differ slightly between Member States in terms of percentages of voting rights and screening prior to and after the takeover. See also Regulation (EU) 2019/452. A possible circumvention of the law via holding structures is also studied in more detail within the scope of the investment screening procedure (see FAQ on investment screening under the Foreign Trade and Payments Regulation) published on 13 May 2019 at https://www.bmwi.de/Redaktion/EN/FAQ/Aussenwirtschaftsrecht/faq-aussenwirtschaftsrecht.html).
6 United Nations Conference on Trade and Development.

Germany's cross-border mergers and acquisitions*

€ billion



Sources: Refinitiv and Bundesbank calculations. * Only mergers and acquisitions where the German stake after the transaction is at least 10%, in line with direct investment criteria.
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in waves (sometimes known as merger waves), which are chiefly triggered by deregulation measures and are also associated with fluctuations on the stock markets, as was the case during the dotcom bubble.[7] Corporate takeovers are frequently reliant on external financing, the drying-up of which partly explained their steep decline during the financial crisis. The international interconnectedness of direct investment and trading activity is particularly pronounced in economic blocs and geographical regions with investment and trade agreements.[8] That said, the lion's share of corporate takeovers still take place at the national level, in spite of such integration efforts.

Germany's direct investment operations also expanding

German enterprises also contribute towards globalisation by means of direct investment; they upped their consolidated stock of FDI from just over €120 billion at the end of 1990 to a little under €1½ trillion at end-2019.[9] Direct investment by foreign enterprises in Germany was not quite able to keep pace; having been only around one-quarter lower than German enterprises' FDI at the end of 1990, it amounted to considerably less than half of this at the end of 2019, at just over €550 billion. These divergent developments are also reflected in the employment figures – between end-1999 and end-2018, the number of persons employed at the foreign branches of German companies almost doubled from just over 4 million to slightly under 8 million.[10] Conversely, the number of persons employed at German branches of foreign enterprises increased from around 2 million to over 3 million in the same period.[11]

German enterprises primarily investing in the EU and the United States

The direct investment stocks of German enterprises are distributed worldwide. In a consolidated analysis of the stocks, looking through intermediary holding companies in third countries, the other EU countries came in top, accounting for just over two-fifths of the entire stock at end-2019.[12] The Americas were the second most frequent target region, receiving just over one-third of the investment volume, whilst Asia, with a share of around of one-

7 See Harford (2005).
8 See Umber et al. (2014) for information on the ongoing integration of the M&A market in Europe compared with domestic developments within the United States. For more on heterogeneity in the integration of the M&A market in Europe, see Frey (2010).
9 These are FDI stocks reported in accordance with the extended directional principle. The consolidated aggregate of primary and secondary direct investment via holding companies is recorded. See Deutsche Bundesbank, Statistical Series Direct investment statistics, Chapter II: Foreign direct investment stock statistics (extended directional principle), p. 35 ff.
10 The figures for employment, i.e. the number of people employed at branches with primary or secondary (held through holding companies) participating interests are also consolidated figures.
11 The discrepancy between the number of persons employed at the foreign and domestic ends of Germany's direct investment operations suggests that production processes at the foreign branches are comparatively labour-intensive. In view of Germany's wage level, which is relatively high from an international perspective, this is unsurprising.
12 Conversely, broken down by investment enterprises' direct holdings per region, the EU even accounted for over one-half of German direct investment in 2019, whereas the absolute share attributable to the United States was correspondingly lower. This discrepancy shows the great importance of involving holding companies based in the EU, particularly in direct investment relationships with the United States.

eighth, lagged behind the top two target regions despite brisk growth over the past few years. A glance at the individual investment target countries outside the EU shows that the United States ranked highest, ahead of the United Kingdom and the People's Republic of China. The order changes when looking at the number of people employed at branches; here, the United States ranked above China, and the United Kingdom followed in third place by a relatively wide margin. China's higher ranking in this area could be seen as an indication of its comparatively labour-intensive production processes.

Majority of domestic direct investment in manufacturing sector

Domestic enterprises invested in different economic sectors – foreign branches in the manufacturing sector accounted for one-third of all direct investment stock, employing around one-half of the staff working at German foreign branches.[13] Other important sectors included financial and insurance services (one-quarter of stocks) and the repair of motor vehicles and motorcycles (one-eighth of stocks). In addition, holding companies both with and without a management function assumed a special role.

Conversely, firms from the EU and the United States also major investors in Germany, …

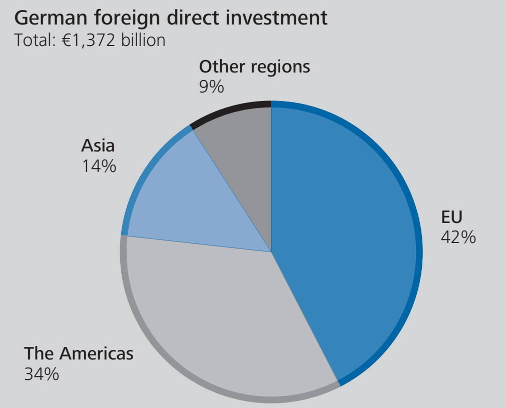
The origin of foreign direct investors in Germany at the end of 2019 largely matched the direction of German enterprises' direct investment. In terms of investment broken down by region of origin, the EU, with just under 60% of all direct investment stock in Germany, ranked above the Americas, with a share of slightly less than 20%. Asian countries accounted for just over one-tenth of such investment. In a breakdown of individual countries outside of the EU, the United States once again took the lead, also in terms of the number of persons employed at its branches in Germany, followed by companies from Switzerland.

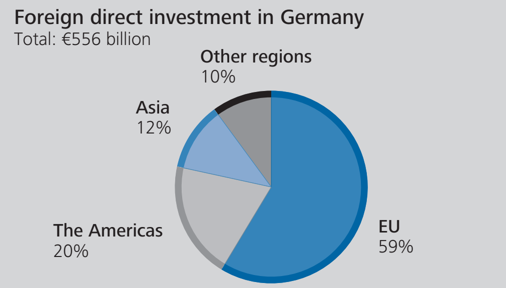
… with higher investment in financial and insurance services than in manufacturing

Direct investment by foreign enterprises in Germany was spread across several sectors at the end of 2019, albeit in a different ranking order to that of the foreign enterprises of German investors. Investment in the area of financial and insurance services (around one-third of all investment) exceeded investment in the manufacturing sector (roughly one-quarter of investment). However, the number of persons employed at the branches was far greater in the manufacturing sector than in financial and insurance services. Significantly more staff were employed in the trade sector, too.

Germany's direct investment by geographic region

Consolidated stocks[1] at end-2019





1 Primary FDI and secondary FDI held via holding companies.
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The FDI stocks of foreign firms in sectors that would be especially sensitive to a potential technology transfer were comparatively low; at around €17 billion, or less than 2% of all FDI stocks, investment was still highest in the domestic manufacture of machinery and equipment. FDI in the manufacture of instruments and appliances for measuring and testing as well as watches and clocks and electromedical equipment (€9 billion) or electrical equipment

13 Domestic investors from the manufacturing sector were primarily based in the manufacture of motor vehicles, trailers and semi-trailers sector and the chemical and pharmaceutical industry.

(€5½ billion) was significantly lower. In the production of electronic components and boards, stocks stood at just over €2½ billion.

Highly complex motives for FDI

In a 2021 survey conducted by the Association of German Chambers of Commerce and Industry (DIHK), German investors highlighted three motives that were particularly important for their foreign investment decisions. Multiple answers were possible, and over 40% of respondents stated that setting up sales and customer services played a crucial role in their decision to invest abroad. 30% of firms planned to establish local production facilities in order to gain access to the local market (horizontal direct investment). Conversely, just over one-quarter of the surveyed enterprises intended to reduce production costs by shifting production to other countries, stating that the outsourcing of production stages to foreign sites was aimed at increasing overall production efficiency (vertical direct investment). In 2003 and 2004, cost savings still constituted the most important motive for investing abroad.

In addition, particularly with cross-border corporate acquisitions, an expanded knowledge base in terms of both production technologies and management capabilities is crucial. Expertise is key to the long-term development potential and the competitiveness of German enterprises which bring their activities abroad; the same applies to foreign companies conducting operations in Germany.[14]

Impacts of internationalisation

How close are the aims of internationalisation to being achieved?

The enterprises' own objectives, impacts on staff and society's expectations or fears are key benchmarks for assessing the success of internationalisation. With a view to efficient production – with production stages potentially spread out over multiple sites – questions arise regarding trends in firm productivity and also innovations. The primary yardstick for assessing success in opening up new distribution channels is the pattern of turnover following internationalisation. Moreover, it needs to be clarified whether jobs have actually been lost at acquired firms, as feared. Conversely, the question that investor companies will pose is whether domestic employment has been reduced by, for instance, outsourcing production activities or has potentially even benefited thanks to increased division of labour or the opening-up of new markets.

What enterprises become international?

Owing to the variety of different rationales behind foreign investment, it stands to reason that various characteristics of enterprises sway acquirers' decisions regarding the acquisition of firms in Germany. Conversely, enterprises that engage in FDI are likely to display particular traits as well. These selection criteria first need to be examined in order to avoid distorting the results of an analysis of the subsequent effects (a phenomenon known as "selection bias"). This was accomplished by examining around 1,800 takeovers of German firms by foreign investors and around 900 German firms engaging in FDI for the first time over the period from 1999 to 2018.[15] German firms' FDI consisted of either takeovers of existing firms or start-ups on "greenfield sites" (see the box on pp. 21 ff.)

Large and innovative firms, in particular, become international

A Bundesbank study that links data from German direct investment statistics with other firm properties shows that enterprises in Germany which are taken over by foreign firms often share similar traits to German firms engaging in FDI for the first time. To prove the point, it was primarily relatively large and innovative firms – in both manufacturing and services – which ventured into internationalisation. Where foreign takeovers were concerned, acquirers were apparently interested in the existing expertise at the target firm; conversely, German investors exported specialised knowledge to their foreign subsidiaries. Interestingly, the profits of

14 For information on technology-driven mergers and acquisitions, see Frey and Hussinger (2010).
15 If a firm pulled out during the observation period, its renewed FDI was no longer included.

Impact of takeovers of German firms by foreign investors and of German firms' first-time foreign direct investment on the performance of the firms involved*

The object of the present analysis is to examine the extent to which the productivity[1], sales, innovations[2] and labour costs of German affiliates of foreign parent companies have developed as compared to German enterprises that are active on the German market exclusively.[3] This study also looks at whether German firms that carry out foreign direct investment for the first time differ from purely domestic enterprises. The impact of financial globalisation is consequently examined in both investment directions.

The study combines information from two Bundesbank datasets. The Microdatabase Direct investment (MiDi) contains information on Germany's bilateral foreign direct investment relationships in both directions. A key advantage of the MiDi is that German firms are, under certain circumstances, legally obliged to report their foreign direct investments to the Bundesbank.[4] Any balance sheet items of foreign (German) affiliates held by German (foreign) parent companies have to be reported. In addition, the database includes information on the ownership structure and on the industry classifications of the parent companies and affiliates involved.

Information on firms' performance is taken from the Bundesbank's JANIS database, which contains individual annual financial statements as well as the profit and loss accounts of German non-financial corporations.[5] The JANIS firms are each separately linked to an investment direction as per the MiDi.[6] The first part of the study, which looks at developments in a German firm after takeover by a foreign investor, takes into account only the reports of domestic affiliates from the MiDi. Conversely, the second part of the analysis, which looks at German enterprises carrying out a foreign direct investment for the first time, only uses the reports of domestic parent companies.

On this basis, three categories of firm can be distinguished: German parent companies that acquired or established at least one foreign affiliate during the period under analysis; German affiliates that were taken over by a foreign owner; and firms that had no foreign direct investment relationship over the entire period ("purely national

* The analysis is based on the research paper: R. Frey and S. Goldbach, "Benefits of internationalisation for acquirers and targets – but unevenly distributed", Deutsche Bundesbank Discussion Paper, forthcoming.
1 The analysis looks at total factor productivity (TFP). TFP is calculated using the method of Levinsohn and Petrin (2003), with separate estimations for all two-digit NACE 2 classifications (under the assumption of different production functions).
2 As measured by the volume of intangible assets.
3 Besides labour costs as a whole, information on employment and wages as separate metrics is also of interest. However, information on employment is less comprehensive in the underlying data sources, meaning that several enterprises would be excluded from the analysis. The study therefore concentrates on labour costs because data availability is better there.
4 The definition of a foreign direct investment must be met here. This is the case if, amongst other things, the stake in a foreign enterprise is at least 10% and the foreign firm's total assets amount to at least €3 million. For further information on reporting requirements, see https://www.bundesbank.de/en/statistics/external-sector/direct-investments/methodological-notes-795220
5 The Bundesbank receives the annual financial statements as part of its credit assessment and supplements them with publicly available financial statements.
6 Companies for which there is, in the same year, both a report as a domestic parent company (K3 report) and a report as a domestic affiliate (K4 report) are not included in the analysis. The Bundesbank's Research Data and Service Centre (RDSC) provided a matching table for the companies.

**Example of total factor productivity (TFP):
probit estimations of the likelihood of a firm being taken over ("target") or carrying out a foreign direct investment for the first time ("acquirer")**

	German firm taken over ("target")		German firm with first foreign direct investment ("acquirer")	
	Manufacturing	Services	Manufacturing	Services
Item	(1)	(2)	(3)	(4)
Log total assets$_{it-1}$	0.119*** (0.030)	0.185*** (0.021)	0.300*** (0.035)	0.278*** (0.030)
Log innovations$_{it-1}$	0.026*** (0.008)	0.005 (0.007)	0.034*** (0.009)	0.051*** (0.011)
Log TFP$_{it-1}$	– 0.026 (0.039)	0.115*** (0.027)	– 0.036 (0.052)	0.019 (0.045)
Log labour costs$_{it-1}$	– 0.095*** (0.025)	0.118*** (0.022)	0.048 (0.036)	0.075** (0.033)
Log turnover$_{it-1}$	0.100*** (0.036)	– 0.034 (0.024)	– 0.026 (0.043)	– 0.050 (0.034)
Return on equity$_{it-1}$	– 0.000 (0.000)	– 0.001** (0.000)	– 0.000 (0.000)	– 0.001*** (0.000)
Log fixed assets$_{it-1}$	0.006 (0.013)	– 0.118*** (0.010)	– 0.038*** (0.014)	– 0.105*** (0.014)
TFP growth$_{it-1}$	– 0.062 (0.042)	0.005 (0.039)	0.026 (0.045)	– 0.019 (0.054)
Observations	106,908	196,913	95,507	179,246

*** Significant at the 1% level, ** significant at the 5% level, * significant at the 10% level. Time-specific and sector-specific fixed effects are included but not reported. Robust standard errors (clustered across enterprises) in parentheses.
Deutsche Bundesbank

firms").[7] Both parts of the analysis use the merged observations from the two datasets as well as unmatched observations from the JANIS database. In order to assess not only short-term, but also long-term effects, only firms with observations for at least five consecutive years are included (for corporate takeovers: the two years before the takeover, the year of the takeover itself and the two years after the takeover).[8] The annual data are available as an unbalanced panel from 1999 to 2018 and encompass roughly 360,000 firm-year observations. Roughly 1,800 German firms were taken over by a foreign investor over this period, and around 900 German enterprises carried out their first foreign direct investment.[9] The control group of purely domestic firms comprises approximately 57,000 firms.

The empirical analysis uses a multi-stage approach in order to take into account potential self-selection effects of internationalisation.[10] The procedure is described based on the first part of the study (takeover of a German firm by a foreign investor); the second part is carried out in an analogous manner (German firm engaging in first-time foreign direct investment).

In a first step, a probit model is used to determine the probability of a German firm i being taken over at time t:

7 If firms move from "national" to "international" and back during the observation period, only the first step is classed as internationalisation for the purpose of the estimations. Firms that were part of an international group at the beginning of the observation period have been disregarded, even if they lost that status in the years that followed.
8 This qualification is based on the academic literature, which looks at long-term developments in corporate takeovers (see Egger et al. (2020)).
9 The takeover of a German firm by a foreign investor is identified using a data-driven process. Assuming a firm is contained in the JANIS database throughout the period 1999 to 2018 and is also included in the MiDi as a domestic affiliate (K4 report) from 2001 onwards, then the year 2001 would be interpreted as a corporate takeover by a foreign investor.
10 The empirical literature shows that firms do not serve a foreign market at random. These firms tend, on average, to have certain properties. Not taking them into account would distort the estimation results.

Impact of corporate takeovers by foreign investors on the performance of German firms

Effect	Firms	TFP	Turnover	Innovations	Labour costs
	Manufacturing				
Short-term	All	0.039***	0.060***	0.057	0.032***
	Small	0.056***	0.088***	0.158***	0.044***
	Large	0.020	0.029**	– 0.061	0.028***
Long-term	All	0.057*	0.124***	0.213	0.062**
	Small	0.104**	0.206***	0.445**	0.115***
	Large	0.011	0.041	– 0.033	0.003
	Services				
Short-term	All	0.034**	0.083***	0.034	0.022
	Small	0.037*	0.071***	– 0.072	0.053***
	Large	0.031*	0.094***	0.132*	– 0.017
Long-term	All	0.111***	0.152***	0.063	0.016
	Small	0.091	0.172***	– 0.313	0.104**
	Large	0.131**	0.121*	0.339	– 0.086

*** Significant at the 1% level, ** significant at the 5% level, * significant at the 10% level. Sector-time-specific and firm-specific fixed effects are included but not reported. Robust standard errors (clustered across months and firms) in parentheses.

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Impact of market entry given foreign direct investment on the performance of the German parent company

Effect	Firms	TFP	Turnover	Innovations	Labour costs
	Manufacturing				
Short-term	All	0.014	0.038***	– 0.020	0.028***
	Small	0.041**	0.078***	0.030	0.052***
	Large	– 0.014	– 0.010	– 0.097	– 0.003
Long-term	All	0.024	0.083**	– 0.041	0.075**
	Small	0.085**	0.145***	– 0.039	0.098**
	Large	– 0.032	– 0.005	– 0.155	0.025
	Services				
Short-term	All	0.019	0.082***	0.028	0.058***
	Small	0.024	0.065*	0.139	0.062***
	Large	0.011	0.074*	– 0.154	0.033
Long-term	All	0.023	0.232***	0.272	0.158**
	Small	0.071	0.211**	0.554*	0.232***
	Large	– 0.027	0.184	– 0.227	0.032

*** Significant at the 1% level, ** significant at the 5% level, * significant at the 10% level. Sector-time-specific and firm-specific fixed effects are included but not reported. Robust standard errors (clustered across months and firms) in parentheses.

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$$(1)\ P(F_{it} = 1) = \alpha + \Theta X_{it-1} + \varphi \Delta Y_{it-1} + \tau_j + \rho_t + \varepsilon_{it},$$

where $F_{it} = 1$ represents a corporate takeover by firm i at time t, X_{it-1} encompasses the performance variables (productivity, turnover, innovations, labour costs) as well as additional explanatory variables such as firm size (as measured by total assets), fixed assets and the return on equity in the preceding period t–1[11] and ΔY_{it-1} is the growth rate of each observed performance metric before the corporate takeover; τ_j designates sector-specific fixed effects, whereas ρ_t represents time-specific fixed effects. The estimation is carried out separately for the manufacturing and the services sector and takes clustered standard errors into consideration at the firm level.

The table on p. 22 illustrates the estimation results of the probability of takeover or mar-

11 The selection of observable explanatory factors is based on the empirical literature on corporate takeovers, e.g. Guadalupe et al. (2012) and Stiebale and Vencappa (2018).

ket entry using TFP as an example.[12] The fact that effects are significant suggests self-selection in internationalisation. Column (1) illustrates that in manufacturing foreign buyers are interested in large firms, high innovations, high turnover and relatively low labour costs. The coefficients in column (2) show that, for the services sector, larger firms with higher productivity combined with higher labour costs, lower fixed assets and lower profits are preferred. According to columns (3) and (4), German investors carrying out foreign direct investment for the first time tend to be large firms with higher innovations and lower fixed assets.

Based on the previous probit estimation, a likelihood of takeover or likelihood of market entry can be calculated for every firm at every point in time. In a second step, propensity score matching is used to attempt to determine an optimum control enterprise for every firm that is taken over and therefore belongs to the treatment group. To this end, radius matching with a small radius is used for the same two-digit NACE 2 sector and the same year.[13] In order to assess how well matching works, a covariance balance test is conducted. This test requires the distribution in the treatment group to be as close to that of the control group as possible. This condition is met in the present analysis. The two identified groups consequently appear to be readily comparable.

In the third step, the analysis uses a difference-in-difference estimator. Average developments in the respective performance metric in the treatment and control group are compared to one another. The following equation is estimated:

$$(2)\ y_{it} = \alpha + \sum_{k=0}^{2} \beta_k F_{it-k} + \mu_i + \rho_{jt} + \varepsilon_{it},$$

where y_{it} represents the respective performance metric (productivity, turnover, innovations, labour costs) of firm i at time t, $F_{it\text{-}k}$ is a binary variable which, for firms that have been taken over, is one in year k (maximum of two years) after the corporate takeover and zero otherwise;[14] μ_i stands for firm-specific fixed effects, whereas ρ_{jt} represents sector-time-specific fixed effects. The estimation is carried out separately for the manufacturing and the services sector and takes clustered standard errors into consideration at the firm level.

In a further specification of the differences-in-differences estimator, the study additionally takes the influence of firm size into account:

$$(3)\ y_{it} = \alpha + \delta * small_{it} + \sum_{k=0}^{2} \beta_k F_{it-k} + \sum_{k=0}^{2} \gamma_k * small_{it} * F_{it-k} + \mu_i + \rho_{jt} + \varepsilon_{it},$$

the binary variable $small_{it}$ equals one if the sum of fixed assets and intangible assets is smaller than the median of this sum for the firms that have been taken over.

The upper table on p. 23 illustrates the estimation results for corporate takeovers by foreign investors. In manufacturing, small firms in particular exhibit positive effects on

12 A separate probit estimation is carried out for each of the four performance metrics. This differs from the table on p. 22 only in the last variable. For the probit estimation of turnover, all explanatory variables are identical except for the previous period's TFP growth: here, the previous period's turnover growth is used. The estimation coefficients for the other parameters are virtually unchanged for the respective performance metrics.
13 The empirical literature often uses nearest neighbour matching or radius matching for estimations. Neither the selected radius nor the method change the previous results.
14 The short-term effect is for k=0. The long-term effect is determined using the sum of the coefficients for k=0, k=1 and k=2.

productivity, turnover, innovations and labour costs in the short and long term – measured in each case against the control group. For services, firms display positive significant short-term and long-term effects for productivity and turnover.

The bottom table on p. 23 presents the results for domestic parent companies making their first foreign direct investment. In manufacturing, small firms in particular display positive short-term and long-term effects in terms of productivity, turnover and labour costs. Looking at services, the results are similar: small firms achieve positive short-term and long-term effects for turnover and labour costs as a result of the corporate takeover. Only for productivity is there no significant effect. In return, small firms also tend to achieve positive effects in terms of innovations in the long term.

The objective of this study was to examine whether takeovers by foreign investors or first-time foreign direct investment influence certain performance measures at the firms in question. The results of the analysis suggest that the free movement of capital in foreign direct investment tends to have positive effects on average: the affected enterprises perform better, on average, than companies that operate exclusively in their home country. This is true for both investment directions. The results further demonstrate that the effects may differ depending on the sector, firm size and dynamics. The same is true of individual firms' performance trends. In order to make inferences about the effects of corporate takeovers on individual enterprises, other methods would have to be used – for instance, case studies.

the new "multinationals" started out from a relatively below-average base. Short-term profits might possibly not have been the primary focus at this stage; below-average profitability of a target firm, associated with a low firm valuation, could well have even made this firm enticing to potential suitors.

What are the impacts on productivity, innovation, turnover and labour costs?

Building on this preliminary review, the central section of the study addresses the question of the advantageousness of internationalisation from the point of view of a freshly acquired company and a firm engaging in FDI for the first time. Manufacturing and service firms will be looked at separately, and a distinction between firms by size will be made as well.[16] Lastly, this section will examine the extent to which the impacts unfold more in the short or long term.

Result: positive outcomes for productivity, …

The study yielded positive effects regarding productivity, in both the short and somewhat longer term. However, not all firms benefited equally. Rather, the study produced heterogeneous results which varied by sector and firm size: the positive effects for German manufacturers acquired by foreign firms were driven by developments among the somewhat smaller enterprises. This classification refers, however, to companies actually acquired, which, as mentioned above, are on average larger than firms that have remained national. By contrast, in the services sector it was the larger target firms which made productivity gains.[17] The study identifies similar productivity gains for German investors among smaller manufacturing companies, but not among firms in the services sector.

A comparison of internationally linked enterprises with Germany's overall economy pro-

16 In the study, the size is the sum of fixed assets and intangible assets. Robustness checks using total assets as a measure of size do not change the results.
17 However, the average firm size in the services sector is considerably smaller than in manufacturing.

vides clues regarding the contribution of internationalisation to productivity developments. The evolution of gross value added serves as a benchmark.[18] Up until the beginning of the global financial crisis, the value added of foreign firms' German subsidiaries grew at above-average rates; their growth subsequently dropped somewhat behind the developments for the overall economy. The value added of FDI firms domiciled in Germany evolved largely consistently with aggregate value added but, in most years, posted slightly higher gains.

… innovations, …

The success of an enterprise, especially in the long term, also hinges on its innovations and expertise. This matters particularly to companies in highly competitive sectors. The study uses the stock of intangible assets as an indicator. This comprises, for instance, the value of research and development, management technologies, but also brand names.[19] In the study, smaller manufacturing firms' innovations experienced positive short and long-term effects following takeover by foreign companies – as was already previously the case with regard to productivity. As regards the services sector, the positive effects were weak and restricted to larger enterprises in the short run. This initially refutes concerns voiced upfront that takeovers by foreign firms could lead to a technology transfer to the parent and a loss of innovation capacity here in Germany.

German firms' initial forays abroad had virtually nil impact on their own innovations.

In comparison with the universe of firms in Germany, international firms showed a higher-than-average increase in the stock of intangible assets between 1999 and 2018. Stocks varied strongly among German subsidiaries of foreign firms; this was attributable at least in part also to isolated takeovers of larger enterprises. The higher than average increase in intangible assets among German group parent companies appears to have been driven by firms that were already operating internationally prior to the observation period. In the study, these firms are not recorded as operating internationally for the first time. The relevant move, therefore, already happened further in the past. Positive impacts of an international orientation may well make themselves felt only in the very long term, which is not adequately captured by the present study.[20] At all events, one argument in favour of this interpretation is that no impacts in this area were identified among German investors engaging in FDI for the first time. It seems plausible that established groups exert a major influence because, amongst other things, they are, on average, considerably larger than the new entrants.

… turnover …

A further key motive for FDI is to enlarge distribution channels for products already contained in the firm's range. Based on turnover figures, the study identifies positive impacts of internationalisation in terms of achieving this objective, too, though the results are once again heterogeneous: as was the case for productivity and innovations, it was, in particular, smaller manufacturing firms which benefited in the short and long term from being taken over by a foreign firm. In the services sector, the identified turnover effects were largely independent of firm size. On the other hand, among those German firms to go international, it has consistently been precisely the smaller companies that have seen an increase in turnover.

Relative to the German corporate universe, German parents of foreign subsidiaries have seen a strong rise in turnover. This growth was especially dynamic following the slump induced by the global financial crisis. By contrast, the turnover figures for domestic subsidiaries of

18 Value added is just one of several determinants which feed into the calculation of productivity. That makes it only a very rough approximation of productivity growth, and only limited conclusions can be drawn from this. At the aggregate level, adding net taxes on products to gross value added yields gross domestic product.
19 The firm's expertise can have a positive impact on productivity efficiency, product innovations and – where brand names are concerned – marketing opportunities.
20 The time horizon for the present study comprises the year of the takeover itself and the two subsequent years.

foreign groups recently underperformed compared with the universe of firms in Germany.

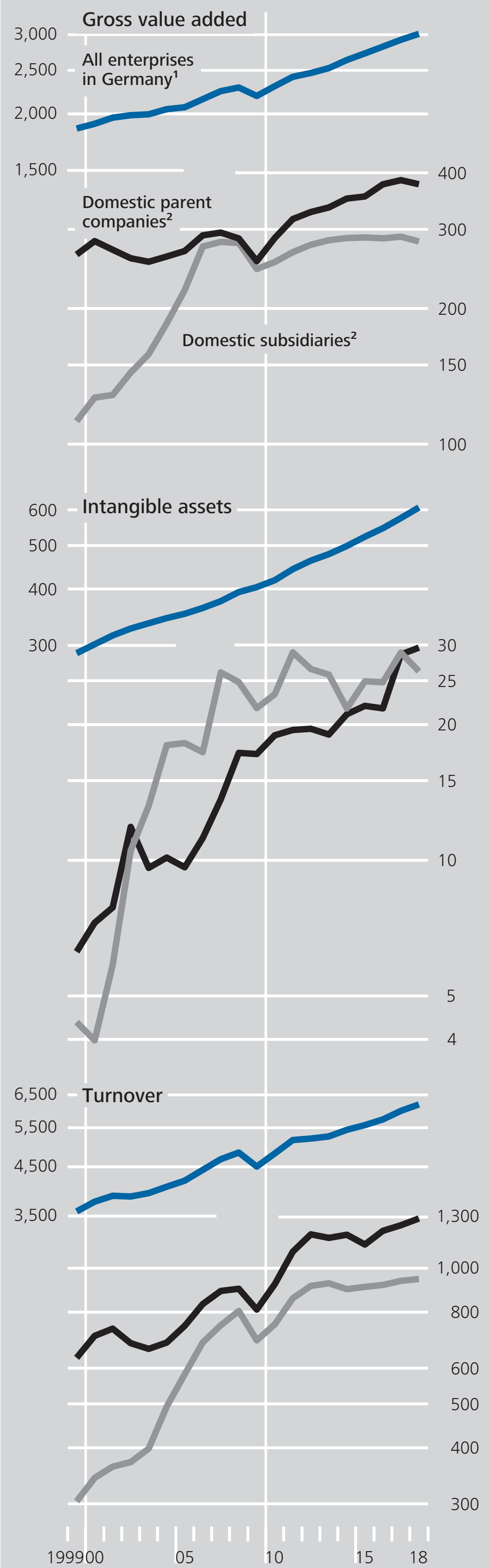
… and with regard to staff

Owing to data availability issues, the impact of internationalisation on staff is imputed based on trends in labour costs,[21] which are impacted by both salary levels and the number of persons employed and therefore provide only a rough guidepost for the trend path of employment. Thus, an increase in labour costs may very well be reflected in higher wages, which could potentially be attributable to more highly-skilled staff, without an increase in the number of employees or their hours worked having occurred. Given this indicator, it has been particularly smaller firms in manufacturing and in services which have experienced observable positive short and long-term effects of a takeover. On balance, there was no evidence of negative impacts of internationalisation on the domestic labour market. Rather, there was a tendency to hire additional staff, or effective hours worked were increased, or higher wages were paid. No negative effects on employment were visible with regard to German parent companies which went abroad, either. Smaller firms even increased their expenditure on local national staff, in both manufacturing and services.

Compared with the pattern of total labour compensation in Germany, the development of labour costs of all domestic German subsidiaries of foreign parents over the entire 1999 to 2018 period was positive – even despite the post-2015 slump. The pattern of employment figures reported in the FDI stock statistics, fittingly, is likewise positive. By contrast, however, the labour costs of international parent companies domiciled in Germany initially moved sideways – declining significantly during the dotcom crisis and the global financial crisis –

Key indicators of enterprises in Germany

€ billion, log scale



1 Source: Federal Statistical Office. **2** Consolidated total of primary FDI and secondary FDI held via holding companies (Source: Bundesbank microdatasets: MiDi linked with JANIS).

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21 Although the MiDi contains information on employment at German firms which belong to an international conglomerate, the dataset is insufficient for purely national firms since, with regard to this indicator, the JANIS database reveals large gaps, which means that a suitable benchmark is lacking.

before turning on to a path of growth as from 2009.

Large and innovative firms used internationalisation to improve their competitive position

To sum up, compared with the economy as a whole, it is particularly the larger and more innovative firms which tend to go international. Existing expertise that can also be applied at a newly acquired firm can make it an enticing proposition to go abroad. Conversely, an acquisition can also open up access to the new subsidiary's knowledge base. Amongst international manufacturing enterprises, in the past it tended to be smaller firms which benefited from positive effects on productivity and turnover. This would indicate that they were able to successfully set up cross-border value chains or additional distribution channels at the new location. Domestic firms taken over by foreign firms gained additional expertise – counter to occasionally voiced fears. In the services sector, stakeholding firms, depending on their size, were likewise able to grow their productivity and turnover, in particular. Over the observation period, however, there were far fewer investors from the services sector than in manufacturing – as regards domestic target firms, both sectors were roughly evenly represented. One possible explanation for this asymmetry is that Germany's small and medium-sized enterprises are relatively strong and internationally competitive in the manufacturing sector and are also leveraging their good position abroad.

Caveats to the study

A note on the informative value of the study: the dataset is not sufficient to study any long-term effect above and beyond three years. The dataset does not permit the clear identification of firms which remain in existence for fewer than three years post-takeover. Furthermore, the case figures are too small to conduct estimations confined to firms which are relevant in terms of ensuring public utilities in Germany, for instance. For the same reason, a distinction by individual partner country cannot be made, either.

Conclusion

In the past few decades, the integration of the global economy has been highly dynamic, not least in the area of direct investment. This has also been reflected in the employment figures for multinational corporations. In the meantime, global economic interconnectedness has reached a considerable extent and has become an indispensable part of economic activity in the economies involved. The continued dynamism of internationalisation – despite fluctuations – is a sign that most FDI benefits the participating companies. The study presented here confirms a multitude of positive effects on firms which go international. However, the results are heterogeneous: not all enterprises benefit in equal measure, and the firms that have continued to operate purely nationally could regard themselves as losers of globalisation, given the positive performance of their competitors.

Internationalisation has typically had a positive impact on the involved firms' productivity, innovations and turnover, probably making not only these firms themselves, but also the sector as a whole, more competitive – which is also likely to have benefited consumers, in particular. In addition, employees have also usually benefited in the form of higher wages or rising employment figures. The fear voiced in the public debate that takeovers of German firms by foreign companies could lead to job losses may materialise in isolated cases – yet the reverse has been more frequently observed. Conversely, too, the study does not find any empirical evidence that German firms cut domestic jobs following FDI – for instance, through substantial outsourcing of activities previously located in Germany.

Given the overwhelmingly positive impacts of global interconnectedness and how highly relevant to the involved economies cross-border firms have now become, national governments should only intervene in the free movement of capital with care: efforts to protect sensitive domestic infrastructures against manipulation from abroad or the desire to classify, in individual cases, specialised high-tech firms as meriting protection out of national security considerations must not be used as a pretext for unjustified protectionist interference in freedom of investment. Not only would the direct benefits to the economic sectors allegedly to be protected be dubious, but potential retaliatory measures abroad should also be borne in mind. After all, it is not only foreign investors that are interested in German firms; German firms are also seeking to improve their international competitiveness by acquiring foreign companies. It is precisely for German groups that open markets are particularly important: German firms' FDI stocks are roughly double the number of foreign subsidiaries in Germany.

Policymakers should therefore focus on deriving maximum benefit from globalisation and mitigating potential risks by taking transparent and globally coordinated precautions. A suitable framework is provided not least by the European capital markets union, along with extensive investment and trade agreements between the European Union and its partner countries.

List of references

Association of German Chambers of Commerce and Industry (DIHK) (2021), Auslandsinvestitionen 2021 – Sonderauswertung der DIHK-Konjunkturumfrage vom Jahresbeginn 2021, March 2021.

Egger, H., E. Jahn and S. Kornitzky (2020), Reassessing the Foreign Ownership Wage Premium in Germany, World Economy, Vol. 43, Issue 2, pp. 302-325.

EURObiz (2016), European Business in China, Business Confidence Survey 2016, available at: https://www.eurobiz.com.cn/still-keeping-faith-european-business-china-business-confidence-survey-2016/

Federal Ministry for Economic Affairs and Energy (2020), Außenwirtschaftsverordnung (Foreign Trade and Payments Regulation), available (in German only) at https://www.bmwi.de/Redaktion/DE/Gesetze/Aussenwirtschaft/AWV.html

Federal Ministry for Economic Affairs and Energy (BMWi) (2019), Annual Economic Report.

Frey, R. (2010), The discontinuous integration of Western Europe's heterogeneous market for corporate control from 1995 to 2007, Deutsche Bundesbank Discussion Paper No 14/2010.

Frey, R. and S. Goldbach, Benefits of internationalisation for acquirers and targets – but unevenly distributed, Deutsche Bundesbank Discussion Paper, forthcoming.

Frey, R. and K. Hussinger (2010), European market integration through technology driven M&As, Applied Economics, Vol. 43, pp. 2143-2153.

German Council of Economic Experts (2017), Towards a Forward-Looking Economic Policy, Annual Report 2017/18.

German Council of Economic Experts (2016), Time for Reforms, Annual Report 2016/17.

Guadalupe, M., O. Kuzmina and C. Thomas (2012), Innovation and Foreign Ownership, American Economic Review, Vol. 102, No 7, pp. 3594-3627.

Harford, J. (2005), What drives merger waves?, Journal of Financial Economics, Vol. 77, pp. 529-560.

Jiang, K., W. Keller, L. D. Qiu and W. Ridley (2019), International Joint Ventures and Internal vs. External Technology Transfer: Evidence from China, NBER Working Papers No 24455.

Lakatos, C. and F. Ohnsorge (2017), Arm's-Length Trade – A Source of Post-Crisis Trade Weakness, Policy Research Working Paper No 8144, World Bank Group.

Levinsohn, J. and A. Petrin (2003), Estimating Production Functions Using Inputs To Control For Unobservables, Review of Economic Studies, Vol. 70, No 2, pp. 317-341.

Regulation (EU) 2019/452 of the European Parliament and of the Council of 19 March 2019 establishing a framework for the screening of foreign direct investments into the Union, available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0452

Stiebale, J. and D. Vencappa (2018), Acquisitions, markups, efficiency, and product quality: Evidence from India, Journal of International Economics, Vol. 112, Issue C, pp. 70-87.

Umber, M. P., M. H. Grote and R. Frey (2014), Same as it ever was? Europe's national borders and the market for corporate control, Journal of International Money and Finance, Vol. 40, pp. 109-127.

Crypto tokens and decentralised financial applications

Decentralised financial applications deliver financial services in combination with crypto tokens across distributed networks, replacing intermediaries such as banks, exchanges or insurers. This fast-growing business area is a melting pot of innovation, and the boundaries between decentralised financial applications and the conventional financial system are becoming increasingly porous.

Participants in these networks use blockchain technology and modifiable open source program code to develop technical solutions such as algorithm-based consensus mechanisms and what are known as smart contracts – programs that automatically execute transactions – to replace trust in intermediaries and minimise administrative intervention in the financial services offered. Decentralised financial applications' use cases are much the same as those found in the conventional financial system: there are decentralised trading platforms, decentralised forms of lending or deposit business, decentralised stablecoins, decentralised derivatives issuance and trading, and also the first forms of decentralised insurance policies.

Decentrality has many sides to it, and in its purest form, appears to be more of a theoretical construct. Even the decentralised financial applications used in practice employ centrally managed governance processes as stabilisation mechanisms or to fix code bugs, for instance. And at the end of the day, the conventional financial system as a whole can also be regarded as a hybrid of centralised and decentralised structures.

Decentralised financial applications are still in their infancy and need to overcome some major challenges: software bugs can be a source of security risks which centralised administrative structures could manage to keep in check; not all programmed incentive systems are capable of eliminating misconduct altogether; the public blockchains used often cannot cope with larger business volumes; interoperability across blockchains and with off-chain systems is limited; and interconnectedness means that problems can ripple out across applications, potentially endangering the ecosystem as a whole.

Assuming the risks can be kept in check and effective governance mechanisms are assured, decentralised financial applications can be expected to provide important impetus for the financial system. These technologies might end up being adopted by the conventional financial system, say, or the governance mechanisms built into individual decentralised financial applications might evolve centralised structures, causing them to become part of the conventional financial system. It is also conceivable that parts of the conventional financial system will be crowded out, or that financial market incumbents will offer their customers access to decentralised financial services as intermediaries.

All in all, decentralised financial applications are likely to promote innovation in the conventional financial system. Effective regulation of decentralised financial applications could increase trust in this market segment and boost growth there, even if regulators face particular challenges in this regard.

Decentralised financial applications: origins and basic idea

Decentralised financial applications deliver financial services in combination with crypto tokens

The financial system has seen innovation over the past ten years, not least due to the emergence of crypto tokens[1] such as Bitcoin and Ether. Crypto tokens have attracted a great deal of attention, mainly on account of their volatility, but their technological features have also met with interest. These developments, which are based on distributed ledger technology (DLT),[2] remain a rich source of innovative potential, having already led to the issuance of stablecoins, the debate conducted almost worldwide on tokenised forms of money, including central bank digital currency (CBDC), and the increasing uptake of DLT for settlement in the conventional financial system.[3] A whole raft of decentralised financial applications have also emerged. These DLT-based solutions deliver various financial services in combination with crypto tokens without any need for centralised intermediaries such as banks, exchanges or insurers. The use cases are much the same as those in the conventional financial system: there is trading based on crypto tokens, for example, or collateralised lending in crypto tokens.

Decentralisation means "intermediary-free", primarily, …

Views differ on what it means for a network to be "decentralised", though many would agree it primarily means the network is free of intermediation[4] – that is to say, transactions take place directly between the network participants without intermediary involvement. A conventional credit transfer from one agent to another, for example, would normally require the involvement of at least one account-keeping bank. However, involving intermediaries is always a question of trust, which makes it a potential source of uncertainty. Hence, the declared aim of decentralised financial applications is to create a system in which transactions can be settled without any need for trusted third parties. That means defining procedural rules and incentives that enable the system to run without administrative intervention and stabilise itself if required.

… but has multiple dimensions

The reasons mentioned in the literature for the push towards decentralised applications, above all in the world of finance, are of a technical, political and economic nature: distributed systems, it is claimed, are less vulnerable to cyber risks, are censorship-proof,[5] and eliminate the potential risk of intermediary misconduct.[6] Intermediaries can perform all manner of functions, from the safekeeping or management of assets to pricing, and all the way to running infrastructures and optimising their workflows. Accordingly, the degree of decentralisation – the freedom from intermediation – can be measured by multiple criteria, such as the absence of central agents, the existence of open source code that anyone can program, process transparency, transaction traceability, or the inability to identify stakeholder network participants.

Conventional financial system as a hybrid of centralised and decentralised structures

The conventional financial system as a whole can be regarded as a hybrid of centralised and decentralised structures. While intermediaries such as banks, depositories, payment systems, central counterparties and custodians play important roles, and even tend towards monopolising market infrastructures in some cases, the most extreme form of centralisation – central provision – does not exist in practice in its unadulterated form. Indeed, custodians and

1 Crypto token is the name given to a digital token transferred across a network using a technical protocol based on cryptographic procedures. See Deutsche Bundesbank (2019).
2 Distributed ledger (DL) normally means a database shared across a network which gives participants joint rights to write, read and store entries in the ledger. The most common DLT applications are based on blockchain technology, which has proven to be a particularly useful ledger for recording histories of transactions. See Deutsche Bundesbank (2017).
3 See Deutsche Bundesbank (2021).
4 See Nakamoto (2008).
5 See Ludwin (2017).
6 It is often noted in this regard that Bitcoin was created in 2008 partly in response to the financial crisis. The first block of the Bitcoin blockchain (the "genesis block") from January 2009 contains a reference to a report on the UK government's second bailout for banks, which is read as a critique of intermediaries.

depositories tend to be rivals; there are generally legally enforceable rights for participation in financial market infrastructures; and the levels of transparency and objectivity surrounding procedural rules are significant, protecting the interests of individual agents. Most notably, agents can invoke antitrust law to limit the negative implications of monopolistic tendencies in cases where market infrastructures are operated by private agents.

Pure decentralisation more of a theoretical construct

By the same token, most decentralised financial applications are unlikely to be entirely decentralised in reality, either. In most cases, not all their participants have equal rights to modify program code and the like. Furthermore, many applications permit administrative intervention to repair the applicable procedural rules as appropriate, and they work on the basis of governance rules that tend to distribute design rights unequally, despite having full decentralisation as their declared aim.

Decentralised financial applications can operate autonomously, free of administrative intervention

The technical ability to program automated smart contracts is the key precondition for whether a blockchain is a suitable layer on which to run decentralised financial applications. Smart contracts automatically release assets held as digital tokens as soon as predefined terms and conditions are met.[7] The automated transaction validation process of the underlying blockchain makes sure that smart contracts run without interruption. As a result, it is possible to hardwire complex governance rules and business logics into the program code, which facilitates the implementation of new and transparent forms of process automation, thereby reducing process and transaction costs.

Combining smart contracts to create decentralised autonomous organisations

Expanding smart contracts or linking them algorithmically can automate the settlement of complex, tiered transactions. Taken to the extreme, it is possible to automate entire process chains, like in an enterprise. Decentralised financial applications operated collectively using what are known as governance tokens are therefore also known as decentralised autonomous organisations (DAOs).[8] Governance tokens enable their bearers to vote jointly on changes to the program code, the idea being to facilitate collective management depending on how the tokens are distributed.

Decentralised financial applications seeing brisk growth, with boundaries between them and the conventional financial system becoming increasingly porous

The theoretical considerations on DAOs gradually took shape and evolved into individual decentralised financial applications for various use cases. “Decentralised finance (DeFi)” is the umbrella term used in the literature for decentralised financial applications, but definitions of this term tend to vary. In an effort to address technical hurdles as well as incentive and trust issues inherent in the system, various solutions based on different blockchains have been developed and offered. As these solutions become more advanced, the boundaries between decentralised financial applications and the conventional financial system could become increasingly porous, warranting closer analysis. There are also questions surrounding potential implications for the financial system and, looking ahead, for financial stability and for regulation and taxation regimes.

Decentralised financial applications and their ecosystem

How decentralised financial applications work

The chart on p. 35 shows in simplified terms how decentralised financial applications are structured and interact with other actors. Decentralised financial applications are based on a

7 Smart contracts are not contracts in a legal sense, but aid execution of the same. The term “smart contract” was coined by IT specialist Nick Szabo, who used the idea of a vending machine as a crude prototype of a smart contract. The vending machine, he explained, represents a smart contract between the vendor and whoever buys an item stored in the vending machine. Anyone with the right coins can operate the vending machine. Security mechanisms protect the stored coins and contents from attackers, sufficiently to allow profitable deployment of vending machines in a wide variety of areas. See Szabo (1997).
8 See Buterin (2014), Fraunhofer-Gesellschaft (2017) and Jensen et al. (2021).

The DAO

Perhaps the best-known decentralised autonomous organisation to date was a virtual investment fund called The DAO. This "company without people"[1] was implemented on the Ethereum blockchain in 2016. Users could buy shares in The DAO with Ether (the Ethereum blockchain's native crypto token). Following this first phase, project proposals were to be submitted to the virtual fund via smart contracts. Subsequently, users were intended to be able to vote on which projects The DAO would invest in. The entire process, including interest and dividend payments, was to take place automatically.

This decentralised alternative to investor-supported risk financing generated a great deal of interest and, helped along by rising Ether prices, secured total investment equivalent to US$150 million – a record sum for similar forms of crowdfunding at the time. This "social experiment" – as it was dubbed by one of the programmers – was intended to be an enterprise without entrepreneurs, without a formal place of business, without an executive board, and without responsible parties.

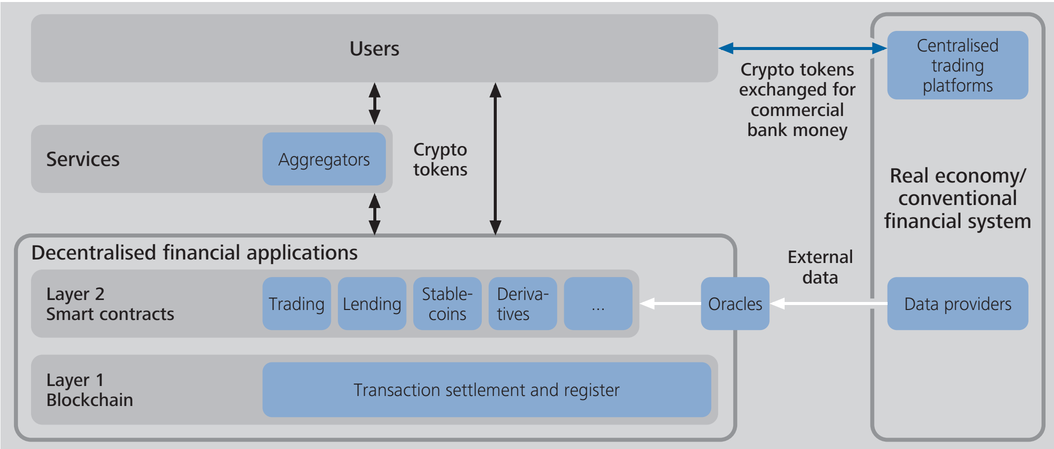
In the end, however, the project never reached the investment stage, as a coding error in the share-buying phase was discovered which allowed an "attacker" to withdraw around a third of the contents of the fund. As the smart contract could not be altered, the programmers could not stop the withdrawal.

To limit the damage to the reputation of Ethereum as a basis for smart contracts and the reputation of other DAOs, the majority of the Ethereum community agreed to implement a hard fork. This meant supposedly immutable entries on the Ethereum blockchain were retroactively cancelled, allowing the stolen funds to be confiscated from the "attacker". Practically, this meant a minority was expropriated by the majority, the justification given for which was the use of funds in a manner that grossly violated The DAO's intended purpose.[2]

These events are important, beyond the community involved, for two reasons. It was the first time a decentralised autonomous organisation of significance had ever been implemented. This had a positive effect on Ethereum's reputation beyond blockchain enthusiasts. It also demonstrated that the lack of governance in such structures makes them very vulnerable in various ways, such as to cyber risks.

1 See Grasegger (2016).
2 A comprehensive retelling of the events surrounding The DAO can be found in Santos (2018).

Decentralised financial applications and their ecosystem



Deutsche Bundesbank

Decentralised financial applications are part of a multi-stakeholder ecosystem

distributed ledger – usually a blockchain of some kind (layer 1) – and on smart contracts (layer 2).[9] While the blockchain serves as the transaction settlement system and register, the smart contracts specify which terms and conditions for transactions via the base blockchain need to be verified and what actions they trigger. This means that a wide variety of different use cases can be modelled. Users tend to purchase crypto tokens on centralised trading platforms in return for commercial bank money and credit them to an electronic wallet they need to open for each individual blockchain. Service providers can bundle together different applications and offer them to their customers on a single platform as a way of enabling them to access and use different decentralised financial applications (aggregators). The only bridge to the real world are usually actors known as oracles, which source external data that many applications use.

Blockchain is the organisational base layer for decentralised financial applications

The organisational base layer for decentralised financial applications is provided by a blockchain, a string of largely immutable blocks storing information on transactions with the aid of cryptographic mechanisms. Blockchains normally support the storage and transfer of what are known as native tokens, which are built directly on-chain and exist exclusively on the distributed ledger.[10] Some blockchains furthermore allow additional digital tokens to be created, e.g. for governance purposes (governance tokens), to represent unique real-world assets (non-fungible tokens, or NFTs) such as works of art, as synthetic assets (stablecoins based on crypto tokens on other blockchains or real assets), or as electronic securities. A blockchain of this kind can serve as a common settlement ledger and register for a variety of different decentralised financial applications. Crypto tokens cannot, however, be directly transferred from one blockchain to another.

It would be possible to use commercial bank money in decentralised financial applications if it could be issued by credit institutions as tokens on the base blockchain on which the applications in question are based. The same holds true for central bank money, which could theoretically be issued by central banks as

9 The terms blockchain and DLT are often used interchangeably, and the blockchain is indeed a particular type of DLT and its best-known use case. In terms of its encryption technology, validation process and consensus mechanism, blockchain is a decentralised architecture in the broadest sense of the term.
10 The Bitcoin blockchain, for instance, allows the decentralised transfer and storage of electronic tokens that exist in the form of Bitcoins. Beyond that, the underlying programming language does not support complex calculation logic, which means it is unsuitable as an organisational base layer for decentralised financial applications. See Fraunhofer-Gesellschaft (2017) and World Economic Forum (2021).

tokens, or for any other assets that could be represented by a digital token.[11]

Consensus mechanisms replace trust in intermediaries

Decentralised financial applications are normally based on public blockchains that support pseudonymised[12] use and have no access constraints (public permissionless blockchains). In order to extend the blockchain for all network participants with matching and error-free transactions, there need to be what are known as consensus mechanisms.[13] Network participants use a consensus mechanism to agree on transactions to be added to the blockchain, and in what order. The choice of consensus mechanism, then, plays a major role in the security of a blockchain and thus also in the level of security offered by the decentralised financial applications based on that particular blockchain.

Open source program code

The program code used in decentralised financial applications is open source software with source code that anyone can inspect. This means it can be used by developers as a blueprint for new projects.[14] By combining existing lines of code and adding new ones, it is possible to create new applications with relatively little programming effort. At the same time, network participants at least stand a chance of understanding how applications are designed and how they work.[15]

Oracles send external data to smart contracts

Smart contracts can only access data located within the blockchain network, but decentralised financial applications sometimes need to access external data such as foreign exchange rates and securities prices to verify when predefined terms and conditions have been met. This task is performed by oracles, which collect data from the real world, send them to the network and convert them into a format readable by smart contracts. They act as a bridge between on-chain and off-chain inputs and support a variety of use cases. The trustworthiness of oracles is of crucial importance for the level of security offered by applications and ultimately for user acceptance as well.[16] This is because smart contracts execute transactions autonomously, so erroneous external data could result in the irreversible execution of erroneous transactions.

Governance processes to facilitate administrative intervention

Decentralised financial applications are based on predefined program code, which means that, without outside involvement, they are unable to respond to unforeseeable events or changing circumstances. To nonetheless allow external administrative intervention to take place, it is commonplace to implement decentralised governance processes. For this purpose, decentralised financial applications generally use governance tokens to technically represent decision-making processes on the underlying blockchain (a set-up known as on-chain governance).[17] If proposals are made to improve the application, the bearers of these governance tokens can use a weighted voting system to decide on those proposals.[18]

Development of the market

Most decentralised financial applications based on Ethereum blockchain

Since starting in 2015, the Ethereum blockchain has established itself as the most important foundation for decentralised financial applications. It was the first blockchain enabling the deployment of complex smart contracts.[19] The applications based upon it are interoperable and benefit from a broad user and developer base, as well as the network effects that this entails.[20]

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11 See OECD (2020).
12 Pseudonymisation is the act of using a pseudonym rather than a name or similar identifying characteristics, the idea being to make it impossible to uniquely identify a network participant.
13 See Deutsche Bundesbank (2017).
14 See Jensen et al. (2021).
15 See Schär (2021).
16 See Federal Office for Information Security (2019).
17 Off-chain governance, on the other hand, enables developers to send the network participants proposals for modifying the software protocol via mailing lists or discussion forums and the like. Network participants who agree with the modifications adopt a new version of the original protocol.
18 See Schär (2021) and Jensen et al. (2021).
19 See Buterin (2013) and Schär (2021).
20 Network effects exist when the utility an individual user derives from a good or service depends on the number of other users of that good or service. Network effects are positive when increasing user numbers incentivise the use of a given good, service or technology.

Other public blockchains which support smart contracts and exhibit a comparatively high degree of decentralisation exist besides Ethereum, with examples including Tezos, Solana and Cardano.[21] Ethereum is also in the process of being upgraded to Ethereum 2.0, with a view to increasing transaction throughput and thereby cutting transaction costs.[22]

Value of liquidity lodged in decentralised financial applications can be used as rough indicator of their prominence

Total value locked (TVL) can serve as a rough indicator for the growth of decentralised financial applications. It refers to the amount of collateral deposited and liquidity provisioned by users – in the form of respective crypto tokens – in decentralised financial applications. In both cases, users temporarily deposit crypto tokens in smart contracts for the purposes of specific use cases.

In June 2019, the TVL on the Ethereum blockchain equated to an average of around US$0.5 billion; by June 2020, this value had risen to US$1.4 billion. In June 2021, the TVL tied up in the Ethereum blockchain had already reached US$58.1 billion, a development partially the result of price appreciation across a number of crypto tokens. The majority of liquidity is deposited in applications for the generation of decentralised stablecoins, in decentralised lending platforms and in decentralised trading platforms.[23]

It must be said that the TVL metric suffers from a lack of precision, however. Converted into US dollar or euro, prices for the deposited crypto tokens display a high degree of volatility. In addition, assets can end up being counted twice, for example if tokens are deposited in one application as collateral for token issuance in another application. Furthermore, in the case of certain applications, the TVL volume can only provide a limited idea of how they are actually being used. When it comes to decentralised lending platforms, for instance, the TVL does not reveal anything about what proportion of the crypto tokens deposited as liquidity are being extended as loans.

Financial use cases

Decentralised financial applications deliver broad range of financial services

The development of decentralised financial applications is still in its infancy. Use cases can be found in trade, credit-like and deposit-like transactions, and stablecoin and derivative issuance. In addition, services which could be classed under the insurance or asset management umbrella are evolving, although these currently still occupy a comparatively minor place in the ecosystem of decentralised financial applications.[24]

Decentralised trading platforms

Decentralised trading platforms only viable for the exchange of crypto tokens …

Decentralised trading platforms enable network participants who do not know each other to exchange different crypto tokens among themselves without the intervention of a central party as broker, price-setter or crypto custodian. Users retain control of their crypto tokens throughout the entire trade process, in a set-up known as non-custodial exchange.[25] In this way, users can avoid the risk that their crypto tokens – which have to be deposited when trading on centralised trading platforms – might be stolen.[26] Decentralised trading platforms only allow the exchange of crypto tokens issued via the same underlying blockchain, for example the blockchain's native token, stablecoins or governance tokens.

In technical terms, decentralised trading platforms are typically based on what are known

21 One blockchain with a comparatively low degree of decentralisation is Binance Smart Chain; only 21 network participants are involved in the creation of new blocks. See Binance (2020).
22 See ethereum.org at https://ethereum.org/en/eth2/
23 See Defi Pulse at https://defipulse.com/ and, at https://coinmarketcap.com, CoinMarketCap. These sources can serve as a sign of how the market is developing. The values quoted are not necessarily fully reliable but, for want of alternatives, are frequently referred to.
24 There are, for example, insurance products to provide cover against losses due to software bugs in decentralised financial applications. See Schär (2021).
25 See Lin (2019).
26 For a detailed examination of the dangers associated with centralised trading platforms, see Corbet et al. (2020).

… and are typically not based on an order book

as automated market-makers.[27] Liquidity pools for certain crypto token trading pairs are established using smart contracts. Network participants can provision these pools with liquidity in the form of crypto tokens. In return, they receive liquidity tokens which represent the liquidity that they have contributed. In the form of these liquidity tokens, holders generally receive the fees accrued for trades; this can be seen as compensation for the provision of liquidity. At the same time, liquidity providers bear the risk of price changes when it comes to re-exchanging the liquidity tokens for the liquidity that they have contributed. A trading transaction takes place when an asset is added to the pool and another asset withdrawn at the same time. The swap shifts the ratio of the token trading pair to each other in the liquidity pool. On the basis of an algorithm, these changes in the value ratio lead to price changes, whereby the user who carried out the exchange loses out (known as slippage loss). The greater the shift an exchange transaction produces in the value ratio of a trading pair, the greater the slippage loss. It is therefore important to have a sufficiently large pool of liquidity; otherwise, even small trading transactions would lead to high slippage loss. Since the relative prices of tokens formally change in inverse proportion to the volume ratio in the liquidity pool, they do not necessarily reflect supply and demand in the market. This gives rise to an incentive for arbitrageurs[28] to exploit price differences between trading platforms to generate profit. For example, a token whose value has dropped as a result of its being added to a liquidity pool may be purchased relatively cheaply and then sold on another trading platform.[29]

Decentralised lending platforms

Loans via decentralised lending platforms are typically collateralised, …

Decentralised lending platforms enable liquidity in the form of crypto tokens to be borrowed and lent, with interest applied.[30] To ensure that loans are repaid in spite of the anonymity of their parties, borrowers are usually required to provide collateral.[31] By means of collateralised borrowing of this kind, borrowers can leverage their own positions.[32] Those holding crypto tokens for speculative reasons, for example, can opt to pledge these as collateral. If the crypto tokens taken out as a loan also climb in value, the borrower can make a profit, provided that the amount by which the value of the borrowed crypto tokens and the borrower's collateral has increased exceeds the amount that they have had to pay in interest.[33] Depending on the application concerned, the collateralised lending is executed either via what are known as lending pools, which bundle liquidity provided by network participants in a smart contract, or directly between individual network participants.[34] Applications based on lending pools tend to be more liquid, and thus more popular. They work in a similar way to the liquidity pools of decentralised trading platforms. On account of the highly volatile and illiquid nature of many crypto tokens, borrowers often have to over-collateralise their liabilities – for example, at a rate of 150% – so as to incentivise repayment. The collateral is parked in a smart contract and then released again

27 By contrast, trade via centralised trading platforms is based on order books in which buy and sell orders are recorded in lists and matched up. As a rule, there is a constant flow of market-makers prepared to act as counterparties, which generally guarantees a high degree of liquidity. In the case of decentralised trading platforms, market-makers would – due to the underlying blockchain technology – have to pay fees for each order change and transaction, and this would quickly render market-making in the traditional sense of the term uneconomical. See Jensen et al. (2021).
28 Arbitrage describes the process of buying and selling the same asset in different markets to profit from differences in price.
29 See Daian et al. (2020) and Adams et al. (2020).
30 See DeFi Rate for an overview of the current lending and deposit rates at https://defirate.com/lend
31 See Jensen et al. (2021).
32 Leverage describes the way borrowed capital can magnify return on equity. This effect arises when capital can be borrowed at a rate of interest lower than the total return generated through the investment for which those borrowed assets are used. The collateral posted in decentralised lending platforms then corresponds to the share of equity capital.
33 See Bitkom (2020).
34 In the case of direct lending a user will deposit, for instance, NFTs as collateral in a smart contract and, in return, receives individual offers of credit from other users.

once the loan has been repaid. Most decentralised lending platforms have variable lending and deposit rates. In the case of lending pools, these rates are determined by rules-based protocols depending on the size of the pool concerned. If the pool starts to run low on liquidity, interest rates rise, creating a more pressing incentive for borrowers to repay their loans. At the same time, other network participants have a bigger incentive to supply liquidity. The same principle in reverse applies in the event of an over-abundance of liquidity.[35]

… with the exception of flash loans

Uncollateralised loans can be made, for example, in the form of a flash loan. Flash loans have to be repaid within the same blockchain block, otherwise the entire transaction is unwound. This effectively does away with the credit risk for the lender. Flash loans serve, for instance, as arbitrage instruments, in that price differences between different decentralised trading platforms are monetised. However, flash loans can also be misused to mount malicious attacks on decentralised financial applications, for example through the acquisition of governance tokens and subsequent alteration of the application's program code to benefit the attacker.[36]

Decentralised stablecoins

Decentralised stablecoins seek to be as stable in value as possible – without the need for trust in third parties

Decentralised stablecoins try to be as stable in value as possible in relation to a reference value. Unlike centralised stablecoins, such as Tether or the planned Diem, the idea is for there to be no need for trust in an issuer; in other words they are "non-custodial". Decentralised stablecoins can be backed[37] only by crypto tokens (on-chain). The stablecoin is minted by users depositing crypto tokens as collateral in a smart contract. The amount of stablecoins produced depends on the current exchange rate of the deposited collateral to the reference value, information which is obtained through an oracle. Stablecoins are typically collateralised at rates of over 100%. As a result, drops in the value of the collateral do not immediately mean losses in the value of the stablecoin. If the value of the deposited collateral falls below a certain threshold, it can be bought by third parties at an additional discount in exchange for the stablecoin. When this happens, the collateral is taken out of the smart contract and the returned stablecoin is destroyed. This mechanism is designed to prevent undercollateralisation of the stablecoin and thus keep its value stable.[38] This cannot be guaranteed, however.[39]

Decentralised derivatives

Decentralised derivatives can derive their value from any underlying asset or event

Decentralised derivatives are crypto tokens which derive their value from the performance of an underlying asset or from the occurrence of a particular event. A host of assets are suited for use as the underlying – stocks, commodities or crypto tokens of other blockchains, for example. Decentralised derivatives work in a similar way to decentralised stablecoins. However, the underlying assets of decentralised derivatives generally exhibit significant fluctuations in value, rendering collateralisation of several 100% necessary. Users deposit collateral in the form of crypto tokens in a smart contract and receive the derivative in return. Oracles feed the smart contract with information on how the underlying asset is performing.

Event-based derivatives rely on an observable variable which can have clear outcomes over a specific period of time.[40] There is a separate

35 See Aave (2020) and Schär (2021).
36 See Gudgeon et al. (2020) and Aave (2020).
37 The value of centralised stablecoins is usually kept stable by their being pegged to, and collateralised with, a genuine currency. An alternative approach to the on-chain collateralisation of decentralised stablecoins consists in the attempt to use algorithms to control the volume of the issued stablecoin or the interest rate applying to it in such a way as to hold the stablecoin's price in relation to a reference value as steady as possible. This approach is not particularly common at present, however. See Deutsche Bundesbank (2019).
38 See Klages-Mundt et al. (2020).
39 See Deutsche Bundesbank (2019).
40 A derivative of this kind was issued in respect of the outcome of the US presidential elections held in 2020. See Schär (2021).

token for each conceivable outcome. Once the event occurs, the smart contract disburses all of the staked assets to those holding the tokens that represent the outcome which has transpired.[41]

Potential for development

Fast-paced development in the field of decentralised financial applications

A multiplicity of decentralised financial applications has developed in the course of just a few years, varied both in terms of the use cases that they represent as well as in design. So far as it is possible to tell, both the amount of liquidity locked in as well as the volumes being handled are growing apace.[42] A not insignificant part of the reason why the market for decentralised financial applications is proving dynamic and innovative is that many applications are developing free from consideration of regulatory requirements or because regulatory intervention has so far had barely any inhibiting effect. This fosters the development of business models which are unsustainable or even detrimental to users in some cases.

Compared with the conventional financial system, decentralised financial applications are of quantitatively minor significance at present and, so far, they appear to have made barely any meaningful inroads in terms of relevance to the real economy. Their growth as well as the innovativeness of the solutions being developed could point towards an increasing relevance in future, however. In addition, decentralised financial applications stand before various challenges – some inherent – which could prove to be barriers to development. These include, in particular, security risks associated with the program codes used, poor incentive systems, a lack of scalability, restricted interoperability, contagion risks arising from interdependencies, insufficient governance and partly unclear or non-existent regulatory requirements.

Security

Software bugs bring security risks, …

The use of decentralised financial applications entails security risks. This is because external security checks and incentive systems are not able to eliminate the possibility of software bugs and misuse by individual network participants. The way decentralised financial applications work from a technical perspective is, in principle, transparent. Software errors (or smart contract bugs) can lead to unintended problems, however. Since individual participants do not generally have write permissions for the program code, the fixing of these errors must first be put to the network for consensus. Decentralised governance thus militates against swift and effective intervention in an emergency.[43] Bugs in the program code also offer a major attack surface for abusive conduct and examples of this have been seen in the past even when individual program codes have been checked by external security companies.[44] What follows is that trust in intermediaries must necessarily be replaced by trust in the program code functioning properly.[45]

… as do incentive systems

From an economic point of view, incentive systems are meant to stop network participants wrongfully enriching themselves at the expense of the network's other participants or acting contrary to the way that the network is intended to work.[46] An example of their use is with oracles. As an information interface with the outside world, oracles are of crucial importance for decentralised financial applications. Oracles usually receive a reward when they

41 See Schär (2021).
42 See Dune Analytics for developments in the volume of trades executed on decentralised trading platforms (https://duneanalytics.com/hagaetc/dex-metrics) and decentralised lending platforms (https://duneanalytics.com/hagaetc/lending) based on the Ethereum blockchain. The figures quoted are not necessarily fully reliable but are often used as a reference point.
43 See Klages-Mundt et al. (2020).
44 See Groce et al. (2020).
45 See Pesch (2019) and Federal Office for Information Security (2019).
46 For this to work, from a purely technical point of view, the program code must be assumed to run perfectly with no bugs.

provide correct data. This reward may take the form of, say, governance tokens. Misbehaviour, meanwhile, would be penalised by taking away governance tokens. The idea is to render the provision of incorrect or manipulated data economically unattractive, even if this cannot be completely prevented.[47]

Scalability

Public blockchains lack scalability

In the case of public blockchains, which are typically operated by a large number of network participants, there is a conflict between the twin aims of scalability and decentralisation. Compared with private blockchains, which are run by a restricted circle of network participants, transaction costs are often high and they enable a comparatively low transaction throughput. The main reason for this lies in the consensus mechanisms which they employ. As the number of network participants involved in the consensus mechanism increases, the process of reaching a consensus tends to become more secure but the cost and duration of the procedure will also rise.[48] In order to facilitate higher transaction throughput, some blockchains rely on a more centralised consensus mechanism involving a smaller set of network participants.[49] Some decentralised financial applications enable settlement of off-chain transactions which no longer need to be individually validated on the underlying blockchain ("layer 2 solutions").[50] Such procedures are similar to ancillary system settlement in the conventional payments space. A side effect – as with conventional payments – is liquidity fragmentation, however.

There is currently no effective fix for the trade-off between a high degree of scalability and a high degree of decentralisation. But without sufficient scalability, the usability of decentralised financial applications is heavily curtailed.

Interoperability

Limited interoperability between different blockchains and with systems not based on blockchain

A common infrastructure and shared standards enable a high degree of interoperability between decentralised financial applications. Moreover, smart contracts can be modified and combined in manifold ways, paving the way for new and more complex use cases. However, interoperability between different blockchains – the organisational bedrock of decentralised financial applications – as well as with other systems not based on blockchain is significantly restricted. Decentralised financial applications can interact with applications external to their ecosystem only to a limited degree and it generally requires the involvement of intermediaries. This can result in solutions being developed in isolation – contributing to fragmentation of the market and of liquidity – as well as, sometimes, market power ending up in the hands of a small number of providers. Various projects are attempting to find a solution to these limitations without the need for intermediary involvement. These are still in the early stages of development, however.[51]

Interdependencies

Problems experienced by one application can ripple out to others

The combined use of different applications produces interdependencies which, depending on the degree of integration, can entail commensurately high risks for the ecosystem as a whole. For example, a user may deposit collateral in one application, using it to obtain a stablecoin. Suppose they then place this stablecoin on a trading platform to acquire liquidity tokens; these liquidity tokens could then, in turn, be

47 See Federal Office for Information Security (2019) and Klages-Mundt et al. (2020).
48 Where data are held and updated decentrally there are physical barriers with regard to communication between network participants. These arise because only a limited amount of data can be transferred within a certain timeframe. This places a constraint on block size, and hence the number of transactions which can be processed per block. See Federal Office for Information Security (2019).
49 See, for example, Binance (2020).
50 See Schär (2021).
51 See European Central Bank (2021).

lent via a lending platform. Such operations create chains of dependence. These chains harbour contagion risks which may be triggered, for example, by particularly volatile market developments pertaining to the crypto tokens concerned or through technical problems such as in the event of a software bug.[52] The risks stemming from interdependencies within public blockchains demand particular attention.[53]

Governance

Effective governance requires centralised elements

Decentralised governance essentially means that all stakeholders are jointly and equally responsible for changes to the program code or for averting threats. However, the bulk of applications are based on decentralised governance processes founded on collective voting procedures using governance tokens. Decentralised financial applications often begin life with a higher degree of centralisation than is ultimately aspired to as the original developers retain larger shares of governance tokens or earmark them for investors.[54] There is also a risk of individual agents using governance tokens to obtain a majority of votes and modify the program code to their advantage (governance attack).[55] This danger is heightened by network participants' pseudoanonymity and the associated lack of transparency when it comes to decision-making structures. Risks of this kind could be addressed by implementing program changes with a system time delay. This would, at least theoretically, give network participants enough time to exit if they disagreed with the changes. But, at the same time, delaying the implementation of program changes leads to sluggishness in the system.[56]

Regulation

Addressee of regulatory requirements in the context of decentralised financial applications unclear

Decentralised financial applications are often not captured by existing regulation, especially as the term decentralisation is sometimes interpreted in different ways. Even regulatory provisions that should otherwise be applicable often cannot be sufficiently enforced as there are no natural or legal persons to act as addressee, meaning no one can be held responsible or liable for any damages.[57] The possibility that providers will attempt to obscure their actual central governance by referring to the decentralisation of an application in order to evade any regulation also cannot be ruled out.[58] Regulators are thus faced with a series of by no means trivial issues.

– What functions of decentralised financial applications and their underlying blockchains are covered by existing regulatory frameworks and which require regulation?

– What parties (e.g. developers, holders of governance tokens, users) can be subject to regulation? How can they be identified?

– Which jurisdiction is responsible for an application without a legal seat? Can an effective international framework be developed to prevent regulatory arbitrage?

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52 See Gudgeon et al. (2020) and Schär (2021).
53 For example, in the conventional financial system, Regulation of the European Central Bank (EU) No 795/2014 requires systemically important payment systems (SIPS) established in the euro area to identify critical participants who could present a risk for the entire system if they were to default.
54 See Bitkom (2020) and World Economic Forum (2021).
55 See Klages-Mundt et al. (2020) and Gudgeon et al. (2020). This potential risk can also result in, for example, providers of collateral pushing up the value of governance tokens to reduce the risk of a damaging attack and to protect their collateral. This runs counter to the actual purpose of governance tokens, i.e. the collective management of the application.
56 See Schär (2021).
57 The European Commission published its digital finance package on 24 September 2020. This includes, amongst other things, legislative proposals for the regulation of crypto tokens and stablecoins that are not subject to any other existing European regulation, as well as a proposal for a pilot regime for market infrastructures based on DLT. In their current versions, both proposed regulations essentially address issuers of crypto tokens, certain service providers and market infrastructure operators – i.e. specific legal persons. The decentralised financial applications considered here and the blockchains underlying them would thus not fall under the regulations included in the digital finance package.
58 See Walch (2019).

– How can regulation be effective and, at the same time, sufficiently technology-agnostic as to allow for secure innovations?

– How can networks be identified whose agents only give the impression of decentralisation to evade regulation, for example?

In some cases, regulatory regimes already exist for the interfaces between decentralised networks and the conventional financial system, such as centralised trading platforms. A particular focus here is the purchase and sale of crypto tokens in exchange for commercial central bank money, with regulation seeking to combat money laundering and terrorist financing, for instance.[59]

Regulatory treatment could boost growth of decentralised financial applications

A clear framework which also includes participants in decentralised financial applications with core functions (e.g. oracles) could provide legal certainty and thus protect the interests of consumers and investors. Regulation and the trust it establishes could thereby boost the appeal and acceptance of decentralised financial applications. At the same time, it would contribute to the stability of the system and, given the increasing degree of interconnectedness, ultimately also the financial system as a whole. In this context, regulators worldwide should collaborate to prevent opportunities for regulatory arbitrage so that existing risks are regulated equally, irrespective of the technology employed and different providers. This would create a level playing field for decentralised networks vis-à-vis conventional financial market agents. Regulation could be a precondition for sustainable growth as it is likely a necessary step in bringing decentralised financial applications to the attention of a broader set of users.

Potential implications

Links to the conventional financial system and possible impact

Decentralised financial applications can promote innovation in the conventional financial system …

Decentralised financial applications might prove to be drivers of innovation for the economy as a whole by stimulating technological developments in the conventional financial system, too.[60] Decentralised financial applications could also help tap into new business areas or contribute to developing hybrid business models through the combination of decentralised and centralised elements.[61]

… as links between both spheres are possible

As things stand, there are barely any major links to be seen between conventional financial actors and decentralised financial applications on account of the fact that the latter are still at such a premature stage of development. Nevertheless, if the use and prevalence of decentralised financial applications increases, this could have an impact on the financial system and the role of the central bank. For this to happen, however, the described constraints of decentralised financial applications would have to be removed.

There are four ways in which decentralised financial applications may conceivably seep into the conventional financial system.

– Technologies employed by decentralised financial applications could be absorbed by the conventional financial system.

– Individual decentralised financial applications could centralise and become part of the conventional financial system as new competitors. A greater degree of centralisation means that key agents could more easily be covered by regulatory regimes, allow-

59 See Deutsche Bundesbank (2019).
60 See Teis (2020).
61 See Brühl (2021).

ing some of the obstacles to development to be overcome.

– Financial services provided by decentralised financial applications that are not offered in the conventional financial system could complement the supply of services. In such a scenario, the conventional financial system could offer its customers access to decentralised financial applications or link these applications to the services it provides.

– Decentralised financial applications could crowd out parts of the conventional financial system on account of more efficient services or a lack of parity in regulation.

Decentralised financial applications can yield benefits for financial stability, …

Potential effects on the stability of the financial system depend on a number of factors and are difficult to gauge at the current stage of development.[62] In principle, increased competition that improves capital and risk allocation, and decentralisation of such exposures as have so far been focused on individual or handfuls of actors would be welcome. As a result, the systemic importance of individual actors and the accumulation of large exposures could be reduced. In addition, the use of different technologies in the world of finance can limit the risks, such as in the form of cyberattacks.

… but also harbour risks

However, decentralised financial applications can also lead to new vulnerabilities due to inherent weaknesses regarding infrastructure, the technology used and potential links to the conventional financial system, for instance. It is often impossible to adequately assess the way individual applications work, their response in the event of market turmoil as well as potential interdependencies with other applications and agents. Furthermore, concentration, liquidity and maturity transformation risks, for example, may arise just like in the conventional financial system. Additionally, the potential outflow of liquidity from the conventional financial system to decentralised financial applications may give rise to structural changes in the financial system. The automatic mechanisms in decentralised financial applications could also contribute to procyclical developments, particularly in times of crisis. Mechanisms of this kind can come into play, for instance, if a sudden decline in the value of crypto tokens used as collateral for loans or stablecoins triggers automated margin calls. If these calls are not met, self-reinforcing liquidation spirals could ensue if loans or stablecoins are, for their part, used as collateral for other transactions.

Liquidity crises can be amplified

Decentralised financial applications could make the provision of liquidity and the function as lender of last resort, which is based upon this, more difficult for central banks. In this capacity, central banks can provide illiquid but solvent financial institutions with liquidity in the form of central bank money to offset temporary liquidity shortages that could otherwise escalate into a liquidity crisis.[63] A financial system with decentralised financial applications, alternative and less transparent market structures and reduced dependence on the conventional cash cycle, and therefore also on central bank money, could prove to be more fragile compared with the current financial system and could increase the risk of liquidity crises.

Competition and innovation in the financial system

Welfare losses through monopolies could be lessened

Conventional financial intermediaries contribute fundamentally to reducing market participants' transaction costs – in favour of overall economic welfare.[64] However, network effects can cause individual financial intermediaries to gain dominant market positions, which, in turn, may lead to monopoly rents being extracted. Competition with regard to certain financial services and in the payments space could benefit from new providers in the form of decentralised financial applications. In addition, the decentralised nature of their govern-

62 See Financial Stability Board (2019) for a more detailed discussion on the following remarks.
63 See Financial Stability Board (2019).
64 See Benston und Smith (1976).

ance structures could make it hard for them to monetise a dominant market position. This could lessen welfare losses stemming from high market concentration on the provider side.[65]

New technologies promise reduction in transaction costs

Technological advancements could help DLT to realise its potential for reducing process and transaction costs in a broader sense. Transactions in decentralised financial applications could better ensure the execution of contractual services and reduce the need for custodians and central counterparties. This could result in costs being saved and inefficiencies remedied.[66]

Complex technology obstructs consumer sovereignty

As already indicated, however, trust in intermediaries, legal frameworks and institutions needs to be replaced by trust in decentralised systems. Although transparency exists in decentralised financial applications, relevant expertise is also required. It is highly unlikely that the majority of end users will be capable of understanding the program codes within a reasonable period of time. Compared with conventional finance applications, it can be harder for users to understand products as a result. Users have to trust that qualified individuals – in other words, trusted third parties after all – monitor the program code to avoid software bugs or damaging attacks occurring. Otherwise, decentralised financial applications will not be able to successfully reduce the transaction costs in an economy.

High degree of inherent innovative potential …

If decentralised financial applications grow in importance, a number of conventional business models in the financial sector could come under pressure. This could be fuelled by an environment free from regulation and therefore conducive to innovation. Unlike in the conventional financial system, there are low barriers to market entry as a result of often unenforceable or non-existent regulation and low investment expenses for new program code. Furthermore, open source program code and the ability to combine applications open up the possibility of strong momentum for enhancements, which do not require the permission of the original developers.[67]

… could be hindered due to lack of monetisation possibilities

However, there is a risk that the economic incentives are insufficient for sustainable dynamic growth. Achieving positive returns from corresponding investment in projects concerning decentralised financial applications might tend to prove difficult since existing code can be copied and newly published with minor modifications.[68] Owing to a lack of licensing income, the labour-intensive development of innovative solutions with the objective of harvesting profits in future would therefore carry significant risks. Nevertheless, developers could attempt to generate returns using additional services, such as consultancy or by providing services in the area of software support.[69]

Overall, financial uncertainty does not currently appear to be slowing down the dynamism pushing forward innovation in the field of decentralised financial applications. Furthermore, many of the innovative developments could also be transferred to existing centralised systems. This represents possibly the greatest technological potential for existing economic structures given the inherent problems associated with complete decentralisation.

A number of established enterprises could absorb innovations or offer interoperability with their own applications in combination with the implementation of DLT. Regulatory uncertainties and the need for a high level of cooperation among competitors to create interoperable infrastructures may stand in the way of this.[70]

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65 See Pike and Capobianco (2020) for comparable effects for public blockchains.
66 See Schär (2021).
67 See Chen and Bellavitis (2020).
68 In a vampire attack, the program code from an application is copied, tweaked slightly and then published. Users are given an incentive to switch to the new application by being rewarded with governance tokens. See Berg (2021).
69 See Chaum et al. (2021).
70 See World Economic Forum (2021).

Conclusion

Decentralised financial applications support an ever broadening range of financial services. Creative business models and types of enterprises are of particular interest alongside new technology. Fast-moving innovation and rapid growth could imply an increasing impact of decentralised financial applications on the conventional financial system.

However, numerous challenges and risks arise from the decentralised structure, which can act as obstacles to growth. By tendency, many barriers could be mitigated through forms of centralisation, such as organised governance.

Increasing integration with the conventional financial system is conceivable as a further stage of development. This could result in stronger competition accompanied by lower transaction costs. At the same time, risks for the financial system may emerge, making regulatory adjustments necessary, although regulation of decentralised financial applications represents a particularly challenging undertaking in this context. In the light of this, the evolution and macroeconomic impact of decentralised financial applications should be the object of greater investigation and scrutiny.

List of references

Aave (2020), Aave Protocol Whitepaper V2.0, December 2020, available at https://github.com/aave/protocol-v2/blob/master/aave-v2-whitepaper.pdf

Adams, H., N. Zinsmeister and D. Robinson (2020), Uniswap v2 Core, March 2020, available at https://uniswap.org/whitepaper.pdf

Benston, G. J. and C. W. Smith (1976), A Transactions Cost Approach to the Theory of Financial Intermediation, Journal of Finance, Vol. 31, No 2, pp. 215-231.

Berg, C. (2021), Rent Seeking in Blockchain Governance: The Awkward Transition From Market Decision Making to Non-market Decision Making, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3801103

Binance (2020), Binance Smart Chain: A Parallel Binance Chain to Enable Smart Contracts, June 2020, available at https://github.com/binance-chain/whitepaper/blob/master/WHITEPAPER.md

Bitkom (2020), Decentralized Finance (DeFi) – A new Fintech Revolution?, available at https://www.bitkom.org/sites/default/files/2020-07/200729_whitepaper_decentralized-finance.pdf

Brühl, V. (2021), Decentralised Finance (DeFi) – wie die Tokenisierung die Finanzindustrie verändert, CFS Working Paper Series, No 655.

Buterin, V. (2014), DAOs, DACs, DAs and More: An Incomplete Terminology Guide, available at https://blog.ethereum.org/2014/05/06/daos-dacs-das-and-more-an-incomplete-terminology-guide/

Buterin, V. (2013), A Next-Generation Smart Contract and Decentralized Application Platform, available at https://ethereum.org/en/whitepaper/

Chaum, D., C. Grothoff, and T. Moser (2021), How to issue a central bank digital currency, SNB Working Papers, 2021/03.

Chen, Y. and C. Bellavitis (2020), Blockchain disruption and decentralized finance: The rise of decentralized business models, Journal of Business Venturing Insights, Vol. 13.

Corbet, S., D. J. Cumming, B. M. Lucey, M. Peat and S. A. Vigne (2020), The destabilising effects of cryptocurrency cybercriminality, Economics Letters, Vol. 191.

Daian, P., S. Goldfeder, T. Kell, Y. Li, X. Zhao, I. Bentov, L. Breidenbach und A. Juels (2020), Flash Boys 2.0: Frontrunning in Decentralized Exchanges, Miner Extractable Value, and Consensus Instability, 2020 IEEE Symposium on Security and Privacy (SP), San Francisco, pp. 910-927.

Deutsche Bundesbank (2021), Digital money: options for payments, Monthly Report, April 2021, pp. 57-76.

Deutsche Bundesbank (2019), Crypto tokens in payments and securities settlement, Monthly Report, July 2019, pp. 39-60.

Deutsche Bundesbank (2017), Distributed ledger technologies in payments and securities settlement: potential and risks, Monthly Report, September 2017, pp. 35-49.

European Central Bank (2021), The use of DLT in post-trade processes, Advisory Groups on Market Infrastructures for Securities and Collateral and for Payments, April 2021.

Federal Office for Information Security (2019), Blockchain sicher gestalten, available at https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/Krypto/Blockchain_Analyse.pdf?__blob=publicationFile&v=3

Financial Stability Board (2019), Decentralised financial technologies, June 2019, available at https://www.fsb.org/wp-content/uploads/P060619.pdf

Fraunhofer-Gesellschaft (2017), Blockchain und Smart Contracts, available at https://www.sit.fraunhofer.de/fileadmin/dokumente/studien_und_technical_reports/Fraunhofer-Positionspapier_Blockchain-und-Smart-Contracts.pdf?_=1516641660

Grassegger, H. (2016), Die erste Firma ohne Menschen, Zeit Online, 26 May 2016.

Groce, A., J. Feist, G. Grieco and M. Colburn (2020), What are the Actual Flaws in Important Smart Contracts (And How Can We Find Them)?, in J. Bonneau and N. Heninger (eds. 2020), Financial Cryptography and Data Security, Lecture Notes in Computer Science, Vol. 12059, pp. 634-653.

Gudgeon, L., D. Perez, D. Harz, B. Livshits and A. Gervais (2020), The Decentralized Financial Crisis, 2020 Crypto Valley Conference on Blockchain Technology (CVCBT), pp. 1-15.

Jensen, J. R., V. von Wachter and O. Ross (2021), An Introduction to Decentralized Finance (DeFi), Complex Systems Informatics and Modelling Quarterly, Vol. 26, pp. 46-54.

Klages-Mundt, A., D. Harz, L. Gudgeon, J.-Y. Liu and A. Minca (2020), Stablecoins 2.0: Economic foundations and risk-based models, in Proceedings of the 2nd ACM Conference on Advances in Financial Technologies, pp. 59-79.

Lin, L. (2019), Deconstructing Decentralized Exchanges, Stanford Journal of Blockchain Law & Policy, Vol. 2, No 1, pp. 58-77.

Ludwin, A. (2017), A Letter to Jamie Dimon and anyone else still struggling to understand cryptocurrencies, Chain blog post, 16 October 2017.

Nakamoto, S. (2008), Bitcoin: A Peer-to-Peer Electronic Cash System, available at https://bitcoin.org/bitcoin.pdf

OECD (2020), The Tokenisation of Assets and Potential Implications for Financial Markets, available at http://www.oecd.org/finance/The-Tokenisation-of-Assets-and-Potential-Implications-for-Financial-Markets.pdf

Pesch, P. J. (2019), Blockchain, Smart Contracts und Datenschutz, in M. Fries, B. P. Paal (eds. 2019), Smart Contracts, pp. 13-23.

Pike, C and A. Capobianco (2020), Antitrust and the trust machine, available at http://www.oecd.org/daf/competition/antitrust-and-the-trust-machine-2020.pdf

Santos, F. (2018), The DAO: A Million Dollar Lesson in Blockchain Governance, MA thesis, Tallinn University of Technology.

Schär, F. (2021), Decentralized Finance: On Blockchain- and Smart Contract-Based Financial Markets, Federal Reserve Bank of St. Louis Review, Second Quarter 2021, Vol. 103, No 2, pp. 153-174.

Szabo, N. (1997), Formalising and Securing Relationships on Public Networks, available at https://journals.uic.edu/ojs/index.php/fm/article/view/548/469

Teis, S. (2020), How has crypto contributed to the transformation of the financial service industry? Will DEFI bring the next innovation boost?, available at https://medium.com/@stefan.teis_25337/how-has-crypto-contributed-to-the-transformation-of-the-financial-service-industry-5e6fb8e042e2

Walch, A. (2019), Deconstructing "Decentralization": Exploring the Core Claim of Crypto Systems, in C. Brummer (ed. 2019), Cryptoassets: Legal, Regulatory, and Monetary Perspectives, pp. 39-51.

World Economic Forum (2021), Decentralized Finance (DeFi) Policy-Maker Toolkit, White Paper, June 2021, available at http://www3.weforum.org/docs/WEF_DeFi_Policy_Maker_Toolkit_2021.pdf

Digital risks in the banking sector

The advancing digitalisation of the world in which we live and work is putting German banks to the test. The resulting intensification of competition in financial services as well as customers' expectations have been putting them under significant pressure to adapt and evolve for a number of years now. New technologies such as artificial intelligence and the widespread use of scalable cloud services are accelerating the digital transformation. Information technology's current support of banking processes will become more pronounced as a result.

Over the course of the digital transformation, it is important not to lose sight of security, particularly in view of the fact that banks are increasingly becoming a target for professional hackers. Banks need to ensure that their customers' data are available at all times, secured against unwanted changes and protected against unauthorised access. Technology alone is not enough to stay ahead of digital risks. The human component as well as technical and organisational measures, together with well-structured, effective and interlinked processes, are the key factors for success.

To ensure that the scope needed to implement measures is always available, banking supervisors rely on an approach to regulation and oversight that is oriented around principles and processes. In this context, expectations are outlined in greater detail in a technology-neutral manner in the circulars Minimum Requirements for Risk Management (MaRisk) and the Supervisory Requirements for IT in Financial Institutions (Bankaufsichtliche Anforderungen an die IT – BAIT). These also make it possible to effectively supervise bank-internal processes based on current and future technological developments such as cloud computing and artificial intelligence.

Within the framework of the supervisory review and evaluation process (SREP), in particular by conducting inspections at banks, the Bundesbank assesses not only financial risks but also non-financial ones, such as digital risks. Although steady improvements can be seen in risk management processes, basic vulnerabilities and a need for improvement are identified time and again when it comes to addressing digital risk – particularly with respect to information risk management, information security management, and outsourcing management – and these are monitored closely by supervisors.

Digitalisation will continue to shape societal and economic developments, and the pace of technological change will remain high, especially in the banking sector. The Bundesbank has always taken a positive view of technological progress among banks, as digital innovation bolsters German banks by rendering them more competitive and profitable, and therefore more stable and resilient. Banks' long-term success nevertheless depends heavily on the consistent and proper use of innovative technologies. The Bundesbank will continue to promote the principles-based and technology-neutral regulation of digital risks at both the European and global levels. Technological progress needs to be facilitated, as does the proportionate and autonomous implementation of regulation at institutions. Only if institutions take the initiative and face up to the opportunities and risks presented by digitalisation in a confident and balanced manner will it be possible to safeguard the functioning of the financial system over the long term.

Digitalisation is changing banking

Information technology defines banking business

The way in which banks operate has always been highly influenced by the technology that is available. Nowadays, a functioning and modern information technology (IT) infrastructure is essential for an ever larger proportion of financial services and products.

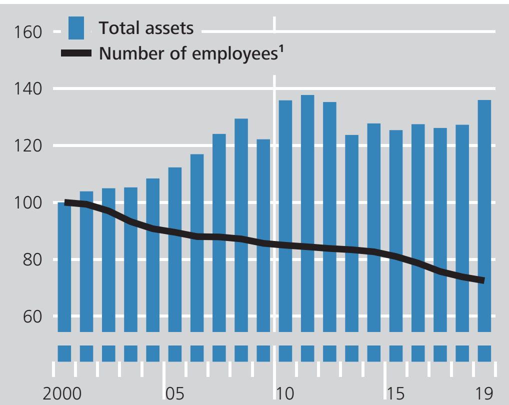
For example, the number of employees in the German banking industry has fallen continuously over the past two decades, while total assets have risen by approximately 50% over the same period. This productivity boost was made possible not least due to the increased use of IT. Today, running a bank without IT is unimaginable.

Digitalisation creates new opportunities …

The sharp rise in the performance and interconnectivity of IT over the past few decades has made it possible to transfer and process huge volumes of data in very short spaces of time. Technologies such as artificial intelligence and machine learning use these volumes of data to carry out increasingly sophisticated processes, tasks and analyses in an autonomous and highly automated manner. Furthermore, new applications are continuously being developed through agile methods by drawing on their iterative and incremental approaches.

Total assets and employees in the German banking industry

2000 = 100



1 Source: Statista.
Deutsche Bundesbank

These organisational and technological innovations are sustainably transforming not only the expectations of bank customers, but also the way in which financial services are offered and provided.

… accompanied by a sharper division of labour

Digitalisation is also accompanied by a division of labour that was not possible in the past. Today, more than ever, banks can decide whether they provide services themselves or procure them from third parties. For example, specialist banking applications, including core banking systems, no longer need to be developed by banks themselves, but can instead be purchased from third parties and even run on their external IT infrastructure. Globally active providers thus offer quick, flexible and straightforward access to computer resources with almost unlimited options for customisation (see the box on pp. 51 ff.).

Institutions face rising pressure to adapt …

At the same time, the intense competitive environment has, for a number of years now, been putting strong pressure on institutions to adapt both themselves and consequently their business models. Through the continued transformation and outsourcing of operating processes, banks are hoping particularly to achieve shorter provisioning times, better service quality and lower operating costs.

… not least owing to COVID-19 pandemic

The COVID-19 pandemic has considerably ramped up the trend towards digitalisation once again. For example, services have had to be provided to customers increasingly via digital channels for more than a year now. Simultaneously, an as yet unknown number of employees have been working from home. To make this possible, institutions were forced to invest more heavily in new hardware and software and to digitise previously analogue processes.

Bundesbank promotes digital innovation through various initiatives …

The Bundesbank has always taken a positive view of technological progress among banks. This also holds true for digitalisation because digital innovation bolsters German banks, making them more competitive and profitable, and

Cloud computing

The trend towards outsourcing information technology (IT) processes has been picking up pace for a number of years now and is having a positive impact on digital transformation in the financial sector. As a result, the market has seen the emergence of new specialised service providers and technologies. The new tasks facing banks, supervisors and service providers stemming from digital transformation and how these can be managed can be illustrated using cloud computing as an example.

The use of third-party IT services is generally classed as outsourcing in cases where third parties are appointed to carry out bank transactions as well as financial or other institution-specific services.

The legal provisions pertaining to institutions' risk management of outsourcing and other external procurement of IT services are set out in Sections 25a and 25b of the German Banking Act *(Kreditwesengesetz)* and are outlined in greater detail in the BaFin Circular on the Minimum Requirements for Risk Management (MaRisk), and the Supervisory Requirements for IT in Financial Institutions (BAIT).

Outsourcing to cloud service providers

Shorter technology cycles, mounting cost pressure and specialisation are all reasons for institutions to outsource IT activities and processes, especially to providers of cloud services. Moreover, cloud services also provide smaller institutions with an efficient means to access modern technology, such as artificial intelligence and machine learning.

The US standards agency NIST (National Institute of Standards and Technology) defines cloud computing as "a model for enabling convenient, on-demand network access to a shared pool of configurable computer resources (e.g. networks, servers, storage systems, applications and services) that can be provisioned rapidly and released with minimal management effort or service provider interaction."[1]

Cloud computing provides standardised IT services thus enabling such services to be provisioned with the highest degree of automation possible. Given customers' flexibility to use and scale these IT resources as required, institutions also hope that their cost structures will become more efficient as a result. In addition to increased flexibility, institutions are aiming for greater freedom in procuring services as well as improved availability and performance compared with their own IT infrastructures, which have usually evolved over a longer period of time.

Compared with 2018, when 91% of institutions still chose to operate their IT infrastructure themselves, according to a study conducted by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft ("PwC") more and more institutions are now turning to third-party IT services.[2] Here a small number of large enterprises dominate the market; they share almost 60%[3] of the global supply of cloud computing services.

Outsourcing to cloud service providers is, in general, subject to the same requirements regarding the management of outsourcing

1 See Federal Office for Information Security (2021).
2 See PwC (2021).
3 See Statista (2021).

and services as outsourcing to other (IT) service providers. The Federal Financial Supervisory Authority (BaFin) and the Bundesbank have formulated a joint assessment on outsourcing to cloud service providers and published this in a Guidance.[4]

Risks, challenges and current developments

Institutions that outsource to cloud service providers also have to set up processes to manage the risk arising from inadequate or failed internal processes, people and systems or from external events, including legal risk (operational risk).

If an institution wants to use cloud services, the impact of cloud computing has to be considered from the outset, starting as early as in the strategy process. Before migrating to cloud services, the IT landscape usually has to be standardised and internal processes adapted.

From the Bundesbank's perspective, but also from the perspective of the institutions' risk management and internal control functions, outsourcing to cloud service providers also presents particular challenges with regard to monitoring and managing outsourced services and the service provider itself. This results, in particular, from the size and complexity of the organisation, and the technology used by the large cloud service providers.

When using cloud computing, there is a risk that an institution – for legal, organisational or technical reasons – may become tied to one provider and can only switch to another provider with great difficulty (a state known as "vendor lock-in"). Supervisors expect institutions to consider these risks and analyse potential alternatives before concluding a contract.

Institutions are further hampered by their limited negotiating power with cloud service providers operating on an international or inter-sectoral scale. At the same time, cloud service providers are confronted with a large number of – essentially – similar requirements from the financial and banking sector.

The internal audit function of an institution has to examine and assess in a risk-oriented and process-independent manner the effectiveness and appropriateness of the risk management system and of the internal control system as well as the appropriateness of all activities and processes in general, even if they have been outsourced. Due to the size and complexity of cloud service providers, this is virtually impossible for individual institutions to achieve by themselves, which can obstruct audit activities.

Institutions are therefore increasingly turning to pooled audits, an approach already established under the Minimum Requirements for Risk Management (MaRisk). Auditors from several institutions come together to conduct on-site audits of cloud service providers in order to pool know-how and secure an efficient use of resources where audit areas overlap.

An institution must nevertheless still ensure that its contract monitoring, risk management and internal audit can keep pace with developments in IT and outsourcing. This also requires looking at the cloud service provider's structures, processes and tools in place to ensure transparency, for instance in the case of security incidents, at the extent to which risk-mitigating measures have been implemented and at test and audit results.

4 See Federal Financial Supervisory Authority (2018).

For supervisors, it will become increasingly important to analyse institutions' dependency on IT services. Concentration risk could lead to systemic risk. The European Banking Authority's Guidelines on outsourcing arrangements, which have currently been implemented in the German Banking Act and the corresponding statutory orders as well as in MaRisk, address this inter alia with new requirements to set up an outsourcing register for institutions and to report outsourcing information to supervisors.

therefore more stable and resilient. The Bundesbank itself is taking numerous initiatives in order to better fulfil its stability mandate through the use of digital technologies, including in the field of banking supervision.

… networks internally and in the central banking community …

Digital innovation is not primarily concerned with technology per se, but rather with how to use it in a meaningful way. As a result, the Bundesbank has set up a common platform within the Eurosystem for cooperation across business units on projects and topics surrounding the digital transformation at the Bank. In cooperation with the Banque de France, the Bundesbank runs the Eurosystem's BIS Innovation Hub in Frankfurt, which focuses on modern technologies aiming to support financial supervision (SupTech and RegTech) as well as cybersecurity and sustainability issues (green finance).

… and beyond

The Bundesbank also has networks outside of the central banking community, such as in the start-up scene, where it is an institutional partner of the TechQuartier innovation platform in Frankfurt, which brings together enterprises, innovators, academic institutions, as well as the financial and public sectors. This may provide the Bundesbank with additional impetus when coming up with ideas for its own digitalisation projects and also allows the Bank to pass on its own experiences.

Use of technology must not jeopardise security

However, new technologies and types of procurement must not endanger the institutions' security. Dependence on functional and secure IT has risen, as failures in key IT systems, such as core banking, payment or trading systems, can have a severe impact on the ability of an institution to provide its services. Customers become particularly aware of this when online banking or cash machines do not function as normal, or when payments or security orders are executed incorrectly or not executed at all. The threat of cyberattacks is another growing challenge for institutions and the wider financial system. Hackers are benefiting from the growing level of technical complexity and are themselves becoming more professional in terms of how they operate. Hackers are particularly interested in payment systems, which can be targeted in order to fraudulently transfer funds, for example, and in core banking systems, which are a prime target for extortion due to the damage that could be caused by taking them down. If hackers gain access to business-critical data, they encrypt these data using ransomware, for instance, so that they can then demand a ransom for their decryption. Furthermore, attacks can take down or otherwise interfere with a bank's key IT systems for communicating with customers, such as its website or email system.

Protection against digital risks required

The broad application and intensive use of IT therefore call for a greater focus on compliance with the necessary security requirements. Banks need to manage the digital risks associated with digitalisation in a reliable way, which means that their and their customers' data are available at all times, secured against unwanted changes and protected against unauthorised access.

Outlook of banking and financial supervision on digital risks

Supervisory approach to digital risks

The financial system is intended to ensure the efficient and cost-effective provision of financial resources and services to economic agents and individuals. Banking supervisors are tasked with monitoring the business activity of credit institutions by guaranteeing the efficiency and stability of the banking system.

Secure use of IT requires the successful combination of human components with organisational and technical measures – it is therefore not enough to focus solely on technology. In addition, well-structured and effectively implemented processes are a key factor for success in managing digital risks. Supervisors are thus taking an approach that is targeted towards analysing systems, not only with regard to the functioning of individual elements of risk management, but with respect to how these elements interact with each other within the risk management system and how they are embedded in the bank's integrated performance and risk management strategy.

Supervisors pursue holistic approach and require appropriate risk management processes

Institutions need to limit digital risks

As with other material risks, an approach towards regulation and monitoring that is based on principles and processes has proven to be effective. For instance, the organisational duties under Section 25a and Section 25b of the German Banking Act *(Kreditwesengesetz)* are intended to ensure that credit institutions have adequate risk management, and this also covers outsourced processes.

BAIT requirements flesh out expectations regarding governance of digital risks …

The circulars issued by the Federal Financial Supervisory Authority (BaFin) on the Minimum Requirements for Risk Management (MaRisk) and Supervisory Requirements for IT in Financial Institutions (*Bankaufsichtliche Anforderungen an die IT* – BAIT) outline in greater detail the expectations of the Banking Act in a technology-neutral manner. They reflect European requirements and the supervisory experience gleaned from IT inspections.

… reflect international requirements and many years of experience from inspections …

The Bundesbank and BaFin collaborate closely in drafting the circulars. Amongst other things, the Bundesbank relies on its practical experience gained from conducting on-site inspections. This, alongside discussions in expert panels and public consultations, has made it possible to structure the regulatory framework in line with practice. The specific information in the circulars is not exhaustive, as institutions also need to be aligned with the current standards and best practices on how to deal with digital risks.

These supervisory requirements are formulated on the basis of principles and leave it to the in-

What are the prudential requirements for IT in banks?
Selected topics from the 2021 BAIT amendment

MaRisk[1]	BAIT[2]
Strategies Internal control system Organisational guidelines Documentation Staff Reports Technical and organisational resources Segregation of duties Adjustment processes Outsourcing Business continuity management	**IT strategy** – Management is responsible for the IT and information security strategies – Orientation of IT and information security in line with established standards
	IT governance – Effective IT organisational and operational structure – Risk control processes and adequate allocation of resources
	Information risk management – Up-to-date overview of IT systems and their dependencies – Regular review of the implementation of security measures
	Information security management – ISO[3] is responsible for defining and monitoring security measures – Regular review, awareness-raising and training on information security
	Operational information security – State-of-the-art security measures and processes – Permanent monitoring and independent review of IT system security
	Identity and access management – Access to IT systems and premises are restricted and monitored – Regular review of access rights granted
	IT projects and application development – Management and monitoring of IT projects/project portfolio – Secure development of application incl. comprehensive tests and documentation
	IT operations – Monitoring of IT systems, regulated implementation of changes and troubleshooting – Reliable data backup and management of capacity needs
	Outsourcing and other external procurement of IT services – Management of risks arising from other external procurement of IT services – Regular review of risk assessments and contracts with service providers
	IT service continuity management – Identification of time-critical IT processes and precautionary measures for their failure – Annual review of the efficacy of these precautionary measures
ZAIT[4]	**Management of relationships with payment service users** – Duty to provide information on security-related aspects to payment service users – Payment service users must receive technical and organisational support

1 Minimum Requirements for Risk Management. **2** Supervisory Requirements for IT in Financial Institutions. **3** Information security officer. **4** Payment services regulatory requirements for the IT of payment and e-money institutions.

Deutsche Bundesbank

… and permit new technologies and methods

stitutions themselves to decide which technologies or methods they wish to employ. This means that current developments such as cloud computing are also regulated in principle. The principles-based requirements even allow effective supervision of artificial intelligence and machine learning. In this context, it is essential to identify new methods and risks early on and to direct supervisors' focus towards them (see the box on pp. 57 ff.).

The Bundesbank's role in addressing digital risks in the banking sector

Operational banking supervision in Germany conducted by Bundesbank

Working in conjunction with BaFin, the Bundesbank supervises around 1,650 credit institutions in Germany. Cooperation in the off-site supervision of institutions is governed by Section 7(1) of the Banking Act and the Prudential Supervisory Guideline *(Aufsichtsrichtlinie)*. The bulk of the Bundesbank's work is carried out in its nine regional offices, in geographical proximity to the institutions. Since 2014, the Bank has also been part of the Single Supervisory Mechanism (SSM) for the supervision of significant institutions (SIs) in Europe, in which it also plays an important operational role through its participation in joint supervisory teams.

Information on digital risks assessed through off-site supervision

The cornerstone of supervisory activity is the supervisory review and evaluation process (SREP). In addition to financial risks, non-financial risks, including those of the digital variety, are also assessed within this framework. Starting this year, the information required for this purpose has been collected not only from SIs[1] but also directly from less significant institutions (LSIs) using a structured questionnaire. This is used as a basis for performing a supervisory assessment of the potential digital threat facing an institution and how this is handled in the institution's internal risk management system.

On-site inspections provide the Bundesbank with a deep insight into institutions' business operations and, in particular, their risk management. The Bundesbank's inspections are commissioned by BaFin in the case of LSIs and by the European Central Bank in the case of SIs. For IT inspections, the scope of the inspections relates to the organisational and technical requirements set out in Sections 25a and 25b of the Banking Act and the further details on these provided in the MaRisk and BAIT circulars. These system inspections are designed to assess the adequacy of risk management in light of the specific circumstances of each institution. The resulting ability to gain an overall picture of an institution's digital risks as well as the process-oriented approach to IT inspections has proved to be a very effective way of working for the Bundesbank.

On-site inspections provide comprehensive overview of digital risks and reveal potential for optimisation

Over the last decade, the Bundesbank's inspections of institutions and their IT service providers have increasingly focused on IT-related aspects and identified or brought about steady improvements in risk management processes. However, they frequently also detect fundamental vulnerabilities, problem areas and points for improvement with respect to addressing digital risks. Since 2010, the Bundesbank has carried out more than 2,000 on-site inspections and found material risk management deficiencies in almost half of all inspections. Around 15% of these findings related to IT issues, primarily in the areas of information risk management, outsourcing management and information security management.

In addition to raising awareness of these issues through its inspections, the Bundesbank works towards the permanent elimination of deficits by continually monitoring them and conducting follow-up inspections. Supervisors thus continue to attach a great deal of importance to the topic of digital risks, particularly since the inspections routinely highlight the tasks

1 See https://www.bankingsupervision.europa.eu/ecb/pub/html/ssm.aroutcomesrepitriskquestionnaire202007~9ed9aaa17d.en.html

Artificial intelligence and machine learning

The increased performance of IT infrastructure and advances in the application of machine learning processes open up the possibility of the banking industry, too, using such innovative processes in both front and back office areas, for example in rating systems. From a supervisory perspective, the use of such processes in risk measurement and risk management systems is of particular interest. Manual processes and conventional risk models are replaced with artificial intelligence (AI) or machine learning (ML) processes, collectively referred to as ML methods for short. In this context, the term "AI" refers to the aim of using computer systems to perform complex tasks that traditionally have required human intelligence.[1] ML is focused less on replicating human intelligence and more on applying learning processes such as neural networks – which are capable of mapping complex, non-linear relationships – and ensuring they can be deployed efficiently in decision-making processes. However, ML methods also give rise to new risks that need to be assessed by banking supervisors and ultimately contained.

Relevant ML methods

There are many different approaches to defining ML.[2] In order to delineate the areas that are relevant to banking supervision, it is therefore necessary to formulate a pragmatic approach to identifying innovative models and their associated risks. The Bundesbank has thus chosen to base its considerations on a three-dimensional ML scenario.[3]

– The first dimension, which comprises the dataset and methodology, describes the complexity of an ML method. For example, if banks make use of deep neural networks, this leads to a high degree of complexity. On the other side of the spectrum are traditional statistical methods, as have been used in the financial sector for decades (such as logistic regressions or expert systems).

– The second dimension is based on the ML method itself and describes how the output is used. It thus represents the significance of the method within the risk management process. Here, account should be taken of how much weight the ML method has within the overall model as well as of how, and with what impact, its output is used in areas relevant for supervision. If these first two dimensions are particularly strongly pronounced, the inspection techniques and inspection intensity of supervisory practices must be adapted.

– The third dimension relates to outsourcing and IT infrastructure. Supervisors have proposed a technology-neutral approach that, in particular, makes no distinction between in-house development and outsourcing or between underlying IT infrastructures. As central service providers and fintech companies are expected to be the driving force behind the development of ML methods, there are plans to carry out prudential on-site inspections – within the scope of the existing regulatory framework for outsour-

1 See Financial Stability Board (2017).
2 Definition by the Financial Stability Board (2017): "Machine learning may be defined as a method of designing a sequence of actions to solve a problem, known as algorithms, which optimise automatically through experience and with limited or no human intervention." Mitchell (1997): "A computer program is said to learn from experience E with respect to some task T and some performance measure P, if its performance on T, as measured by P, improves with experience E."
3 See Deutsche Bundesbank (2020a).

cing – at external service providers as well.

The role of current supervisory law

ML methods constitute neither their own supervisory area nor are they prudentially relevant solely due to the new technologies involved. Instead, these new methods can be largely assessed and evaluated for risk on the basis of existing process-oriented inspection frameworks. This applies, for example, to rating systems, which are in any case subject to approval, and to early warning systems, which have been operated in the past without the use of ML. The supervisory approach can be applied in a technology-neutral way, even if ML methods give rise to their own specific issues. Primarily, it is a matter of identifying the differences that exist compared to traditional models and processes, and determining how supervisors can deal with these. Above all, there are differences with regard to explainability, model development and validation, and training cycles. In order for banks to have certainty of planning when investing in ML methods, supervisors should tighten their focus and communicate any new requirements in a transparent way.[4]

Explainability

Banks must be able to understand their own decision-making processes and justify the measures that they implement. Decisions should be based on causalities and functional relationships. By contrast, ML methods are successful mainly because they are able to independently recognise patterns within data without being provided with fixed causalities, and thus enable measures to be derived from these patterns. An inherent property of many ML methods is that, as a result of forgoing prior knowledge of causalities, they have a lack of explainability. This deficiency can be a hindrance to applying these methods – specifically if causal explanations are required when using the output. Banks must therefore weigh up the benefits offered by ML methods against the disadvantages presented by this "black box" characteristic. To this extent, increased model performance and/or predictive ability, or a lack of other suitable methods, may justify the use of ML. However, it must be ensured that clear accountability is taken for decisions that are prepared chiefly, or even made entirely, by a black box method, and that these decisions are well integrated into comprehensive control processes. A number of approaches have been developed to make ML retroactively explainable ("explainable AI", or XAI). These approaches are highly promising, as they provide selective and often intuitive insight into how ML methods function. However, caution is still needed, as no XAI approach is able to offer complete explainability. The degree to which this black box characteristic can be tolerated therefore depends on the ML scenario in each individual case.

Model development and validation

In comparison with traditional statistical procedures, ML methods exhibit particular features in their development and maintenance. As the volume, frequency and significance of data – including unstructured data – increases, so too does the importance of data quality and data preparation. There is a danger that inadequate data will be used to satisfy the high data requirements of ML methods, while the resulting consequences remain obscured due to their black box characteristic. However, insufficient data quality not only has an impact on

4 The Bundesbank and BaFin have put their perspective on ML methods up for joint consultation (https://www.bundesbank.de/de/aufgaben/bankenaufsicht/einzelaspekte/risikomanagement/maschinelle-lernverfahren).

model development, but also makes validation more difficult, which is especially important in the case of black box methods.

Like all models, ML methods must therefore be integrated into a suitable control environment, too. This must ensure that model developers, validators and users are all equally convinced of the good quality of the model output, that accountability for errors is clearly regulated, and that both internal and external control units can gain adequate insight into the ML methods.

Training cycle

ML methods often allow for ongoing adjustment to take account of new data. This process, known as retraining, can either change the structure of the method and what are known as its hyperparameters,[5] or be limited to optimising the method within its existing framework. This way, a model can be brought closer to a changing reality (for example in the case of structural changes and breaks). Nevertheless, banks should be aware of the disadvantages of retraining – specifically, reduced continuity and comparability. It is crucial that banks justify the need for the selected training cycle. In particular, model validation that typically takes place in predefined cycles must also be able to sufficiently cover and comprehensively evaluate a model with ongoing retraining.

5 ML method parameters that are determined before optimisation.

that institutions were faced with and, in some cases, still are.

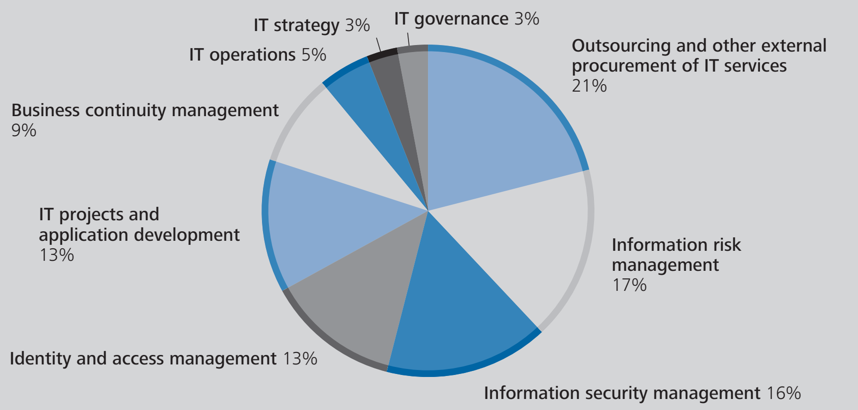
Institutions need to be more transparent about their digital risks …

Information risk management is of particular importance in the management of digital risks. It represents a control loop in which safeguards are assigned to all IT components and risks, in particular from the incomplete implementation of these safeguards, are identified and monitored on an ongoing basis. Process deficiencies in information risk management can lead to the institution lacking transparency regarding digital risks and consequently not managing these appropriately. It is often observed that institutions lack a complete overview of their key IT components and therefore not all necessary elements can be factored into risk analyses. In addition, many institutions still need to set out complete and consistent requirements for the safeguards needed and implement the maintenance processes necessary for these. Where there are requirements to be met, reviews of actual compliance with these often do not go into sufficient depth or are carried out too infrequently.

… manage and monitor risks arising from outsourced processes and activities, …

Outsourcing management is the practice of managing and monitoring outsourced processes and the risks associated with these. This is mainly a decentralised process performed by the institution's outsourcing units, which should be supported by central units such as an outsourcing function or central outsourcing management. The core principle of outsourcing management is that, whilst an institution can outsource the processes themselves, it can never outsource responsibility for them. As such, each institution must have a sufficient level of expertise on hand to be able to fully oversee its outsourcing arrangements and outsourcing risks. Shortcomings in the outsourcing management process can result in digital risks, especially those relating to IT services, going undetected or being subject to no more than rudimentary assessment. Inspections have repeatedly found that services are not classified

Material deficiencies identified by IT inspections conducted at German banks over the past ten years



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as outsourcing and that risk analyses for determining the materiality of an outsourcing arrangement exhibit basic failings. Moreover, there are shortcomings related to the stipulation of information and audit rights in outsourcing contracts and to requirements regarding sub-outsourcing. Monitoring long or complex chains of outsourcing is a challenging task for outsourcing management.

… and consistently employ effective, state-of-the-art security measures

Information security management involves defining and monitoring compliance with measures intended to safeguard IT under the direction of an information security officer. However, protection against hackers is only ever as good as the weakest link in the chain. Process deficiencies in information security management can prevent institutions from reaching an appropriate and consistent level of security. With that in mind, safeguards implemented to protect IT should always comply with the requirements set out in the prevailing standards, be in keeping with the state of the art and be tested regularly. However, if information security officers are too close to the operational units they are monitoring, there is a risk that they will not be able to carry out their work without conflicts of interest. Inspection practice shows that there is often catching-up to do in both of these areas. In addition, internal tests to assess the effectiveness of implemented security measures do not always go into sufficient depth or are carried out too infrequently.

Bundesbank supports voluntary review of financial sector resilience to digital risks

In particular, attacks that exploit inadequate security measures have become one of the most significant digital risks and, due to the complex IT links between institutions, now pose a challenge to the financial system as a whole. The Bundesbank is making a vital contribution to enhancing the cyber resilience of Germany's financial sector on a lasting basis by conducting TIBER[2]-DE tests, as these tests determine how effectively an enterprise's defence mechanisms avert cyberattacks using attack scenarios that are as realistic as possible (see the box on pp. 61 f.).

Outlook

Bundesbank plays a role in effective supervision of digital risks and adapts practices to new conditions

The Bundesbank addresses digital risks in both SREP assessments and on-site inspections. As a voluntary instrument, TIBER-DE tests also help the financial sector to evaluate its resilience to digital risks. However, as the division of labour among market participants and their level of interconnectedness increase and technical and organisational innovations emerge, adjust-

2 Threat Intelligence-based Ethical Red Teaming.

TIBER-DE

As the pace of digital transformation picks up in the financial sector, so does vulnerability to cyberattacks. Against this backdrop, central banks are increasingly focusing on how to improve resilience to both internal and external attacks.

In summer 2019, the Bundesbank and the Federal Ministry of Finance implemented the European System of Central Banks' framework for Threat Intelligence-based Ethical Red Teaming (TIBER-EU) in Germany as TIBER-DE.[1] The TIBER-DE implementation document was published in July 2020.[2] The aim behind TIBER-DE is to strengthen the cyber resilience of entities in Germany's financial sector and thus make a major contribution to keeping the financial system stable and up and running.

During a TIBER-DE test, ethical hackers carry out simulated attacks on an entity. The tests take place under controlled conditions and are subject to strict risk management. The objective is to determine how effectively the entity's defence mechanisms avert cyberattacks using attack scenarios that are as realistic as possible. To this end, information collected about the entity-specific threat situation is exploited during the TIBER-DE test using techniques applied by real hackers. Such attacks explicitly target the entity's critical functions and the corresponding live systems. For banks, this could be cash or cashless payment systems, lending systems or online banking. Unlike classic penetration testing, which focuses solely on technical vulnerabilities in systems, TIBER-DE tests also cover organisational shortcomings as well as the human factor in their attack scenarios.

Ideal candidates for TIBER-DE are large banks, insurers, financial market infrastructures and their critical service providers. Participation in TIBER-DE tests is voluntary and encourages entities to act on their own initiative and take a critical look at their own cyber resilience. To raise awareness of the growing threat posed by cyberattacks, the executive board of the entity being tested is involved in the process from the outset. A TIBER-DE test should not be seen as a pass-fail test; instead it is successful if it has been conducted in accordance with the framework.

The national competence centre for TIBER-DE – the TIBER Cyber Team (TCT) – is based at the Bundesbank and is separate from financial supervision in both organisational and procedural terms. However, financial supervisors are informed that a test is to be carried out and involved at set points in the proceedings. The TCT is overseen by a steering committee comprising representatives from the Bundesbank and the Federal Financial Supervisory Authority (BaFin). This steering committee defines the strategic objectives for TIBER-DE.

The TCT supports entities throughout the TIBER-DE test, providing them with the necessary expertise and checking compliance with the TIBER-DE framework. Once the test has been completed – a process which can take up to one year – the TCT provides attestation confirming that the entity's test was conducted in accordance with the framework.

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1 See Deutsche Bundesbank and Federal Ministry of Finance (2019).
2 See Deutsche Bundesbank (2020b).

The TIBER-EU framework has been implemented in other EU Member States, too, for instance in the Netherlands, Denmark and Belgium. Those Member States that have already implemented TIBER-EU have agreed to mutual recognition of test completion. Close cooperation and a coordinated approach between the authorities involved and the entities should thus improve cyber resilience throughout the financial sector and appropriately counter the risks stemming from digital transformation.

There is high-level acceptance of and demand for TIBER-DE in the German financial sector. At the time of writing, the number of TIBER-DE tests that have begun already stood at nine.

TIBER-DE tests can make a major contribution towards strengthening cyber resilience. In particular, they enable participating entities to use a concrete attack scenario to test the interplay between various processes to thwart cyberattacks, the employees involved in these processes and the systems affected. TIBER-DE tests show that human error or a lack of security guidelines may render technologically sophisticated security measures ineffective. They also highlight shortcomings in existing processes and insufficient investment in safeguards, and convey these findings transparently to management. Raising management's awareness of specific cyber risks can help to pinpoint additional areas that require investment, tailor budget decisions more closely to security requirements and implement corrective measures in a more targeted manner.

TIBER-DE tests also show that attentive and informed employees are able to detect and ward off even sophisticated attacks early on if entities have well-defined internal security protocols and processes. Regular campaigns to raise staff awareness of cyberattacks are one possible defence measure, and the effectiveness of such campaigns can be examined in TIBER-DE tests.

By implementing standardised TIBER tests in Germany, the Bundesbank is ensuring that entities' resilience does not just exist on paper but that this is also checked in practical terms and under real-world conditions. In view of the growing risk situation, TIBER-DE tests are therefore making a vital contribution to enhancing the cyber resilience of Germany's financial sector on a lasting basis.

ments also have to be made to the supervisory approach.

For example, in its updated principles for the management of operational risk[3] and new principles for operational resilience,[4] the Basel Committee on Banking Supervision recently gave the banking sector clear guidance on the design of the essential elements in dealing with digital risks and on how to address them. These principles are adopted by supervisory authorities in national frameworks and supervisory practice, amongst other things, and should be implemented proportionately by banks.

Furthermore, in drawing up the Digital Operational Resilience Act (DORA),[5] the European Commission will create harmonised requirements for managing digital risks at institutions, increase transparency with regard to any possible concentration of digital risks, and strengthen financial supervisory authorities' ability to act with regard to banks and critical third-party IT providers. This outsourcing issue is also addressed in the Act to Strengthen Financial Market Integrity *(Gesetz zur Stärkung der Finanzmarktintegrität)*,[6] which was adopted by the Bundestag in May of this year.

Work is also being carried out to harmonise the supervisory approach to artificial intelligence and machine learning at the international level in the future in order to create a level playing field. In addition to the principles published by the Basel Committee on Banking Supervision, the European Commission is drafting a regulation on artificial intelligence that proposes harmonised rules to apply beyond the financial sector.[7] However, taking machine learning as a case in point shows that the risks stemming from new technologies and methods can already be adequately addressed within the scope of existing regulatory requirements.

Digitalisation will continue to shape societal and economic developments, and the pace of technological change will remain high, especially in the banking sector. Institutions' long-term success therefore also depends heavily on the consistent and proper use of innovative technologies. Institutions have to face up to this rapid transformation and play an active part in shaping it in order to be able to continue offering services relevant to their customers and thus remain structurally competitive.

Banking business will continue to be shaped by digital transformation; …

The downside of digitalisation, however, is that the rising complexity and increasing division of labour in banking business is also causing the potential for risk to grow, especially where institutions continue to work with highly fragmented IT landscapes and technologies that have evolved over time. It is important to continue operating IT infrastructures and applications securely and enhance them as needed in order to protect sensitive customer data and ensure stable operation. To this end, banks need to have, first and foremost, a thorough understanding and must ensure that their digital risks are managed in an appropriate manner. The same applies to outsourced processes. This is the only way for institutions to keep their customers' trust and maintain the level of resilience needed as key factors for sustainable economic success.

… it is thus essential to take a consistent approach to digital risks

The Bundesbank will continue to promote the principles-based and technology-neutral regulation of digital risks at all levels. Technological progress needs to be facilitated, as does the proportionate and autonomous implementation of regulation at institutions. In addition, the Bundesbank will continue to encourage institutions to be resolute in taking advantage of the opportunities offered by digitalisation. At the same time, however, it is necessary for banks to systematically strengthen the way in which they manage the risks that these entail in order to keep up with the growing digital

Bundesbank will continue to promote principles-based, technology-neutral, real world-based and thus effective regulation of digital risks

3 See Bank for International Settlements (2021a).
4 See Bank for International Settlements (2021b).
5 See https://eur-lex.europa.eu/legal-content/en/TXT/PDF/?uri=CELEX:52020PC0595&from=EN
6 See Federal Ministry of Finance (2021), *Gesetz zur Stärkung der Finanzmarktintegrität (Finanzmarktintegritätsstärkungsgesetz* – FISG).
7 See European Commission (2021).

risks. Only if institutions take the initiative and face up to the opportunities and risks presented by digitalisation in a confident and balanced manner will it be possible to safeguard the functioning of the financial system in the long term.

List of references

Bank for International Settlements (2021a), Revisions to the Principles for the Sound Management of Operational Risk, available at https://www.bis.org/bcbs/publ/d515.pdf

Bank for International Settlements (2021b), Principles for Operational Resilience, available at https://www.bis.org/bcbs/publ/d516.pdf

Deutsche Bundesbank (2020a), The Use of Artificial Intelligence and Machine Learning in the Financial Sector, available at https://www.bundesbank.de/resource/blob/598256/d7d26167bceb18ee7c0c296902e42162/mL/2020-11-policy-dp-aiml-data.pdf

Deutsche Bundesbank (2020b), Implementation of TIBER-DE, 8 July 2020, available at https://www.bundesbank.de/resource/blob/848920/c38b564c6c5de80d9d6dbb0200ff895a/mL/tiber-implementierung-data.pdf

Deutsche Bundesbank and Federal Ministry of Finance (2019), TIBER-DE macht das deutsche Finanzsystem sicherer, 12 September 2019, available at https://www.bundesbank.de/de/presse/pressenotizen/tiber-de-macht-das-deutsche-finanzsystem-sicherer-806020

European Commission (2021), Artificial Intelligence Act, available at https://eur-lex.europa.eu/legal-content/en/TXT/HTML/?uri=CELEX:52021PC0206&from=EN

Federal Financial Supervisory Authority (2018), Guidance on outsourcing to cloud service providers.

Federal Ministry of Finance (2021), Gesetz zur Stärkung der Finanzmarktintegrität (Finanzmarktintegritätsstärkungsgesetz – FISG), available at https://www.bundesfinanzministerium.de/Content/DE/Gesetzestexte/Gesetze_Gesetzesvorhaben/Abteilungen/Abteilung_VII/19_Legislaturperiode/2021-06-10-FISG/0-Gesetz.html

Federal Office for Information Security (2021), accessed on 25 May 2021 at https://www.bsi.bund.de/EN/Topics/CloudComputing/Basics/Basics_node.html

Financial Stability Board (2017), Artificial intelligence and machine learning in financial services.

Mitchell, T. (1997), Machine Learning.

PwC (2021), Cloud Computing im Bankensektor, accessed on 25 May 2021 at https://www.pwc.de/de/finanzdienstleistungen/cloud-computing-im-bankensektor.html

statista (2021), available at https://de.statista.com/infografik/20802/weltweiter-marktanteil-von-cloud-infrastruktur-dienstleistern/

Macroprudential policy and growth-at-risk

The connection between financial imbalances and severe downturns in the real economy has increasingly come to the forefront of academic and economic policy debate since the global financial and economic crisis. In times when the economy is expanding, vulnerabilities can build up in the financial system. These include excessive leverage and overpriced assets. If a negative shock were to hit such financial imbalances, the result may be unfavourable interactions between the financial system and the real economy. This could culminate in a severe recession or even a financial and banking crisis. Looking to the upturn following the coronavirus crisis, too, there is the question of the extent to which financial vulnerabilities are building up that could result in new downside risks further down the road.

This article presents the growth-at-risk approach, which models the relationship between financial imbalances and downside risk in the real economy. Downside risk in the real economy is measured using the lower end of the probability distribution for the growth rate of gross domestic product (GDP) – such as the largest decreases that occur with a 5% probability. Quantile regressions are used to show that downside risk in the real economy fluctuates over time in connection with financial stress and financial vulnerabilities.

This relationship is then studied in more detail with the help of structural quantile vector autoregressive models. These models enable the quantification of the impact of exogenous shocks on downside risk in the real economy. According to the model estimates, an abrupt deterioration in financing conditions can significantly increase the risk of severe downturns in the real economy.

The effect of financial shocks on downside risk in the real economy varies systematically depending on certain country characteristics which reflect financial vulnerabilities. For example, the probability of very large downturns in the real economy caused by financial shocks is greater, in particular, in countries with structurally higher levels of household debt and in countries whose banking systems have high foreign currency exposures.

Macroprudential policy can strengthen the resilience of the financial system and counteract the build-up of financial vulnerabilities, reducing downside risk in the real economy. However, the empirical evidence also shows that it is difficult to make real-time estimates of growth-at-risk with a longer lead time. Thus, findings from the growth-at-risk approach should always be embedded in an overall picture of the risk situation in the financial system, enabling macroprudential policymakers to respond to the build-up of vulnerabilities at an early stage.

Introduction

Especially deep recessions often linked to financial market stress

The period prior to the onset of the financial and economic crisis of 2008‑09 – just like the period leading up to the sovereign debt crisis in the euro area – was characterised by years of vulnerabilities building up in the financial sectors of some countries. These vulnerabilities can be traced back to financial imbalances such as excessive leverage and overpriced assets. In the wake of these crises, the relationship between financial imbalances and severe downturns in the real economy received more attention in the academic literature and economic policy debate. Strong slowdowns in economic growth in Germany have generally been linked to stress in the financial system since at least the 1970s (see the chart below).[1] This relationship was very pronounced during the financial and economic crisis of 2008‑09 in particular, and the need for measures with a greater preventive focus became clear.

Gross domestic product and episodes of stress in Germany's financial system

Year-on-year percentage change, seasonally and calendar-adjusted

Sources: Federal Statistical Office and Bundesbank calculations. **1** According to the European financial crises database; see M. Lo Duca et al. (2017), A new database for financial crises in European countries – ECB/ESRB EU crises database, ECB Occasional Paper Series No 194.

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Favourable financing conditions can foster build-up of financial vulnerabilities

The interaction between economic growth and the financial system can be heavily influenced by vulnerabilities and the systemic risk resulting from them. Vulnerabilities can build up in times when the economy is expanding. During such periods, financing conditions are typically favourable, risk premia are small, and asset prices are rising. This can produce a situation in which decisions taken by market players seem to make sense at the micro level but neglect the potential negative implications for the stability of the financial system. These "externalities" can lead to an excessive increase in leverage in the non-financial sector and risk appetite in the financial system. If substantial vulnerabilities have built up, even small shocks can trigger amplification effects through the financial system which may result in strong economic downturns. This is especially the case if there are financial constraints in the economy which have the potential to become binding in a crisis. If a negative shock hits the economy, the market price of assets falls. Falling asset prices can worsen the creditworthiness of the non-financial sector, for one thing. For another, the financial sector becomes less willing to grant loans, and there may be a supply-side credit crunch. If financial constraints become binding, risk premia can rise abruptly. The initial shock may be amplified by the interplay between falling asset prices, reduced lending and deteriorating creditworthiness. The higher the leverage of the non-financial sector and the more the financial sector reduces its risk appetite compared with an upturn, the more significant this amplification mechanism becomes.

Macroprudential policy can limit build-up of vulnerabilities

Macroprudential policy plays an important preventive role. It contributes to the stability of the financial system by identifying macro-financial vulnerabilities at an early stage and acting to counter them using the appropriate instruments. On the one hand, macroprudential policy reduces the incentives to take on excessive

1 The measure used for financial stress is based on the ECB's Country-Level Index of Financial Stress (CLIFS); see Duprey and Klaus (2015).

risk ex ante. The instruments used for this purpose are designed to help ensure that the effects of individual decisions on the stability of the financial system are taken into account. On the other hand, various macroprudential instruments, such as the countercyclical capital buffer for banks, enhance the financial system's resilience. This lowers the probability of self-reinforcing mechanisms being triggered.

Growth-at-risk approach highlights relationship between financial imbalances and strong economic downturns

This article explores the question of whether variables that reflect the build-up of vulnerabilities and short-term stress in the financial system contain information about downside risk in the real economy. In this context, downside risk in the real economy means the lower end of the probability distribution for the rate of change in GDP – such as the largest decreases that occur with a 5% probability. The growth-at-risk approach is used for this purpose. This approach examines the relationship between downside risk in the real economy and financial stress as well as financial vulnerabilities.[2]

Dynamic development of research on growth-at-risk, only few robust findings so far

The growth-at-risk approach is now being used by many central banks and international institutions, such as the International Monetary Fund (IMF). It makes it possible to quantify the impact of the build-up of vulnerabilities in the financial system and the potential occurrence of financial stress on downside risk in the real economy. However, growth-at-risk is a very new and dynamic research field. Existing studies sometimes arrive at different results regarding the extent to which robust conclusions for the probability distribution of economic growth can be derived from macro-financial variables.[3] Being aware of its limitations, the Bundesbank applies the growth-at-risk approach in its financial stability analyses alongside other methods, such as the early warning indicator for financial crises, and is constantly refining the models used for this.[4]

Financial imbalances and growth-at-risk – conceptual framework

Financial frictions can lead to strong downturns in economic growth

In 2008, the global financial crisis interrupted a period of stable economic growth and low financial market volatility that had lasted several years. Especially severe downturns of this kind with a low probability of occurrence are also known as tail events. One explanation for them is financial frictions, which can lead to non-linear economic growth. In other words, enterprises and households which would receive loans under normal circumstances are suddenly shut out of the credit market and have to restrict their consumption and investment. This exacerbates an economic downturn.[5]

Economic agents may face constraints when financing their activities, …

Both financial intermediaries and enterprises in the non-financial sector often face constraints when financing their activities (financial frictions) if, for example, they have low equity ratios or too little collateral.[6] If, for instance, the market value of equity (difference between the value of assets and of debt) in the financial sector is high, that sector has easy access to additional debt funding. During periods of economic stress, however, the value of assets declines, which means that if the value of debt remains unchanged, the market value of equity falls and access to financing is hindered. A similar financial friction restricts the debt capacity of non-financial enterprises and households. In

2 The term "growth-at-risk" was first used by Wang and Yao (2001). The concept and methods were popularised by the paper published by Adrian et al. (2019). The term is based on the financial sector concept of "value-at-risk".
3 See also Plagborg-Møller et al. (2020).
4 See Deutsche Bundesbank (2017, 2018, 2019), German Financial Stability Committee (2018) and Beutel et al. (2019).
5 Another example of a friction which can likewise bring about strong non-linearities is the effective lower bound of the short-term interest rate. See, in particular, Christiano et al. (2014) and Aruoba et al. (2017).
6 For models in which financial intermediaries face financial constraints, see, inter alia, Gertler and Kiyotaki (2010) and Gertler and Karadi (2011). Examples of models in which the financial constraint exists in the non-financial sector include Bernanke et al. (1999), Kiyotaki and Moore (1997) and Carlstrom and Fuerst (1997).

particular, their ability to take up additional financing depends on the market value of their total assets. The higher the market value of assets, the easier and cheaper it is for the non-financial sector to obtain loans from the financial sector in order to finance investment and consumption.

… which are not binding in times of sound economic growth. Vulnerabilities can thus build up, as incentives to take on more debt and financial risks increase

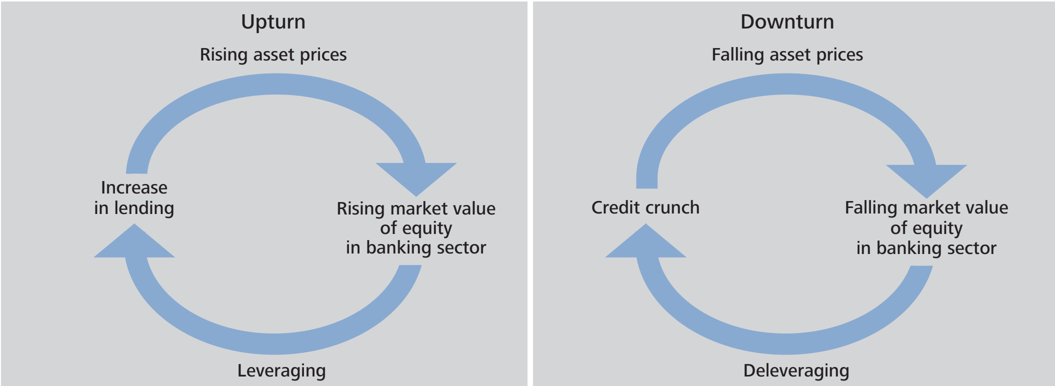
Irrespective of whether the financial friction exists in the financial or the non-financial sector, it produces amplification mechanisms between the real economy and the financial system. The market value of total assets in the non-financial sector and of equity in the financial sector is subject to cyclical volatility. In times of high asset valuations and low volatility, the financial and non-financial sectors can obtain funding relatively easily. In the financial sector, this increases the incentive to take on more debt in order to enjoy greater leverage. This means that given a specific level of assets/equity, a higher level of debt is possible. Risk premia for risky investments are low, and financial intermediaries increase the loan supply. In such times, rising asset prices, low financial market volatility and highly valued collateral increase banks' solvency and lending capacity, but also their willingness to take greater risks.[7] In the non-financial sector, high asset prices and low volatility imply greater collateral quality. Debt capacity rises along with assets, meaning that enterprises and households take on more debt. Market players' decisions to take on more debt and more risk seem to make sense at the micro level, but can potentially have adverse implications for the stability of the financial system if negative shocks occur at the macro level.

When existing vulnerabilities are high, financial constraints can become binding in recessions and amplify the downturn

The leverage built up during an upturn makes the economy vulnerable. If a negative shock hits the economy, output, investment and the market price of assets all fall. If the financial or real sector is heavily indebted, even small changes in the market price of assets can lead to major equity losses. As a result, financial frictions may become binding for enterprises, households and banks, meaning that loans that would have been possible in normal times are no longer granted. First, the non-financial sector's debt capacity drops substantially. Second, the financial sector becomes less willing to grant loans, and there may be a supply-side credit crunch. Risk premia can rise abruptly on account of growing risk aversion in the financial sector, which would exacerbate a downturn in the real economy. If financial frictions become binding, they can be amplified by market liquidity frictions. The latter limit the ability to exchange investments and other assets for liquid financial assets such as deposits during periods of stress. The financial friction leads to investors increasingly and simultaneously wishing to sell assets in times of crisis in order to remain solvent. This has a negative impact on the value of asset prices. Existing market liquidity frictions can result in market illiquidity, with even stronger drops in asset prices. The latter exerts added pressure on equity, amplifying financial frictions which put more pressure on asset prices. Frictions which affect market liquidity can therefore trigger additional non-linear dynamics.[8] The initial shock can be amplified in a non-linear way by this self-reinforcing interaction between asset prices and financial and market liquidity frictions in the economy (see the chart below for a stylised depiction).[9] The vulnerabilities built up from the high leverage and weak balance sheets in the financial sector and/or the real economy can thus lead to severe recessions or even financial and banking crises.[10]

7 See Brunnermeier and Pedersen (2009), Adrian, Moench and Shin (2010) and Adrian and Shin (2014).
8 The model of Kiyotaki and Moore (2012) contains both market liquidity frictions and financial constraints. Financial constraints restrict access to additional external financing, while the market liquidity friction limits firms' ability to generate additional funds by selling financial assets in the market. Brunnermeier and Pedersen (2009) show how these two constraints interact with and reinforce each other. In their model, market liquidity constraints result in high asset price volatility brought about by fire sales. Strong downturns in asset prices resulting from market liquidity constraints in turn increase financial constraints.
9 See also He and Krishnamurthy (2013) and Brunnermeier and Sannikov (2014).
10 For an approach in which the above-described mechanism – with the addition of further model assumptions – can result in a bank run, see Gertler and Kiyotaki (2015) and Gertler et al. (2016).

Interplay between assets, creditworthiness and lending in the financial system during upturns and downturns*



* Bundesbank depiction based on T. Adrian and H. S. Shin (2010), Liquidity and Leverage, Journal of Financial Intermediation, Vol. 19, pp. 418-437.
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Macroprudential policy can reduce the risk of sharp economic downturns by limiting the build-up of vulnerabilities and increasing the resilience of the financial system

Models with financial frictions form the theoretical basis for macroprudential policy measures. By strengthening the resilience of the financial system, macroprudential instruments can help prevent financial frictions from becoming binding, thus limiting downside risks to economic growth.[11] Without macroprudential policy, economies in these models show excessive debt levels owing to financial frictions, which increases the frequency and severity of financial crises and recessions.[12] This is because the decisions made by market participants fail to take into account the potential negative repercussions for the stability of the financial system. Theoretically speaking, macroprudential instruments could prevent excessive debt and bolster economic resilience.[13] The theory suggests that the use of macroprudential instruments is particularly welfare-enhancing when its intensity is tailored to the build-up and decline of vulnerabilities. This can be achieved by means of a four-step policy cycle.[14] First, the policy objective is specified and the relevant frictions are pinpointed. The second step is to identify objectively verifiable and measurable indicators which can be used to evaluate the need for policy action. The impact of any measures on pre-defined indicators can be estimated through ex ante evaluations. Once the measures have been taken, ex post evaluations can reveal whether the objectives have been achieved and whether any unintended side effects have arisen. Information about the relationship between developments in the financial system and real economic downside risks from the growth-at-risk approach can potentially be incorporated into all four of these steps.

Empirical link between financial imbalances and growth-at-risk

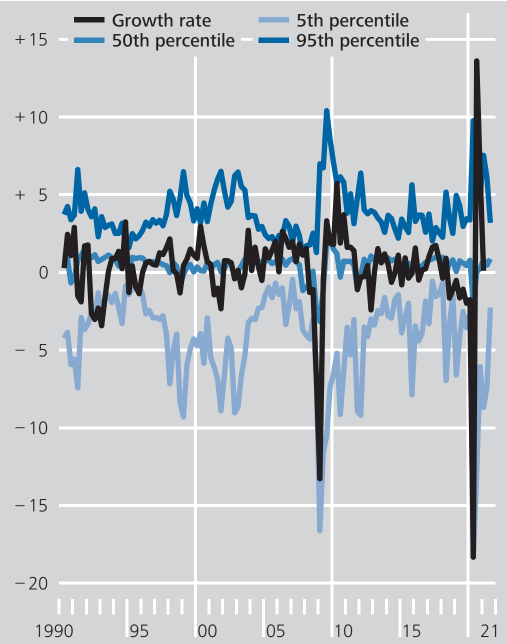
Empirical studies show link between developments in the financial markets and depth of recessions

Periods in which macro-financial imbalances have built up are often followed by severe recessions and financial crises.[15] Strong credit growth can also predict sharp declines in bank equity prices.[16] Moreover, a study for the United States shows that periods of very low credit risk premia and optimistic expectations about future financing terms often give way to periods of weak economic growth.[17] In add-

11 See, inter alia, Brandao-Marques et al. (2020), Carney (2020), Duprey and Ueberfeldt (2020), Galán (2020), Cechetti and Suarez (2020), Suarez (2020) and International Monetary Fund (2019).
12 See, inter alia, Lorenzoni (2008) and Bianchi (2011).
13 See Bianchi et al. (2012), Bianchi et al. (2016) and Farhi and Werning (2016).
14 See Buch et al. (2018) and Buch (2020).
15 See, for example, Kaminsky and Reinhart (1999), Schularick and Taylor (2012), Gourinchas and Obstfeld (2012), Claessens et al. (2011a) and Mian et al. (2017).
16 See Baron and Wong (2017).
17 See López-Salido et al. (2017).

Growth-at-risk estimation for Germany*

Quarterly average of the month-on-month percentage change



Sources: Chicago Board Options Exchange, Federal Reserve Bank of Chicago and Bundesbank calculations. * Actual quarterly growth rates of industrial production in Germany as well as their estimated percentiles conditional on the Chicago Fed National Financial Conditions Index (NFCI) and the CBOE Volatility Index (VIX).

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ition, credit crunches lead to more serious recessions, with the subsequent economic recovery taking place more slowly compared with recessions that are not accompanied by credit crunches.[18] Part of the empirical growth-at-risk literature also investigates the extent to which macro-financial developments are linked to the occurrence of extreme events a few years later. Although exceptionally favourable financing conditions are accompanied by low downside risks in the short term, in the medium term, this relationship is reversed, with economic downturns that are especially severe becoming more likely.[19] The severity of these downturns also depends on the degree and dynamics of private sector debt, developments in real estate prices and the accumulation of current account deficits.[20] Above-average levels in these measures signal that significantly larger downside risks to the real economy are to be expected in a few years' time. This is consistent with the early-warning characteristics that earlier empirical studies identified for debt and house price indicators.[21]

Fluctuations in financial markets may indicate higher downside risks

The extent to which cyclical downside risks are correlated with changes in financial stress can be estimated using the growth-at-risk approach, which analyses how the estimated 5% quantile of the growth in industrial production fluctuates as financial stress rises and falls (for details about the model used, see pp. 73-74).[22] Financial stress is measured using an indicator of financial conditions and an indicator of financial market uncertainty. These indicators combine a large quantity of relevant information and are influenced by monetary policy and fiscal policy, amongst other factors. The adjacent chart shows the development of the 5th, 50th and 95th percentiles of the probability distribution of German industrial production conditional on these indicators as well as the values actually recorded for the observation period. It illustrates that the conditional downside risks (5th percentile) fluctuate significantly more strongly than the median (50th percentile) or the corresponding upside risks (95th percentile). It is clear, for instance, that the downside risks were particularly high during and after the global financial and economic crisis of 2008-09. This indicates that financial market variables have an asymmetrical impact on the conditional probability distribution of industrial production, which supports theories in which financial and market liquidity frictions can suddenly become binding.

The link outlined for Germany between elevated financial stress and growing real economic downside risks can be observed across a large number of countries. The upper chart on p. 71 depicts the average path of measures of

18 See Jordà et al. (2013) and Claessens et al. (2011a, b).
19 For a panel analysis of 11 advanced economies, see Adrian et al. (forthcoming). Brandao-Marques et al. (2020) and International Monetary Fund (April 2021) present similar results based on a broader panel of countries.
20 See Duprey and Ueberfeldt (2020), Galán (2020) and Aikman et al. (2021).
21 See the references in footnotes 15 to 18.
22 See also Deutsche Bundesbank (2020).

Observation that indicators of financial stress rise sharply before and during recessions holds true for many countries and time periods

financial stress (top) and financial vulnerabilities (bottom) before and after recessions.[23] The path of both measures reflects the average across all time periods and countries observed.[24] The point in time at which the recession begins is standardised to zero.[25] There are signs that the measure for financial stress rises sharply during recessions and then falls again. The measure for vulnerabilities, which captures the simultaneous rise in debt and asset prices (equity, debt and real estate prices) largely mirrors this. In times of low financial stress, financial vulnerabilities build up in accordance with the theory on the expected impact of financial frictions.

Growth-at-risk analysis reveals a robust link between abrupt deteriorations in financing conditions and the probability of severe economic slumps

Owing to the close (inverse) relationship between financial stress and the build-up of financial vulnerabilities, both measures are used to estimate growth-at-risk models in the literature. The upper section of the adjacent bottom chart calculates growth-at-risk by making it conditional on the measure for financial stress, whilst in the lower section, growth-at-risk is conditional on the measure for financial vulnerabilities. The chart shows the 5th percentile of the average growth rate of GDP across the countries and periods analysed. In both cases, it falls significantly during the recessions. The key finding from this analysis is that there is a robust statistical relationship across a large number of countries and periods between an abrupt deterioration in financing conditions and the probability of severe economic slumps. Moreover, the estimation results indicate that the earliest point at which growth-at-risk starts

23 The measure used for financial stress is based on the ECB's Country-Level Index of Financial Stress (CLIFS); see Duprey and Klaus (2015). The measure for financial vulnerabilities is based on a financial cycle indicator of the Bundesbank and the ECB; see Schüler et al. (2020a).
24 The countries observed are France, Germany, Italy, Japan, Spain, Sweden, the United Kingdom and the United States over the period from the first quarter of 1970 to the first quarter of 2019 insofar as the relevant data are available (unbalanced panel).
25 The following simplified method is used in order to date recessions uniformly across different countries. The start of the recession is dated as the first quarter in which the GDP growth rate was negative. The end of the recession is dated as the third consecutive quarter in which GDP growth was positive again.

Financial stress and financial vulnerabilities before and after recessions

Index values

Sources: ECB and Bundesbank calculations. **1** Based on the ECB's Country-Level Indicator of Financial Stress (CLIFS); see T. Duprey and B. Klaus (2015), Dating systemic financial stress episodes in the EU countries, ECB Working Paper Series, No 1873. **2** Based on a financial cycle indicator developed by the Bundesbank and the ECB; see Y. S. Schüler, P. P. Hiebert and T. A. Peltonen (2020), Financial cycles: Characterisation and real-time measurement, Journal of International Money and Finance, Vol. 100, No 102082.

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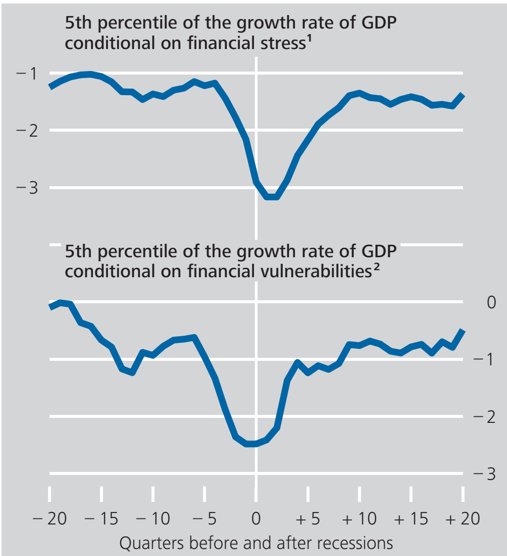
Growth-at-risk before and after recessions

Quarter-on-quarter change as a percentage



Sources: European Central Bank and Bundesbank calculations. **1** Based on the ECB's Country-Level Indicator of Financial Stress (CLIFS); see T. Duprey and B. Klaus (2015), Dating systemic financial stress episodes in the EU countries, ECB Working Paper Series, No 1873. **2** Based on a financial cycle indicator developed by the Bundesbank and the ECB; see Y. S. Schüler, P. P. Hiebert and T. A. Peltonen (2020), Financial cycles: Characterisation and real-time measurement, Journal of International Money und Finance, Vol. 100, No 102082.

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to fall sharply is five quarters before the start of a recession. The increased likelihood of a severe economic slump is therefore indicated fairly shortly before the outbreak of a recession.[26] Because macroprudential measures usually require a longer lead time before they take effect, such signals could come too late. Interpreting the signals in real time poses an additional challenge. This means that macroprudential policy measures need to be implemented before growth-at-risk estimates indicate strong downside risks in order to counteract the build-up of vulnerabilities in good time. Macroprudential measures that make the financial system more resilient to shocks should be taken in "good times", and thus much earlier than growth-at-risk models are normally able to show, in order to limit the risk of negative shocks being amplified through financial frictions in "bad times".

The transfer of financial shocks to growth-at-risk and the role of financial imbalances

Causal effects of stress in the financial markets and downside risks can be identified using econometric methods …

The results obtained so far indicate a statistical relationship between real economic downside risks and financing conditions. The analyses have not yet revealed whether there is also an economic and causal relationship between the variables. This is also true for the potential direction of impact: although a slump in economic activity may, on the one hand, be caused or amplified by stress in the financial markets, on the other hand, the financial markets might also respond to deteriorations in the real economy or greater uncertainty regarding the future economic outlook with turmoil and increased volatility. To gain a better understanding of the impact of time-varying financing conditions on the economy, researchers in this area use structural vector autoregression (SVAR) models. These linear multi-equation models can capture the dynamic relationships between a large number of key macroeconomic variables. The residual values of the various individual equations can be used to identify the drivers of the model, i.e. the structural economic shocks. The aim is to observe the impact of exogenous shocks on the system in isolation and to estimate their relative importance.

… which are able to model the overall distribution of economic growth

The majority of SVAR models used in the applied economic research model the dynamic relationship of the averages of each variable, while the distribution of the variables around the average only depends on the statistical properties of the residual values. Model classes that model the dynamic relationships of the individual quantiles of the variables separately can be used to analyse changing dynamic correlations between financing conditions and economic growth at different points of the probability distribution of economic growth.[27] To this end, methods have recently been developed in the academic literature that expand the above-mentioned quantile regressions using dynamic multi-equation models. These models are called structural quantile vector autoregression (structural QVAR) models (see the box on pp. 76 f. for a more detailed explanation of the methods and an additional application).[28]

Structural QVAR models can capture relationship between financing conditions and distribution of economic growth

To capture the dynamic relationship between financing conditions and the distribution of economic growth in the short and medium term, a model of this type is estimated for Germany for the period from the first quarter of 1983 to the second quarter of 2019 with the following endogenous variables: the US excess bond premium (EBP), German GDP, German employment figures, the German Consumer Price Index, euro area key interest rates, and

26 The difficulty of predicting growth-at-risk over longer periods is discussed, inter alia, in Brownlees and Souza (2021) and Plagborg-Møller (2020).
27 Alternatively, models with stochastic volatility can be used. See Carriero et al. (2020) for information about estimating the risk of extreme events using Bayesian VARs with stochastic volatility.
28 The method described and used in this article is based on Schüler (2020b). See also Beutel et al. (2020). A further approach to estimating structural QVAR models can be found in Chavleishvili and Manganelli (2019).

Estimating growth-at-risk using quantile regressions: methodological background

Growth-at-risk is measured as a pre-defined quantile at the lower end of the distribution of a real economic growth rate. Real economic growth can be measured here as the growth rate of, for instance, gross domestic product (GDP) or industrial production. Growth-at-risk is then often measured as the 5% quantile of the distribution of this growth rate conditional on certain explanatory variables. By estimating various quantiles, the entire conditional distribution can also be approximated. Quantile regressions are a widespread method of estimating quantiles of variables.[1]

In quantile regressions, the conditional quantile of a variable Y is modelled as a linear function of a vector of conditioning variables X:

$$q_{Y,\tau}(X) = X'\beta.$$

Here, $q_{Y,\tau}(X)$ is the τ quantile of Y conditional on X, defined as:

$$P(y_{t+h} \leq q_{Y,\tau}(X); X_t = X) = \tau.$$

This means that the probability, conditional on X at time t, that Y at time $t+h$ is less than or equal to the considered quantile, is exactly τ, i.e. 5%, for instance.

In order to put this concept into operation, the parameter vector β must be estimated. The estimated parameter vector $\hat{\beta}$ minimises the sum, weighted with the chosen value τ, of the absolute value of the deviations $u_{t+h} = y_{t+h} - X_t\beta$:

$$\hat{\beta} = argmin \sum_{t=1}^{T-h} (\tau 1_{u_{t+h} \geq 0} |u_{t+h}| + (1-\tau) 1_{u_{t+h} < 0} |u_{t+h}|),$$

where $1_{(.)}$ is an indicator function which assumes the value of 1 if the condition is met and 0 otherwise. This "loss function" penalises more severely those deviations which should be less likely given the quantile to be estimated. For instance, if a 5% quantile is to be estimated, exactly 5% of the values in the sample should be less than or equal to the quantile and 95% of the values greater than it. It is exactly this aim which is achieved by the described loss function: values under the 5% quantile increase the function value to be minimised more strongly than values above the 5% quantile. The robustness of the estimate increases with the number of available observations. This approach can be used to estimate various growth-at-risk models depending on the choice of the variables Y, X and τ.

An example that illustrates this point is a growth-at-risk model designed to gauge the downside risk to industrial production in Germany attributable exclusively to financial stress using available short-term data. Unlike measures such as the Bundesbank's weekly activity index (WAI),[2] the focus of the model is not to measure or predict the business cycle but to operationalise the above-described interplay between financial market developments and downside risks to the real economy from the perspective of the growth-at-risk approach.[3] To this end, various quantiles of industrial production growth with a frequency and forecast

1 See Koenker and Bassett (1978).
2 The WAI is based on Eraslan and Götz (2020).
3 See also Adrian et al. (2019). For an assessment of the forecast quality of growth-at-risk models, see Brownlees and Souza (2021) and Plagborg-Møller (2020).

horizon of one month are estimated. These quantiles are conditioned on the US National Financial Conditions Index (NFCI) and the VIX volatility index. These measures are available at a weekly frequency and reflect global funding conditions and uncertainty in the financial markets, which play a key role for Germany, too, owing to an integrated international capital market.[4] The quantile regression is estimated over the January 1990 to October 2020 period. By estimating a series of quantiles, the entire conditional distribution function can be approximated.

4 The last available weekly data of the VIX and the NFCI for a given month are used in the quantile regressions.

the German financial stress index CLIFS.[29] The EBP is the residual component of the credit risk premium adjusted for the influence of the projected probability of default of the enterprises and economic activity. It can therefore be interpreted as risk appetite within the financial system.[30] The effects of an unexpected deterioration in global financing conditions on the different quantiles of the probability distribution of economic growth can be quantified using the structural QVAR model. Here, shocks to the US EBP are used to proxy shocks to global financing conditions.[31] The US dollar plays a pivotal role as a financing currency for international financial intermediaries and as an anchor currency for portfolios worldwide. As a result, US financing conditions are a key factor for the global financial cycle and financing conditions around the world.[32]

The influence of the financial shock on growth-at-risk in Germany can be estimated using what are known as quantile impulse response functions. These depict the response of the various quantiles of the probability distribution of the endogenous model variables following shocks to financing conditions. Impulse response functions for various scenarios are derived from the structural QVAR model (see the chart on p. 75). The first scenario analyses the dynamic response at median economic growth in Germany to a shock to global financing conditions originating from the United States. This scenario can be interpreted as the typical response of the financial sector and real economy in Germany. The results of the "median scenario" show that a sudden rise in the EBP of 200 basis points would lower the median (i.e. the 50th

Estimation results for Germany suggest that a shock to financing conditions would significantly reduce average future economic growth

29 Prior to 1999, EONIA is linked to the shadow interest rate as used by Krippner (see https://www.ljkmfa.com/). German consumer price index data are taken from the IMF.
30 The construction of the EBP and the impact of an unexpected deterioration of the EBP on the US economy is described in Gilchrist and Zakrajšek (2012).
31 For methods that treat the EBP as an exogenous financial shock, see, inter alia, Stock and Watson (2012) and Del Negro et al. (2020).
32 See Miranda-Agrippino and Rey (2020).

percentile) of economic growth in Germany by up to 0.8 percentage point in the first quarter. Here, the simulated rise in the EBP roughly corresponds to the rise that was seen in the United States during the 2008 financial crisis. Four quarters later, the median of the growth distribution returns to its original value. Financing conditions in Germany would also deteriorate significantly, which may be a reason for the negative economic impact of the global financial shock. These results from the median scenario are consistent with the existing literature on the international transmission of US financial shocks.[33]

Probability of especially severe downturns in economic growth rises to an even greater extent, however

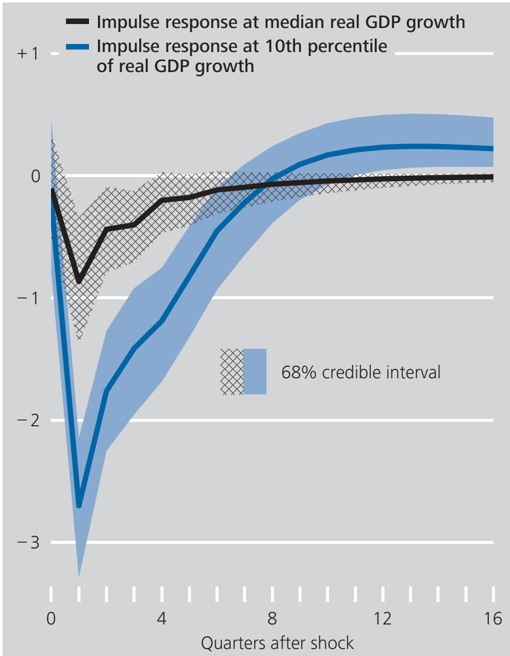
The second scenario investigates how GDP growth behaves at the bottom 10th percentile.[34] A considerably stronger response to a rise in the EBP is seen at the 10th percentile of GDP growth than at the median of the distribution. The 10th percentile of GDP growth is thus around 2.5 percentage points below the baseline. As the unconditional 10th percentile of GDP growth stands at -0.5%, this means that German GDP growth would, with a conditional probability of 10%, stand at -3% or lower in the first quarter following a global financial shock. After this shock, the bottom 10th percentile of GDP growth also remains below its historical baseline for a considerably longer period of time than the median. Only after around eight quarters does growth-at-risk return to its baseline. The impulse response functions thus suggest that a global financial shock can have a non-linear impact on the distribution of economic growth and that the probability of especially severe economic downturns rises considerably.

Results can also be confirmed for a broad cross-section of countries

This non-linearity can also be confirmed for a broad cross-section of countries. For this, the structural QVAR is expanded into a multi-country model (known as a panel SQVAR, or PSQVAR). This allows the impulse response functions at the 10th percentile of economic growth to be estimated for a large number of countries (details on the model and its results can be found on pp. 76 f.). For the cross-section of advanced and emerging economies, as is also the case for Germany, it appears that a global financial shock significantly increases growth-at-risk on average across all countries. Here, there are considerable differences in the magnitude of the effect between the individual economies. These differences can be linked to various country-specific characteristics that depict financial vulnerabilities. In this way, it is possible to determine whether there is a relationship between the financial vulnerability of a country and its growth-at-risk following an unexpected deterioration in global financial conditions over a cross-section of multiple countries.

Impact of a global financial shock on German GDP growth*

Percentage points



Sources: IMF, Federal Reserve Board and Bundesbank calculations. * Impulse response functions following a negative financial shock that causes the US excess bond premium to rise by one standard deviation.

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The results suggest that financial vulnerabilities have an impact on the transmission of global

33 See Miranda-Agrippino and Rey (2020).
34 In the literature, both the 5th and 10th percentiles are used as a measure of downside risk. Due to the larger number of coefficients to be estimated in the structural QVAR model, the 10th percentile is used here.

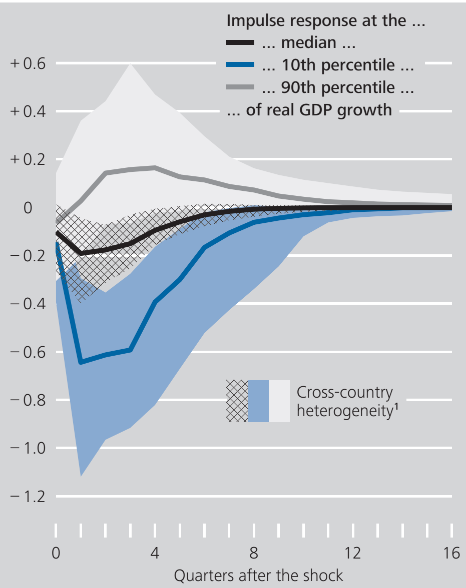
Impact of global financial shocks on downside risks to growth in an international panel

If global financial shocks of the kind seen during the global financial and economic crisis in 2008-09 materialise, there can be downside risks to the global economy. It is possible to quantify such downside risks from a global financial shock using an international panel dataset based on a structural quantile vector autoregressive (QVAR) model.[1] This structural QVAR model allows analysts to depict non-linear relationships between the endogenous variables. In particular, it enables an assessment to be made of the impact of a global financial shock on the different percentiles of the probability distribution of real gross domestic product (GDP) growth. As a result, it is possible to determine the growth-at-risk effects of the shock at the lower end of the GDP distribution, making the model particularly suitable for identifying downside risks.

The analysis is based on an international panel of 44 countries in total.[2] Two steps are used to determine the impact of a global financial shock. In the first step, a QVAR model is estimated for each country over a period extending from the first quarter of 1980 until the fourth quarter of 2018. The model estimation uses Bayesian methods with a non-informative prior distribution for the coefficients, and models the US excess bond premium (EBP),[3] real GDP growth, consumer price inflation and the short-term interest rate of the country in question. The EBP is used to proxy global financing conditions on account of the key role played by the United States in global financial markets.[4] The second step is to estimate panel quantile impulse responses. This is done using a mean group estimator based on average country-specific impulse responses.[5]

Impact of a global financial shock on GDP growth in a multi-country model*

Percentage points



Sources: IMF, Federal Reserve Board and Bundesbank calculations. * Impulse responses to a negative financial shock that causes the US excess bond premium to increase by one standard deviation. **1** One standard deviation around the country average of impulse responses.

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To depict a typical financial shock, the structural QVAR model is used to simulate an unexpected increase in the EBP by one standard deviation. The shock is identified by applying a Cholesky decomposition to what is known as the co-exceedance matrix of the residuals from the structural QVAR model, with the EBP being ordered first.[6] The results are robust to other identification assumptions.

1 The approach used here is based on Beutel et al. (2021) and Schüler (2020).
2 See Beutel et al. (2021) for details on the country sample and data sources.
3 See Gilchrist and Zakrajšek (2012).
4 The EBP measures the average credit risk premium in the US corporate bond market. Its advantage is that it represents a comparatively exogenous residual variable, making it particularly suitable for identifying exogenous financial shocks. See Gilchrist and Zakrajšek (2012).
5 See Pesaran and Smith (1995).
6 See Koenker and Portnoy (1990).

The model estimates suggest that downside risks to the global real economy increase significantly if there is an unexpected deterioration in global financing conditions. It is already evident at the median of the probability distribution of GDP growth that an unexpected increase in the EBP by one standard deviation is accompanied by a decline in GDP growth of around 0.2 percentage point relative to the baseline (see the chart on p. 76). Four quarters later, the median of the growth distribution returns to its baseline value. If the model implied only a shift in the distribution of GDP growth following a shock, the effects at the median (50th percentile) and in the bottom 10th percentile (and also in the top 90th percentile) would be identical. However, the impact of the simulated shock at the lower end of the GDP distribution is significantly stronger than it is at the median, with GDP growth at the 10th percentile dropping by around 0.7 percentage point below the baseline one quarter after the shock. By contrast, a financial shock has a considerably smaller impact on GDP growth at the median. Overall, the distribution of GDP growth conditional on the financial shock is therefore skewed to the left, compared with the unconditional distribution, and the downward risks increase. The effects at the lower end of the distribution are stronger for countries with comparatively high banking system exposures in foreign currency, and for countries with heightened levels of household sector debt and with fixed exchange rate regimes (see the adjacent table).

Impact of various country characteristics on the size of the GDP response to a global financial shock

Explanatory variable[1]	Coefficient	Standard error
Financial openness	– 0.001	(0.006)
Exchange rate regime	0.161***	(0.053)
Household debt	– 0.034**	(0.016)
Level of financial market development	– 0.015	(0.017)
Banking system exposures in foreign currency	– 0.054***	(0.018)
Financial ties with the United States	0.012	(0.029)
Trade links with the United States	– 0.013	(0.019)
Constant	0.976	(1.862)
Observations	44	
R^2	0.46	

Sources: International Monetary Fund, Federal Reserve Board and Bundesbank calculations. **1** Estimation results of a least squares regression of the sum of impulse responses by GDP growth at the 10th percentile of the distribution over the first four quarters on the following country characteristics: a country's financial openness, as measured by the de facto measure for openness of Lane and Milesi-Ferretti (2007); the exchange rate regime, according to the classification of Ilzetzkiet et al. (2019) (where countries with floating exchange rate regimes are assigned a higher value); household debt, as measured by a country's maximum loan-to-value (LTV) ratio weighted by the home ownership ratio; the level of financial market development, according to the classification of the IMF financial markets development index; banking system exposures in foreign currency, as measured by the percentage of total banking system exposures according to Cesa-Bianchi et al. (2018); and a country's financial ties and trade links with the United States.

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Response of growth-at-risk to financial shocks is stronger in countries with higher degrees of financial vulnerability

financial shocks to the distribution of economic growth. For example, the probability of severe downturns in the real economy is greater, in particular, in countries with higher levels of household debt as well as those with banking systems that have higher foreign currency exposures. These outcomes confirm the theoretical mechanisms that financial vulnerabilities create the preconditions that allow negative shocks to trigger extreme events through feedback effects.

Macroprudential policy and growth-at-risk

The theoretical and empirical evidence for the relationship between financial imbalances and growth-at-risk suggests that macroprudential policy measures to limit the build-up of vulnerabilities may reduce downside risks to the real economy.

Empirical studies suggest that macroprudential policy can limit the emergence of vulnerabilities …

Empirical studies show that macroprudential policy can have an impact on debt dynamics and lending growth in the private sector as well as property price dynamics.[35] Effective macroprudential policy can, for example, counteract excessive debt in the private sector. The findings from the multi-country model in the previous section, too, suggest that macroprudential policy can reduce downside risks to the real economy. This can be achieved by limiting the build-up of excessive debt and lowering the extent of risk-taking. This reduces the vulnerability of the economy to unexpected shocks to financing conditions, as it weakens the feedback effects arising from financial frictions. In addition, it may be possible to mitigate reinforcing effects throughout the financial system by loosening macroprudential instruments during periods of acute stress, for example by lowering countercyclical capital requirements in order to prevent financial frictions from becoming binding and the banking system as a whole from excessively restricting lending.

… and is thus in a position to limit downside risks to the economy

In the academic literature, there are studies that more directly estimate the relationship between macroprudential policy and growth-at-risk.[36] While these studies differ in terms of the utilised datasets, investigated groups of countries, and analysed macroprudential instruments, they all reach the same main conclusion: tightening macroprudential instruments leads, with a time lag of around two to three years, to a significant reduction in future downside risks (growth-at-risk). At the same time, although the associated effects on both the median and the upper quantiles of GDP growth are negative, they are smaller, or even statistically insignificant, in absolute terms. While this suggests that there is a certain degree of macroprudential trade-off, theoretical models show that the use of macroprudential instruments in the presence of financial frictions may increase welfare. Furthermore, the estimation results point towards the effectiveness of macroprudential interventions being dependent on cyclical factors. For example, if macroprudential instruments are tightened during a boom in the financial cycle, this leads to a greater reduction in future downside risks.

Impact of macroprudential policy on growth-at-risk remains subject of current research

Even if the analyses from the literature on growth-at-risk and the impact of macroprudential policy do produce valuable findings, there are some limitations that must be taken into consideration during the practical application of the individual approaches and their results. For example, the quantitative relationships be-

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35 A comprehensive overview of the literature is provided, for example, by Galati and Moessner (2018) and Aikman et al. (2018). Araujo et al. (2020) conduct a meta-analysis of 58 of the most significant research articles on the effects of macroprudential policy measures. The majority of the results indicate that instruments that lead to a tightening of lending standards (such as upper limits on loan-to-value or debt-service-to-income ratios) have a greater dampening effect on credit and property price dynamics than capital and liquidity requirements on banks, for example.

36 See Brandao-Marques et al. (2020), Duprey and Ueberfeldt (2020), Franta and Gambacorta (2020), Aikman et al. (2021), Galán (forthcoming) and International Monetary Fund (2021). In an ongoing project, the ESRB expert group "Macroprudential Stance – Phase III" is investigating the impact of macroprudential measures on growth-at-risk in the EU as well as the possibilities for formulating metrics on macroprudential stance based on empirical analyses. For more information, see also Suarez (2021).

tween macroprudential measures and growth-at-risk found in these analyses are largely not causal in nature, but are instead primarily reflections of statistical correlations.[37] As the relationships between policy measures and future downside risks are estimated in reduced form, it is difficult to reach any conclusions on the relevance of individual transmission channels. The macroprudential policy indicators used are – due to limited data availability, short time periods and differences in the individual instruments – likewise incomplete. For example, the utilised indicators mostly only measure the frequency of macroprudential interventions, not their magnitudes. Ultimately, the fact that the results are largely based on data from European, non-European and emerging market economies may limit their applicability to Germany.

Outlook

Growth-at-risk examines relationship between financial imbalances and downside risks to the economy

Since the developments before and during the global financial crisis and the European sovereign debt crisis at the latest, the issue of the relationship between financial imbalances and real economic downturns has taken greater prominence in economic research and economic policy debate. At many central banks and international institutions, the concept of growth-at-risk is applied to investigate whether financial vulnerabilities and short-term stress in the financial system can provide information on the probability of particularly sharp downturns in economic growth.

Shocks to financing conditions increase probability of very deep recessions

Within the scope of the econometric application of the growth-at-risk concept for Germany, it can be seen that an abrupt deterioration in financing conditions is linked to downside risks to the real economy. More detailed analyses show that there is a causal relationship between unexpected deteriorations in financing conditions and the probability of deep recessions. Initial findings on the impact of macroprudential policy suggest that instruments that mitigate the build-up of vulnerabilities – such as excessive debt and increased risk appetite – may reduce downside risks to the real economy. However, the empirical evidence also shows that it is difficult to make real-time estimates of growth-at-risk with a longer lead time. For this reason, policy recommendations derived from the growth-at-risk concept should always be incorporated into an overall picture of the state of the financial system as a whole so that macroprudential policy can respond to a build-up of vulnerabilities in good time. This would limit the risk of shocks being excessively amplified by the financial system.

Macroprudential policy may counteract build-up of financial vulnerabilities and thus reduce downside risks to real economy

37 An exception in this regard are the studies by Brandao-Marques et al. (2020) and Duprey and Ueberfeldt (2020). In a preliminary step, these authors extract the unsystematic (exogenous) component of macroprudential policy before it is fed into the univariate quantile regression of the growth-at-risk model.

List of references

Adrian, T., N. Boyarchenko and D. Giannone (2019), Vulnerable Growth, American Economic Review, Vol. 109(4), pp. 1,263-1,289.

Adrian, T., F. Grinberg, N. Liang, S. Malik and J. Yu, The Term Structure of Growth-at-Risk, American Economic Journal: Macroeconomics, forthcoming.

Adrian, T., E. Moench and H. Shin (2010), Macro Risk Premium and Intermediary Balance Sheet Quantities, IMF Economic Review, Vol. 58(1), pp. 179-207.

Adrian, T. and H. Shin (2014), Procyclical Leverage and Value-at-Risk, Review of Financial Studies, Vol. 27 (2), pp. 373-403.

Aikman, D., J. Bridges, S. Hacioglu Hoke, C. O'Neill and A. Raja (2021), Credit, capital and crises: a GDP-at-Risk approach, CEPR Discussion Paper, No 15864.

Aikman, D., A. Haldane, M. Hinterschweiger and S. Kapadia (2018), Rethinking financial stability, Bank of England working paper, No 712.

Araujo, J.D., M. Patnam, A. Popescu, F. Valencia and W. Yao (2020), Effects of Macroprudential Policy: Evidence from Over 6,000 Estimates, IMF Working Paper, No 20/67.

Aruoba, S.B., L. Bocola and F. Schorfheide (2017), Assessing DSGE model nonlinearities, Journal of Economic Dynamics and Control, Vol. 83 (C), pp. 34-54.

Baron, M. and W. Xiong (2017), Credit Expansion and Neglected Crash Risk, Quarterly Journal of Economics, Vol. 132(2), pp. 713-764.

Bernanke, B.S., M. Gertler and S. Gilchrist (1999), The Financial Accelerator in a Quantitative Business Cycle Framework, Handbook of Macroeconomics, Vol. 1, pp. 1,341-1,393.

Beutel, J., L. Emter, N. Metiu, E. Prieto and Y.S. Schüler (2021), Dilemma in Mean, Trilemma in Tail: The Global Financial Cycle and Macroeconomic Tail Risks, mimeo.

Beutel, J., S. List and G. von Schweinitz (2019), Does machine learning help us predict banking crises?, Journal of Financial Stability, Vol. 45, https://doi.org/10.1016/j.jfs.2019.100693.

Bianchi, J. (2016), Efficient Bailouts?, American Economic Review, Vol. 106(12), pp. 3,607-3,659.

Bianchi, J. (2011), Overborrowing and Systemic Externalities in the Business Cycle, American Economic Review, Vol. 101(7), pp. 3,400-3,426.

Bianchi, J., E. Boz and E.G. Mendoza (2012), Macroprudential Policy in a Fisherian Model of Financial Innovation, IMF Economic Review, Vol. 60(2), pp. 223-269.

Bianchi, J., C. Liu and E.G. Mendoza (2016), Fundamentals news, global liquidity and macroprudential policy, Journal of International Economics, Vol. 99, pp. 2-15.

Brandao-Marques, L., Q. Chen, C. Raddatz, J. Vandenbussche and P. Xie (2019), The Riskiness of Credit Allocation and Financial Stability, IMF Working Paper, No 19/207.

Brownlees, C. and A.B. Souza (2021), Backtesting global Growth-at-Risk, Journal of Monetary Economics, Vol. 118, pp. 312-330.

Brunnermeier, M.K. and L.H. Pedersen (2009), Market Liquidity and Funding Liquidity, Review of Financial Studies, Vol. 22(6), pp. 2,201-2,238.

Brunnermeier, M. K. and Y. Sannikov (2014), A Macroeconomic Model with a Financial Sector, American Economic Review, Vol. 104(2), pp. 379-421.

Buch, C. M. (2020), Evidenzbasierte Wirtschaftspolitik, speech delivered at the 8th Conference for Social and Economic Data in Berlin, 2 March 2020.

Buch, C. M., E. Vogel and B. Weigert (2018), Evaluating Macroprudential Policies, ESRB Working Paper Series, No 76.

Carlstrom, C. T. and T. S. Fuerst (1997), Agency Costs, Net Worth, and Business Fluctuations: A Computable General Equilibrium Analysis, American Economic Review, Vol. 87(5), pp. 893-910.

Carriero, A., T. E. Clark and M. Marcellino (2020), Capturing Macroeconomic Tail Risks with Bayesian Vector Autoregressions, Federal Reserve Bank of Cleveland, Working Paper, No 20-02.

Cesa-Bianchi, A., A. Ferrero and A. Rebucci (2018), International credit supply shocks, Journal of International Economics, Vol. 112, pp. 219-237.

Chavleishvili, S. and S. Manganelli (2019), Forecasting and stress testing with quantile vector autoregression, ECB Working Paper Series, No 2330.

Christiano, L. J., R. Motto and M. Rostagno (2014), Risk Shocks, American Economic Review, Vol. 104(1), pp. 27-65.

Claessens, S., M. A. Kose and M. E. Terrones (2011a), What happens during recessions, crunches and busts?, Economic Policy, Vol. 24, pp. 653-700.

Claessens, S., M. A. Kose and M. E. Terrones (2011b), How do business and financial cycles interact?, CEPR Discussion Paper, No 8396.

Del Negro, M., M. Lenza, G. E. Primiceri and A. Tambalotti (2020), What's up with the Phillips Curve?, Brookings Papers on Economic Activity, Spring 2020, pp. 301-357.

Deutsche Bundesbank (2019), Financial Stability Review, pp. 42-44.

Deutsche Bundesbank (2018), Financial Stability Review, pp. 47-49.

Deutsche Bundesbank (2017), Financial Stability Review, pp. 45-48.

Duprey, T. and B. Klaus (2015), Dating systemic financial stress episodes in the EU countries, ECB Working Paper Series, No 1873.

Duprey, T. and A. Ueberfeldt (2020), Managing GDP Tail Risk, Bank of Canada Staff Working Paper, 2020-3.

Farhi, E. and I. Werning (2016), A Theory of Macroprudential Policies in the Presence of Nominal Rigidities, Econometrica, Vol. 84(5), pp. 1,645-1,704.

Franta, M. and L. Gambacorta (2020), On the effects of macroprudential policies on Growth-at-Risk, Economics Letters, Vol. 196, https://doi.org/10.1016/j.econlet.2020.109501.

Galán, J. E. (2020), The benefits are at the tail: uncovering the impact of macroprudential policy on growth-at-risk, Journal of Financial Stability, forthcoming.

Galati, G. and R. Moessner (2018), What Do We Know About the Effects of Macroprudential Policy?, Economica, Vol. 85, pp. 735-770.

German Financial Stability Committee (2018), Fünfter Bericht an den Deutschen Bundestag zur Finanzstabilität in Deutschland, pp. 43 ff.

Gertler, M. and P. Karadi (2011), A model of unconventional monetary policy, Journal of Monetary Economics, Vol. 58(1), pp. 17-34.

Gertler, M. and N. Kiyotaki (2015), Banking, Liquidity, and Bank Runs in an Infinite Horizon Economy, American Economic Review, Vol. 105(7), pp. 2,011-2,043.

Gertler, M. and N. Kiyotaki (2010), Financial Intermediation and Credit Policy in Business Cycle Analysis, Handbook of Monetary Economics, Vol. 3, pp. 547-599.

Gertler, M., N. Kiyotaki and A. Prestipino (2016), Wholesale Banking and Bank Runs in Macroeconomic Modeling of Financial Crises, Handbook of Macroeconomics, Vol. 2, pp. 1,345-1,425.

Gilchrist, S. and E. Zakrajšek (2012), Credit Spreads and Business Cycle Fluctuations, American Economic Review, Vol. 102(4), pp. 1,692-1,720.

Gourinchas, P.-O. and M. Obstfeld (2012), Stories of the Twentieth Century for the Twenty-First, American Economic Journal: Macroeconomics, Vol. 4(1), pp. 226-265.

He, Z. and A. Krishnamurthy (2013), Intermediary Asset Pricing, American Economic Review, Vol. 103(2), pp. 732-770.

International Monetary Fund (2021), Global Financial Stability Report, pp. 35 ff.

Jordà, O., M. Schularick and A. M. Taylor (2013), When Credit Bites Back, Journal of Money, Credit and Banking, Vol. 45, pp. 3-28.

Kaminsky, G. L. and C. M. Reinhart (1999), The Twin Crises: The Causes of Banking and Balance-of-Payments Problems, American Economic Review, Vol. 89(3), pp. 473-500.

Kiyotaki, N. and J. Moore (1997), Credit Cycles, Journal of Political Economy, Vol. 105(2), pp. 211-248.

Koenker, R. and G. Bassett (1978), Regression Quantiles, Econometrica, Vol. 46(1), pp. 33-50.

Koenker, R. and S. Portnoy (1990), M Estimation of Multivariate Regressions, Journal of the American Statistical Association, Vol. 85, pp. 1,060-1,068.

Kuttner, K.N. and I. Shim (2016), Can non-interest rate policies stabilize housing markets? Evidence from a panel of 57 economies, Journal of Financial Stability, Vol. 26, pp. 31-44.

López-Salido, D., J.C. Stein and E. Zakrajšek (2017), Credit-Market Sentiment and the Business Cycle, Quarterly Journal of Economics, Vol. 132(3), pp. 1,373-1,426.

Lorenzoni, G. (2008), Inefficient Credit Booms, Review of Economic Studies, Vol. 75(3), pp. 809-833.

Mian, A., A. Sufi and E. Verner (2017), Household Debt and Business Cycles Worldwide, Quarterly Journal of Economics, Vol. 132(4), pp. 1,755-1,817.

Miranda-Agrippino, S. and H. Rey (2020), U.S. Monetary Policy and the Global Financial Cycle, Review of Economic Studies, Vol. 87(6), pp. 2,754-2,776.

Pesaran, M.H. and R. Smith (1995), Estimating long-run relationships from dynamic heterogeneous panels, Journal of Econometrics, Vol. 68, pp. 79-113.

Plagborg-Møller, M., L. Reichlin, G. Ricco and T. Hasenzagl (2020), When is Growth at Risk?, Brookings Papers on Economic Activity, Spring 2020, pp. 167-229.

Schularick, M. and A.M. Taylor (2012), Credit Booms Gone Bust: Monetary Policy, Leverage Cycles and Financial Crises, 1870-2008, American Economic Review, Vol. 102(2), pp. 1,029-1,061.

Schüler, Y.S. (2020), The impact of uncertainty and certainty shocks, Deutsche Bundesbank Discussion Paper No 14/2020, March 2020.

Schüler, Y.S., P. P. Hiebert and T. A. Peltonen (2020), Financial cycles: Characterisation and real-time measurement, Journal of International Money and Finance, Vol. 100, https://doi.org/10.1016/j.jimonfin.2019.102082.

Stock, J.H. and M. Watson (2012), Disentangling the Channels of the 2007-2009 Recession, Brookings Papers on Economic Activity, Spring 2012, pp. 81-135.

Suarez, J. (2021), Growth-at-risk and macroprudential policy design, mimeo.

Wang, Y. and Y. Yao (2001), Measuring Economic Downside Risk and Severity: Growth at Risk, World Bank Policy Research Working Paper, No 2674.

Statistical Section

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I. Key economic data for the euro area

1. Monetary developments and interest rates

Period	Money stock in various definitions [1,2]				Determinants of the money stock [1]			Interest rates		
	M1	M2	M3 [3]	M3 [3]: 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		
2019 Oct.	8.3	6.0	5.7	5.6	2.4	3.7	1.6	− 0.46	− 0.41	− 0.0
Nov.	8.3	5.9	5.6	5.4	2.1	3.4	1.8	− 0.45	− 0.40	0.1
Dec.	8.0	5.7	4.9	5.2	2.0	3.3	1.6	− 0.46	− 0.40	0.2
2020 Jan.	8.0	5.6	5.2	5.2	1.9	3.2	1.2	− 0.45	− 0.39	0.2
Feb.	8.1	5.6	5.5	6.1	1.9	3.2	0.9	− 0.45	− 0.41	− 0.0
Mar.	10.4	7.4	7.5	7.1	3.6	4.2	0.3	− 0.45	− 0.42	0.2
Apr.	11.8	8.3	8.2	8.2	4.8	4.3	0.0	− 0.45	− 0.25	0.3
May	12.5	9.1	9.0	8.8	6.1	4.9	0.2	− 0.46	− 0.27	0.2
June	12.7	9.3	9.3	9.5	6.9	4.6	− 0.4	− 0.46	− 0.38	0.2
July	13.5	10.0	10.1	9.7	7.4	4.7	− 0.5	− 0.46	− 0.44	0.0
Aug.	13.3	9.6	9.5	10.0	7.7	4.7	− 0.0	− 0.47	− 0.48	− 0.0
Sep.	13.8	10.3	10.4	10.2	8.1	4.5	− 0.4	− 0.47	− 0.49	− 0.1
Oct.	13.8	10.3	10.5	10.7	8.3	4.2	− 0.5	− 0.47	− 0.51	− 0.2
Nov.	14.5	10.8	11.0	11.3	8.6	4.4	− 0.7	− 0.47	− 0.52	− 0.2
Dec.	15.6	11.7	12.4	12.0	9.3	4.9	− 0.4	− 0.47	− 0.54	− 0.2
2021 Jan.	16.5	12.2	12.5	12.4	9.4	4.8	− 0.9	− 0.48	− 0.55	− 0.2
Feb.	16.4	12.2	12.3	11.6	9.6	4.6	− 0.9	− 0.48	− 0.54	− 0.1
Mar.	13.6	10.2	10.0	10.5	8.7	4.1	− 0.1	− 0.48	− 0.54	0.0
Apr.	12.3	9.1	9.2	9.2	7.3	3.4	− 0.2	− 0.48	− 0.54	0.1
May	11.6	8.3	8.4	...	6.3	2.9	− 0.9	− 0.48	− 0.54	0.2
June	...	...	...	...	...	...	...	− 0.48	− 0.54	0.2

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 included: DE, FR, NL, BE, AT, FI, IE, PT, ES, IT, GR, SK, CY, SI.

2. External transactions and positions *

Period	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	
2019 Oct.	+ 28,859	+ 35,241	+ 39,521	+ 21,538	+ 51,075	+ 6,113	− 40,099	+ 894	1.1053	98.0	92.7
Nov.	+ 23,070	+ 28,715	+ 8,970	− 59,845	+ 35,760	+ 540	+ 36,385	− 3,870	1.1051	97.4	92.0
Dec.	+ 30,571	+ 28,977	+ 1,600	− 88,670	+ 61,011	− 8,754	+ 37,555	+ 458	1.1113	97.3	91.9
2020 Jan.	− 6,355	+ 9,492	− 12,397	+ 3,240	− 42,356	+ 7,318	+ 17,906	+ 1,495	1.1100	96.9	91.3
Feb.	+ 15,530	+ 29,118	+ 1,840	+ 7,360	− 29,022	+ 7,458	+ 16,528	− 484	1.0905	96.2	90.5
Mar.	+ 25,901	+ 37,829	+ 19,582	+ 761	− 110,668	− 3,723	+ 129,634	+ 3,578	1.1063	98.8	92.9
Apr.	+ 12,008	+ 11,712	− 12,357	− 39,556	+ 162,069	+ 11,913	− 148,477	+ 1,694	1.0862	98.1	92.4
May	− 669	+ 16,887	+ 5,646	− 38,001	+ 42,795	+ 9,336	− 10,146	+ 1,662	1.0902	98.3	92.5
June	+ 18,353	+ 27,963	+ 30,552	− 31,008	− 30,296	+ 19,593	+ 72,433	− 169	1.1255	99.7	93.8
July	+ 26,099	+ 35,448	+ 7,370	+ 46,062	− 23,752	− 8,500	− 5,881	− 558	1.1463	100.4	94.3
Aug.	+ 22,807	+ 24,423	+ 46,877	+ 10,638	+ 38,054	− 15,540	+ 12,419	+ 1,304	1.1828	101.5	94.9
Sep.	+ 35,808	+ 34,790	+ 43,723	− 29,682	+ 3,127	− 7,762	+ 75,401	+ 2,640	1.1792	101.5	94.8
Oct.	+ 28,981	+ 38,817	+ 42,698	+ 39,710	+ 106,355	+ 2,297	− 108,580	+ 2,917	1.1775	101.3	94.7
Nov.	+ 25,269	+ 34,898	+ 33,155	− 47,379	+ 188,190	+ 8,737	− 113,795	− 2,597	1.1838	100.6	94.2
Dec.	+ 43,925	+ 39,424	+ 49,992	− 103,709	+ 300,359	− 30,604	− 117,803	+ 1,749	1.2170	101.8	95.2
2021 Jan.	+ 15,982	+ 21,780	+ 45,229	+ 42,086	+ 3,936	+ 13,703	− 13,605	− 891	1.2171	101.3	95.3
Feb.	+ 20,962	+ 33,965	+ 18,832	+ 16,584	+ 86,916	− 967	− 82,102	− 1,597	1.2098	100.6	94.5
Mar.	+ 35,649	+ 37,153	+ 20,775	+ 4,164	+ 3,451	− 5,575	+ 19,228	− 494	1.1899	100.3	p 94.1
Apr.	+ 31,428	+ 26,387	+ 5,181	+ 29,124	+ 15,605	+ 4,541	− 44,838	+ 748	1.1979	100.6	p 94.1
May	...	...	...	...	...	...	...	...	1.2146	100.8	p 94.2
June	...	...	...	...	...	...	...	...	1.2047	100.2	p 93.8

***** Source: ECB, according to the international standards of the International Monetary Fund's Balance of Payments Manual (sixth edition). **1** Monthly averages, 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										
2018	1.9	1.8	1.3	4.4	1.1	1.9	1.6	8.5	0.9	4.0
2019	1.3	1.8	0.6	5.0	1.3	1.8	1.9	5.6	0.3	2.0
2020	– 6.5	– 6.3	– 4.8	– 2.9	– 2.9	– 7.9	– 8.2	3.4	– 8.9	– 3.6
2019 Q4	1.0	1.7	0.2	5.3	1.0	1.0	1.2	5.9	– 0.2	0.7
2020 Q1	– 3.3	– 1.9	– 1.8	– 1.1	– 0.9	– 5.1	– 1.5	5.8	– 5.9	– 1.1
Q2	– 14.6	– 13.8	– 11.3	– 7.0	– 6.4	– 18.6	– 15.6	– 2.6	– 18.2	– 8.9
Q3	– 4.1	– 4.2	– 3.7	– 2.5	– 2.7	– 4.0	– 9.4	8.7	– 5.2	– 2.8
Q4	– 4.7	– 5.0	– 2.3	– 1.2	– 0.7	– 3.8	– 5.9	1.5	– 6.1	– 1.5
2021 Q1	– 1.3	– 0.4	– 3.4	5.4	– 1.5	1.5	– 1.4	11.8	0.1	– 1.3
Industrial production [2] Annual percentage change										
2018	0.8	1.2	1.0	4.8	3.4	0.6	1.8	– 5.0	0.9	2.0
2019	– 1.3	4.8	– 4.3	6.9	1.6	0.5	– 0.7	2.8	– 1.1	0.8
2020	– 8.6	– 3.8	– 10.2	– 6.0	– 3.2	– 11.0	– 2.2	4.3	– 11.4	– 1.8
2019 Q4	– 2.1	5.9	– 5.1	1.7	0.8	– 0.7	– 5.0	4.7	– 2.2	0.0
2020 Q1	– 6.0	– 0.3	– 6.3	– 8.0	– 0.3	– 7.8	– 1.2	6.8	– 11.6	– 2.6
Q2	– 20.2	– 11.7	– 21.6	– 13.3	– 5.4	– 23.8	– 8.2	– 1.6	– 25.5	– 5.1
Q3	– 6.8	– 3.5	– 10.0	– 2.2	– 5.0	– 7.9	– 2.0	– 2.2	– 5.2	– 1.8
Q4	– 1.6	0.6	– 2.9	– 0.1	– 2.0	– 4.3	2.9	12.9	– 2.5	2.2
2021 Q1	3.4	5.2	r – 1.2	– 0.3	0.0	2.3	4.7	21.6	9.9	3.6
Capacity utilisation in industry [3] As a percentage of full capacity										
2018	83.8	81.0	87.7	74.4	84.1	85.9	70.8	76.2	78.1	76.4
2019	82.3	81.2	84.5	72.8	81.1	84.5	71.5	77.3	77.4	76.3
2020	74.4	75.5	77.0	67.4	76.8	73.5	70.8	68.5	53.1	71.8
2020 Q1	80.9	79.7	82.9	70.7	78.4	82.6	72.3	75.5	76.5	74.7
Q2	68.4	72.8	71.4	63.3	77.2	62.4	67.3	56.7	–	69.1
Q3	72.1	73.4	74.4	66.0	76.0	72.9	70.3	69.6	64.5	70.8
Q4	76.3	75.9	79.1	69.6	75.4	76.0	73.2	72.0	71.4	72.7
2021 Q1	77.5	77.4	80.4	71.6	78.1	77.1	72.5	74.5	72.8	73.1
Q2	82.5	80.2	86.7	76.5	81.0	83.2	74.7	77.2	75.7	75.0
Standardised unemployment rate [4] As a percentage of civilian labour force										
2018	8.2	6.0	3.4	5.4	7.4	8.7	19.3	5.8	10.6	7.5
2019	7.5	5.4	3.2	4.5	6.7	8.2	17.3	5.0	10.0	6.3
2020	7.8	5.6	e 3.8	6.8	7.8	7.8	16.3	5.6	9.2	8.1
2021 Jan.	8.2	6.4	3.9	7.1	8.3	7.9	16.6	7.1	p 10.4	7.8
Feb.	8.2	6.7	3.9	6.8	7.9	8.1	16.7	7.6	p 10.4	7.7
Mar.	8.1	6.8	3.8	6.8	7.4	8.2	16.4	7.7	p 10.4	7.7
Apr.	8.1	6.7	p 3.8	6.5	8.0	7.8	p 17.2	7.9	p 10.7	7.8
May	7.9	6.5	p 3.7	6.4	7.8	7.5	p 15.4	7.8	p 10.5	7.9
June	...	...	...	...	...	...	...	7.6	...	...
Harmonised Index of Consumer Prices Annual percentage change										
2018	1.8	2.3	1.9	3.4	1.2	2.1	0.8	0.7	1.2	2.6
2019	1.2	1.2	1.4	2.3	1.1	1.3	0.5	0.9	0.6	2.7
2020	0.3	0.4	5 0.4	– 0.6	0.4	0.5	– 1.3	– 0.5	– 0.1	0.1
2021 Jan.	0.9	0.6	1.6	0.3	1.0	0.8	– 2.4	– 0.1	0.7	– 0.5
Feb.	0.9	0.3	1.6	0.5	0.9	0.8	– 1.9	– 0.4	1.0	– 0.2
Mar.	1.3	1.6	2.0	0.9	1.4	1.4	– 2.0	0.1	0.6	0.3
Apr.	1.6	2.1	2.1	1.6	2.2	1.6	– 1.1	1.1	1.0	1.7
May	2.0	2.5	2.4	3.2	2.3	1.8	– 1.2	1.9	1.2	2.6
June	e 1.9	2.6	2.1	3.7	1.9	1.9	0.6	1.6	1.3	2.7
General government financial balance [6] As a percentage of GDP										
2018	– 0.5	– 0.8	1.8	– 0.6	– 0.9	– 2.3	0.9	0.1	– 2.2	– 0.8
2019	– 0.6	– 1.9	1.5	0.1	– 0.9	– 3.1	1.1	0.5	– 1.6	– 0.6
2020	– 7.2	– 9.4	– 4.5	– 4.9	– 5.4	– 9.2	– 9.7	– 5.0	– 9.5	– 4.5
General government debt [6] As a percentage of GDP										
2018	85.7	99.8	61.8	8.2	59.7	98.0	186.2	63.0	134.4	37.1
2019	83.9	98.1	59.7	8.4	59.5	97.6	180.5	57.4	134.6	37.0
2020	98.0	114.1	69.7	18.2	69.2	115.7	205.6	59.5	155.8	43.5

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 data

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										
3.9	3.1	5.2	2.4	2.6	2.9	3.7	4.4	2.4	5.2	2018
4.3	2.3	5.5	2.0	1.4	2.5	2.5	3.2	2.0	3.1	2019
−0.9	−1.3	−7.8	−3.8	−6.3	−7.6	−4.8	−5.5	−10.8	−5.1	2020
4.2	2.5	5.8	1.9	0.4	2.7	2.2	2.0	1.6	3.7	2019 Q4
2.4	1.2	1.9	−0.2	−3.3	−2.2	−3.5	−2.3	−4.0	1.0	2020 Q1
−4.6	−7.8	−14.7	−9.2	−13.0	−16.5	−10.9	−12.9	−21.6	−12.4	Q2
0.1	−0.2	−9.8	−2.6	−3.2	−5.7	−2.5	−2.4	−8.6	−4.3	Q3
−1.2	1.6	−7.8	−2.9	−5.6	−5.8	−2.1	−4.5	−8.9	−4.5	Q4
1.5	5.0	−1.8	−2.4	−5.5	−5.2	0.2	1.6	−4.5	−1.6	2021 Q1
Industrial production 2 Annual percentage change										
5.2	−1.1	1.5	0.6	4.9	0.1	4.3	5.3	0.4	6.9	2018
3.4	−3.1	1.1	−0.9	−0.1	−2.2	0.5	2.8	0.5	4.0	2019
−2.4	−10.7	−0.2	−3.9	−6.3	−7.3	−9.1	−6.4	−9.8	−7.2	2020
0.1	−8.7	1.7	−0.9	−4.6	0.5	−4.7	1.8	0.3	2.9	2019 Q4
−2.5	−10.0	11.3	−0.8	−5.9	−0.9	−7.4	−3.0	−6.6	−2.1	2020 Q1
−7.5	−22.3	−7.1	−8.2	−16.8	−24.5	−28.2	−17.4	−24.6	−19.9	Q2
−0.3	−7.8	−2.9	−4.7	−3.3	−1.4	−1.5	−3.6	−5.2	−4.8	Q3
0.6	−2.1	−1.3	−1.9	0.6	−2.0	1.7	−1.0	−2.0	−1.7	Q4
12.4	3.9	−8.1	−0.6	4.2	−0.6	6.5	4.0	2.7	−0.0	2021 Q1
Capacity utilisation in industry 3 As a percentage of full capacity										
77.5	81.2	80.3	84.0	88.7	81.6	85.4	85.3	79.5	61.4	2018
77.3	79.8	77.3	84.2	86.6	78.7	87.7	84.4	80.3	63.8	2019
72.9	72.2	70.4	78.2	79.2	75.5	79.3	78.2	74.3	51.7	2020
76.4	83.4	78.8	83.2	84.8	80.6	82.2	83.0	80.0	63.3	2020 Q1
70.0	53.8	61.1	75.2	73.9	71.7	77.1	71.9	70.9	47.4	Q2
71.9	76.3	68.0	76.3	77.2	71.9	78.3	76.1	71.5	49.2	Q3
73.4	75.3	73.5	78.0	80.8	77.8	79.7	81.6	74.8	46.7	Q4
72.4	75.6	73.7	79.2	82.2	78.4	81.4	80.9	75.7	48.6	2021 Q1
77.0	88.2	81.1	82.2	87.1	80.7	83.2	85.8	78.1	49.5	Q2
Standardised unemployment rate 4 As a percentage of civilian labour force										
6.2	5.6	3.7	3.9	4.9	7.1	6.6	5.1	15.3	8.4	2018
6.3	5.6	3.6	3.4	4.5	6.5	5.8	4.5	14.1	7.1	2019
8.6	6.8	4.3	3.9	5.4	6.9	6.7	5.0	15.5	7.6	2020
7.4	6.5	4.1	3.6	p 7.3	p 6.9	7.0	5.3	15.8	7.2	2021 Jan.
6.8	6.4	3.9	3.6	p 7.0	p 6.8	7.1	5.3	15.7	7.4	Feb.
6.5	6.4	3.8	3.5	p 6.8	p 6.6	7.2	5.2	15.4	8.0	Mar.
7.0	6.4	3.7	3.4	p 7.3	p 7.0	7.0	5.2	15.5	9.2	Apr.
6.9	6.2	3.7	3.3	p 6.9	p 7.2	6.9	5.1	15.3	9.9	May
...	...	...	...	...	...	...	...	...	...	June
Harmonised Index of Consumer Prices Annual percentage change										
2.5	2.0	1.7	1.6	2.1	1.2	2.5	1.9	1.7	0.8	2018
2.2	1.6	1.5	2.7	1.5	0.3	2.8	1.7	0.8	0.5	2019
1.1	0.0	0.8	1.1	1.4	−0.1	2.0	−0.3	−0.3	−1.1	2020
0.2	1.1	0.2	1.6	1.1	0.2	0.7	−0.9	0.4	−0.8	2021 Jan.
0.4	−0.5	0.1	1.9	1.4	0.3	0.9	−1.1	−0.1	−0.9	Feb.
1.6	2.5	0.1	1.9	2.0	0.1	1.5	0.1	1.2	0.3	Mar.
2.4	3.3	0.1	1.7	1.9	−0.1	1.7	2.2	2.0	1.2	Apr.
3.5	4.0	0.2	2.0	3.0	0.5	2.0	2.2	2.4	1.5	May
3.5	3.4	0.2	e 1.7	e 2.8	−0.6	e 2.5	1.7	2.5	2.2	June
General government financial balance 6 As a percentage of GDP										
0.6	3.0	1.9	1.4	0.2	−0.3	−1.0	0.7	−2.5	−3.5	2018
0.5	2.4	0.4	1.8	0.6	0.1	−1.3	0.4	−2.9	1.5	2019
−7.4	−4.1	−10.1	−4.3	−8.9	−5.7	−6.2	−8.4	−11.0	−5.7	2020
General government debt 6 As a percentage of GDP										
33.7	21.0	44.8	52.4	74.0	121.5	49.6	70.3	97.4	99.2	2018
35.9	22.0	42.0	48.7	70.5	116.8	48.2	65.6	95.5	94.0	2019
47.3	24.9	54.3	54.5	83.9	133.6	60.6	80.8	120.0	118.2	2020

seasonally adjusted. Data collection at the beginning of the quarter. **4** Monthly data seasonally adjusted. Germany: **5** Influenced by a temporary reduction of value added tax. **6** According to Maastricht Treaty definition.

II. Overall monetary survey in the euro area

1. The money stock and its counterparts *

a) Euro area 1

€ 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	Liabil-ities 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
2019 Oct.	43.6	63.3	− 9.2	− 19.7	− 25.7	17.3	16.2	− 1.1	− 11.0	− 1.9	− 1.8	− 19.8	12.5
Nov.	54.4	54.9	30.8	− 0.5	3.3	10.4	− 21.5	− 31.9	19.4	1.0	− 0.8	4.7	14.5
Dec.	− 118.6	− 79.9	− 25.2	− 38.7	− 20.6	− 21.8	− 299.1	− 277.3	− 6.7	7.0	− 1.4	− 6.1	− 6.2
2020 Jan.	101.9	51.7	1.7	50.2	28.0	24.6	295.6	271.0	− 5.2	− 6.3	− 1.0	13.1	− 11.0
Feb.	60.7	50.0	20.1	10.7	22.1	42.1	93.3	51.2	− 2.6	− 3.0	− 0.7	− 3.3	4.4
Mar.	322.7	180.6	− 21.1	142.1	127.8	− 4.9	101.6	106.5	− 32.2	1.3	− 1.0	− 42.9	10.5
Apr.	293.3	101.3	54.4	192.0	180.9	− 100.0	14.6	114.6	− 34.2	− 9.4	− 1.1	− 4.1	− 19.7
May	293.8	121.4	32.2	172.4	177.1	8.8	− 42.3	− 51.2	21.3	5.5	− 0.8	− 0.8	17.4
June	137.5	− 14.7	16.3	152.2	160.5	72.7	− 146.0	− 218.7	− 0.7	− 6.2	− 1.2	− 8.4	15.1
July	155.6	72.5	25.4	83.1	82.5	− 35.2	89.5	124.6	0.3	1.5	− 0.1	− 7.1	6.1
Aug.	84.4	25.7	17.3	58.7	66.7	1.4	− 18.2	− 19.6	13.2	9.6	− 0.4	− 11.5	15.5
Sep.	83.8	− 3.1	− 3.2	86.9	86.1	47.4	− 25.7	− 73.1	10.6	− 11.0	− 0.2	19.4	2.5
Oct.	70.2	30.9	− 5.3	39.3	33.3	− 22.6	91.4	114.0	− 17.0	− 4.3	− 0.4	− 29.4	17.1
Nov.	117.6	73.0	29.3	44.6	45.3	− 31.9	90.9	122.8	4.7	13.2	− 0.5	− 10.7	2.7
Dec.	− 3.6	− 1.0	30.0	− 2.6	6.2	− 48.3	− 195.2	− 146.9	10.4	− 5.5	− 0.5	− 13.1	29.5
2021 Jan.	135.4	32.2	4.9	103.2	94.1	18.9	157.7	138.9	− 37.7	− 9.4	0.1	− 17.3	− 11.1
Feb.	96.3	30.3	9.1	66.0	72.7	− 14.9	28.9	43.8	− 1.2	− 5.7	− 0.5	− 2.5	7.5
Mar.	186.9	111.5	15.5	75.3	74.0	− 3.0	− 5.4	− 2.4	20.3	− 1.0	− 0.3	1.1	20.6
Apr.	52.4	9.9	8.6	42.5	28.9	− 12.5	105.9	118.5	− 37.7	− 24.9	− 0.1	− 6.9	− 5.7
May	125.2	49.2	16.0	76.0	77.0	1.0	23.9	22.9	− 23.8	− 0.9	− 0.2	− 15.9	− 6.8

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	Liabil-ities 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
2019 Oct.	10.2	11.0	1.2	− 0.8	− 4.2	56.3	2.4	− 53.9	− 2.6	− 0.7	− 0.8	− 3.6	2.5
Nov.	25.3	20.4	5.2	4.9	3.9	− 23.5	− 17.6	5.9	3.0	− 1.9	− 0.9	1.6	4.2
Dec.	− 4.4	1.5	0.8	− 5.9	− 1.1	− 38.9	− 47.5	− 8.6	− 4.4	− 0.3	− 1.1	− 5.8	2.7
2020 Jan.	16.3	9.5	1.9	6.8	2.6	74.7	37.7	− 37.0	− 9.0	− 2.6	− 1.5	3.8	− 8.6
Feb.	24.5	25.4	4.3	− 0.9	1.2	− 4.3	14.1	18.4	− 4.6	− 1.2	− 0.6	4.8	− 7.6
Mar.	47.3	31.4	− 6.1	15.9	14.3	− 34.3	18.5	52.8	− 8.3	− 3.7	− 0.7	− 8.2	4.3
Apr.	33.0	16.0	1.3	16.9	14.8	− 28.8	8.9	37.6	− 23.8	− 5.1	− 0.8	− 2.1	− 15.8
May	58.3	27.1	10.0	31.2	32.7	11.7	− 22.1	− 33.8	2.3	− 1.5	− 0.4	− 1.2	5.4
June	26.4	2.6	3.5	23.7	25.9	− 45.6	− 20.9	24.7	− 7.9	− 7.1	− 1.0	− 7.9	8.1
July	25.9	13.8	0.3	12.2	10.3	9.4	− 9.7	− 19.1	− 3.0	− 6.9	− 0.6	1.2	3.3
Aug.	9.3	7.5	1.9	1.8	7.9	5.6	− 8.1	− 13.7	− 5.2	− 2.2	− 0.4	− 4.4	1.8
Sep.	22.6	4.6	1.3	18.1	15.8	− 34.8	22.9	57.8	10.4	− 3.4	− 0.4	5.1	9.1
Oct.	48.7	22.1	6.6	26.7	23.9	30.1	− 16.6	− 46.8	− 2.0	− 0.5	− 0.4	− 4.5	3.4
Nov.	44.0	19.6	4.5	24.5	26.0	− 15.1	7.4	22.5	0.6	− 1.5	− 0.4	0.2	2.3
Dec.	− 0.9	7.5	3.6	− 8.4	− 4.6	− 107.2	− 35.1	72.1	− 7.5	− 1.3	− 0.3	− 7.1	1.2
2021 Jan.	30.1	12.1	3.1	18.1	18.1	41.7	79.7	38.0	− 11.4	− 2.9	− 0.6	− 1.6	− 6.4
Feb.	29.8	18.8	4.6	11.1	13.4	26.3	7.0	− 19.3	0.8	− 1.8	− 0.3	4.3	− 1.4
Mar.	54.1	35.8	1.8	18.3	19.5	− 61.9	1.9	63.9	3.5	− 3.5	− 0.3	7.1	0.2
Apr.	11.4	0.5	2.4	10.8	7.0	67.3	25.3	− 42.0	9.3	− 2.4	− 0.3	6.4	5.6
May	33.0	16.4	3.0	16.6	18.9	− 33.6	− 9.4	24.2	− 10.0	− 2.7	− 0.1	− 7.2	0.0

***** 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" of the Statistical Series Banking Statistics). **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. **8** Less German MFIs' holdings

II. Overall monetary survey in the euro area

a) Euro area [1]

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	Currency in circulation	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
− 37.7	51.2	0.0	58.3	45.6	60.1	2.8	57.3	− 10.1	− 4.5	42.1	1.4	6.5	2019 Oct.
− 1.1	− 54.0	0.0	100.5	103.2	122.4	6.9	115.5	− 17.7	− 1.5	− 14.7	3.1	− 0.7	Nov.
− 66.5	− 27.1	0.0	− 40.2	1.5	8.2	16.3	− 8.1	− 9.7	2.9	− 33.6	− 22.6	− 18.3	Dec.
84.6	41.8	0.0	5.3	− 44.2	− 52.0	− 7.3	− 44.7	0.2	7.6	− 7.1	34.8	14.0	2020 Jan.
43.7	− 34.1	0.0	95.8	82.6	84.1	5.2	79.0	− 1.2	− 0.3	19.7	− 4.7	4.9	Feb.
4.7	− 4.5	0.0	349.7	321.2	300.5	23.8	276.8	16.2	4.5	30.0	− 18.4	22.8	Mar.
72.1	− 17.1	0.0	172.5	174.9	175.2	20.4	154.8	− 15.0	14.7	− 4.6	23.1	− 16.9	Apr.
100.9	− 37.1	0.0	217.5	226.3	189.5	20.1	169.5	16.8	19.9	9.6	− 0.4	− 9.1	May
123.4	1.0	0.0	86.4	79.0	88.5	13.1	75.4	− 20.5	10.9	− 42.7	14.4	− 1.5	June
− 4.6	− 59.3	0.0	184.0	149.3	123.5	14.3	109.2	20.1	5.8	18.1	29.9	− 10.1	July
40.5	13.9	0.0	18.3	35.5	45.0	5.9	39.1	− 18.6	9.1	− 4.8	− 0.1	− 4.3	Aug.
20.2	11.5	0.0	88.9	82.3	63.7	3.5	60.1	16.7	1.9	− 29.5	8.2	− 2.5	Sep.
− 17.2	− 30.5	0.0	112.2	85.9	101.4	7.8	93.7	− 17.9	2.5	5.3	14.3	15.5	Oct.
− 98.4	51.2	0.0	128.1	125.2	151.7	11.8	139.9	− 34.5	8.1	− 0.7	0.7	2.3	Nov.
− 128.1	− 69.6	0.0	135.5	128.1	116.9	20.8	96.0	10.6	0.6	− 24.7	20.1	− 6.1	Dec.
78.9	60.4	0.0	52.7	32.0	44.4	2.6	41.9	− 30.7	18.3	30.0	3.5	4.5	2021 Jan.
30.3	− 0.3	0.0	52.7	65.5	71.8	7.3	64.5	− 17.9	11.6	2.8	− 30.4	12.8	Feb.
19.6	63.1	0.0	80.8	98.8	80.2	10.4	69.8	6.9	11.7	− 18.5	− 4.8	− 12.8	Mar.
− 32.3	16.4	0.0	93.4	69.5	89.0	8.5	80.5	− 27.6	8.1	15.2	7.6	6.6	Apr.
− 9.1	50.4	0.0	108.8	114.1	114.8	13.2	101.6	− 11.4	10.7	− 4.2	− 9.2	8.7	May

b) German contribution

IV. Deposits of central governments	V. Other factors: Total	of which: Intra-Eurosystem liability/claim related to banknote issue [9,11]	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]	maturities with maturities of up to 2 years (incl. money market paper)(net) [7]	Period
− 19.8	74.2	4.3	0.2	14.7	18.7	− 0.4	− 1.0	− 0.3	− 0.1	− 2.3	2019 Oct.
8.2	− 29.5	4.5	0.7	20.0	24.1	− 3.4	− 0.7	0.4	− 0.2	− 0.2	Nov.
− 2.0	− 32.4	4.9	3.4	− 4.5	− 0.4	− 6.6	0.6	1.8	− 0.1	0.0	Dec.
− 5.6	108.0	2.1	− 0.6	− 2.5	− 7.8	5.9	− 3.0	− 1.0	− 0.1	3.4	2020 Jan.
24.4	− 14.0	4.9	0.1	14.5	17.7	1.2	− 1.7	− 0.6	0.1	− 2.2	Feb.
7.5	− 71.9	12.2	0.9	85.7	93.3	− 0.4	− 3.4	− 0.3	0.4	− 3.8	Mar.
17.9	8.6	3.2	4.3	1.5	9.9	− 8.1	0.1	1.7	− 0.1	− 1.9	Apr.
28.6	− 9.3	0.3	5.3	48.4	43.4	6.2	0.3	− 1.0	− 0.1	− 0.4	May
57.8	− 69.3	− 0.4	4.7	0.1	9.9	− 7.7	− 0.1	− 1.6	− 0.2	− 0.3	June
14.2	− 11.1	2.4	3.9	35.2	27.4	8.6	− 1.1	1.3	− 0.2	− 0.8	July
21.0	− 14.2	3.8	0.9	13.3	18.6	− 4.9	0.2	− 0.4	0.3	− 0.3	Aug.
15.3	− 58.3	2.7	0.6	20.4	26.2	− 5.2	− 0.1	− 0.4	0.2	− 0.2	Sep.
− 20.0	70.5	2.4	1.7	30.3	30.6	− 0.1	− 0.0	0.2	0.6	− 1.0	Oct.
− 12.7	3.6	1.3	3.0	37.4	49.3	− 14.3	0.3	3.3	− 0.3	− 0.9	Nov.
− 22.9	− 73.4	2.4	5.6	− 4.3	− 5.8	− 1.7	1.3	3.1	0.1	− 1.3	Dec.
− 40.3	95.7	1.1	0.9	27.8	45.9	− 14.8	1.6	− 3.8	− 0.0	− 1.1	2021 Jan.
15.4	29.1	2.3	1.5	10.8	20.3	− 8.5	1.2	− 2.4	− 0.0	0.3	Feb.
− 2.3	− 38.0	2.5	2.7	29.1	24.3	− 0.6	0.1	5.0	0.5	− 0.1	Mar.
− 7.4	71.2	0.7	2.6	5.5	13.9	− 5.2	0.7	− 3.4	− 0.1	− 0.4	Apr.
18.8	− 43.4	3.0	2.9	34.0	27.8	2.7	0.6	1.7	− 0.7	1.9	May

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 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											
2019 Apr.	27,886.9	18,468.4	13,828.8	11,472.8	1,529.8	826.1	4,639.6	1,001.1	3,638.6	5,942.4	3,476.2
May	28,185.6	18,497.1	13,854.0	11,494.6	1,549.1	810.4	4,643.0	1,000.3	3,642.7	6,027.7	3,660.8
June	28,305.8	18,522.0	13,874.9	11,521.2	1,552.5	801.2	4,647.1	1,000.0	3,647.1	5,991.7	3,792.1
July	28,772.3	18,601.9	13,939.3	11,583.7	1,550.8	804.7	4,662.6	1,002.8	3,659.8	6,208.8	3,961.7
Aug.	29,374.0	18,658.9	13,961.4	11,612.7	1,549.4	799.3	4,697.5	1,003.1	3,694.4	6,311.5	4,403.7
Sep.	29,193.7	18,651.6	13,971.2	11,595.9	1,566.6	808.7	4,680.4	996.7	3,683.7	6,300.2	4,241.9
Oct.	28,965.9	18,689.2	14,042.6	11,660.4	1,550.6	831.6	4,646.7	1,002.4	3,644.3	6,259.5	4,017.2
Nov.	29,017.5	18,729.4	14,099.5	11,684.5	1,569.3	845.7	4,629.9	998.5	3,631.4	6,270.8	4,017.3
Dec.	28,326.0	18,591.5	14,008.6	11,617.0	1,543.9	847.8	4,582.9	981.0	3,601.9	5,930.7	3,803.8
2020 Jan.	29,019.0	18,722.5	14,062.6	11,668.8	1,542.8	851.0	4,659.9	1,003.4	3,656.5	6,302.1	3,994.4
Feb.	29,486.8	18,766.9	14,101.4	11,697.3	1,562.7	841.4	4,665.5	992.3	3,673.3	6,414.8	4,305.1
Mar.	30,021.0	19,013.2	14,239.0	11,884.9	1,556.9	797.2	4,774.1	1,006.7	3,767.4	6,486.8	4,521.1
Apr.	30,449.7	19,308.0	14,348.5	11,933.4	1,612.6	802.5	4,959.5	1,018.1	3,941.4	6,585.0	4,556.7
May	30,500.6	19,609.7	14,468.3	12,020.6	1,644.9	802.8	5,141.4	1,013.8	4,127.7	6,465.5	4,425.4
June	30,406.6	19,761.1	14,451.1	11,982.0	1,653.0	816.1	5,310.0	1,005.3	4,304.7	6,298.0	4,347.6
July	30,599.0	19,912.0	14,334.0	12,013.7	1,505.9	814.4	5,578.0	1,006.0	4,572.1	6,291.5	4,395.5
Aug.	30,435.3	19,984.9	14,355.0	12,019.1	1,524.9	811.0	5,629.9	997.8	4,632.1	6,242.1	4,208.3
Sep.	30,523.7	20,084.3	14,349.1	12,019.2	1,520.0	809.9	5,735.2	998.7	4,736.5	6,239.3	4,200.1
Oct.	30,691.3	20,161.6	14,375.7	12,054.9	1,519.6	801.3	5,785.9	1,004.2	4,781.7	6,342.3	4,187.3
Nov.	30,752.9	20,291.3	14,456.9	12,090.4	1,541.5	825.0	5,834.4	1,003.4	4,831.0	6,334.9	4,126.7
Dec.	30,441.4	20,265.5	14,437.7	12,042.9	1,531.4	863.4	5,827.8	990.2	4,837.6	6,112.0	4,063.9
2021 Jan.	30,644.2	20,389.2	14,467.6	12,069.3	1,535.6	862.7	5,921.6	999.4	4,922.2	6,298.2	3,956.7
Feb.	30,543.2	20,461.6	14,498.4	12,088.0	1,541.1	869.4	5,963.1	992.4	4,970.7	6,299.1	3,782.6
Mar.	30,829.8	20,656.1	14,579.2	12,187.7	1,512.4	879.0	6,076.9	993.3	5,083.6	6,360.5	3,813.2
Apr.	30,754.0	20,666.0	14,565.6	12,168.4	1,509.6	887.7	6,100.4	1,007.1	5,093.3	6,397.5	3,690.4
May	30,890.5	20,786.7	14,612.1	12,197.5	1,522.2	892.4	6,174.7	1,006.1	5,168.6	6,434.9	3,668.9
German contribution (€ billion)											
2019 Apr.	6,408.7	4,379.3	3,427.3	2,976.4	189.1	261.9	951.9	294.8	657.1	1,278.2	751.2
May	6,524.8	4,402.6	3,446.8	2,995.6	190.0	261.1	955.8	293.1	662.8	1,284.5	837.7
June	6,619.8	4,431.8	3,473.1	3,017.0	194.4	261.7	958.6	291.2	667.5	1,294.2	893.7
July	6,698.2	4,445.3	3,481.1	3,024.8	194.0	262.3	964.2	293.7	670.5	1,312.3	940.7
Aug.	6,973.5	4,478.6	3,501.8	3,044.3	196.5	261.0	976.8	293.5	683.3	1,330.9	1,163.9
Sep.	6,872.6	4,462.9	3,497.0	3,040.4	196.0	260.5	965.9	288.3	677.6	1,311.9	1,097.8
Oct.	6,769.9	4,466.0	3,506.4	3,049.0	195.9	261.4	959.5	291.6	667.9	1,303.7	1,000.3
Nov.	6,785.4	4,490.1	3,527.4	3,064.8	199.7	262.9	962.6	292.6	670.0	1,289.6	1,005.8
Dec.	6,716.1	4,480.4	3,527.3	3,064.0	197.9	265.4	953.1	288.5	664.6	1,236.4	999.3
2020 Jan.	6,847.7	4,503.3	3,537.5	3,071.5	198.2	267.8	965.8	292.8	673.0	1,290.1	1,054.4
Feb.	7,028.5	4,531.0	3,562.2	3,092.6	203.2	266.4	968.8	290.8	678.0	1,306.1	1,191.4
Mar.	7,148.1	4,567.1	3,589.0	3,128.9	202.1	258.0	978.1	292.4	685.7	1,321.3	1,259.6
Apr.	7,258.0	4,605.2	3,606.5	3,143.8	206.5	256.1	998.7	294.8	703.9	1,346.6	1,306.2
May	7,230.4	4,666.4	3,640.1	3,167.2	215.9	257.1	1,026.2	293.8	732.5	1,326.0	1,238.1
June	7,225.3	4,692.6	3,641.6	3,164.7	220.4	256.6	1,051.0	291.5	759.6	1,304.2	1,228.5
July	7,267.6	4,718.8	3,634.9	3,175.5	202.7	256.7	1,083.9	293.4	790.5	1,282.9	1,265.8
Aug.	7,167.3	4,723.0	3,642.2	3,180.7	202.9	258.6	1,080.8	287.4	793.3	1,268.8	1,175.5
Sep.	7,236.4	4,749.2	3,647.1	3,184.0	204.9	258.1	1,102.1	289.7	812.4	1,293.8	1,193.4
Oct.	7,257.1	4,801.4	3,670.3	3,200.4	210.7	259.3	1,131.1	292.0	839.1	1,278.8	1,176.8
Nov.	7,240.5	4,841.7	3,688.6	3,213.7	214.3	260.6	1,153.1	290.2	862.9	1,261.9	1,136.9
Dec.	7,172.5	4,839.4	3,695.5	3,216.4	214.7	264.5	1,143.9	286.4	857.4	1,224.1	1,109.1
2021 Jan.	7,220.7	4,865.5	3,705.9	3,224.4	216.4	265.1	1,159.6	286.5	873.1	1,307.6	1,047.6
Feb.	7,182.0	4,885.0	3,724.3	3,238.8	217.4	268.1	1,160.7	283.8	877.0	1,305.0	991.9
Mar.	7,233.5	4,939.8	3,761.1	3,273.4	217.3	270.4	1,178.7	282.6	896.1	1,315.4	978.3
Apr.	7,228.4	4,946.1	3,760.5	3,270.3	217.6	272.6	1,185.6	285.7	899.9	1,333.6	948.6
May	7,229.2	4,977.0	3,776.7	3,282.8	219.5	274.4	1,200.3	283.4	916.8	1,331.5	920.7

***** 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 volume of

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 month
Euro area (€ billion) 1										
1,179.1	12,958.0	12,120.9	12,180.6	6,969.3	788.9	201.8	1,880.4	2,288.5	51.5	2019 Apr.
1,184.2	13,059.3	12,198.6	12,257.0	7,048.4	776.2	201.4	1,876.7	2,302.3	52.1	May
1,191.7	13,181.6	12,288.1	12,335.7	7,121.7	762.8	198.3	1,894.2	2,305.5	53.2	June
1,200.7	13,178.8	12,300.1	12,350.5	7,146.8	767.8	198.9	1,873.6	2,309.7	53.7	July
1,202.0	13,283.3	12,388.8	12,438.4	7,226.4	782.5	201.0	1,860.5	2,314.5	53.4	Aug.
1,205.4	13,298.4	12,383.2	12,446.2	7,221.7	769.3	200.8	1,886.9	2,314.4	53.0	Sep.
1,208.2	13,292.6	12,422.6	12,487.1	7,283.5	758.7	201.3	1,883.2	2,311.1	49.4	Oct.
1,215.1	13,389.0	12,520.8	12,572.5	7,386.6	740.9	200.6	1,885.5	2,310.4	48.6	Nov.
1,231.5	13,311.4	12,508.3	12,583.4	7,391.7	738.4	200.1	1,892.8	2,314.1	46.2	Dec.
1,224.1	13,359.6	12,460.6	12,555.5	7,362.8	734.5	200.1	1,891.0	2,322.3	44.7	2020 Jan.
1,229.3	13,477.0	12,528.5	12,615.6	7,430.6	731.6	198.6	1,888.7	2,322.0	44.1	Feb.
1,253.1	13,775.3	12,782.4	12,903.7	7,698.1	759.4	192.1	1,883.4	2,327.6	43.1	Mar.
1,273.5	13,996.0	12,953.0	13,065.1	7,852.4	762.3	188.2	1,876.7	2,343.4	42.1	Apr.
1,293.5	14,302.8	13,164.0	13,264.9	8,009.7	779.7	188.4	1,881.9	2,363.7	41.4	May
1,306.6	14,478.4	13,208.9	13,310.8	8,066.5	763.6	186.8	1,877.8	2,375.5	40.6	June
1,320.9	14,593.1	13,276.4	13,363.7	8,090.1	783.2	186.3	1,882.5	2,381.1	40.4	July
1,326.8	14,668.3	13,304.3	13,391.2	8,117.1	767.8	184.4	1,892.0	2,390.0	40.0	Aug.
1,330.3	14,758.7	13,361.0	13,467.6	8,175.8	781.0	195.4	1,883.6	2,392.0	39.8	Sep.
1,338.1	14,815.0	13,431.7	13,545.6	8,266.7	782.6	181.9	1,880.4	2,394.6	39.4	Oct.
1,349.9	14,813.3	13,527.2	13,621.6	8,358.3	756.5	179.6	1,885.7	2,402.5	39.0	Nov.
1,370.7	14,773.1	13,620.5	13,728.7	8,459.5	772.0	176.9	1,877.6	2,404.2	38.5	Dec.
1,373.3	14,874.2	13,630.7	13,752.9	8,505.4	743.9	173.9	1,870.6	2,421.0	38.1	2021 Jan.
1,380.6	14,958.1	13,678.1	13,807.9	8,569.5	733.7	169.3	1,865.1	2,432.5	37.7	Feb.
1,391.1	15,074.8	13,754.1	13,911.9	8,652.5	753.2	164.3	1,859.7	2,444.8	37.4	Mar.
1,399.6	15,058.8	13,772.5	13,933.7	8,724.7	731.8	159.5	1,827.4	2,453.0	37.3	Apr.
1,412.8	15,145.2	13,868.6	14,015.8	8,808.9	724.6	155.5	1,826.2	2,463.5	37.1	May
German contribution (€ billion)										
271.3	3,782.3	3,667.4	3,506.4	2,156.4	151.2	32.8	584.8	544.1	37.2	2019 Apr.
272.1	3,824.2	3,689.1	3,523.2	2,176.6	149.4	32.7	582.9	543.7	37.9	May
274.2	3,837.7	3,697.8	3,528.6	2,183.2	147.8	32.3	583.5	543.3	38.4	June
277.3	3,812.4	3,701.4	3,532.6	2,191.7	147.0	31.6	581.4	542.7	38.1	July
276.6	3,849.7	3,730.3	3,550.9	2,213.2	149.7	31.7	576.9	541.5	37.8	Aug.
277.4	3,853.5	3,722.1	3,546.0	2,213.9	146.4	31.5	576.1	540.8	37.2	Sep.
277.6	3,848.5	3,734.8	3,571.5	2,240.3	148.6	31.2	575.2	539.9	36.4	Oct.
278.4	3,874.7	3,753.7	3,580.0	2,257.7	143.0	30.8	573.7	539.2	35.6	Nov.
281.8	3,863.9	3,744.4	3,574.3	2,250.5	144.8	31.0	573.5	540.0	34.5	Dec.
281.2	3,850.4	3,733.8	3,572.3	2,255.2	145.3	31.0	570.6	537.2	33.0	2020 Jan.
281.3	3,890.4	3,750.4	3,576.3	2,265.3	142.0	31.3	569.8	535.4	32.5	Feb.
282.2	3,982.8	3,830.4	3,655.2	2,346.4	147.3	30.5	567.2	532.0	31.8	Mar.
286.5	3,997.3	3,828.9	3,665.7	2,359.6	149.2	30.0	563.6	532.2	31.1	Apr.
291.8	4,080.7	3,885.8	3,710.9	2,396.9	158.3	29.0	563.6	532.5	30.7	May
296.5	4,132.2	3,873.6	3,711.6	2,408.7	152.1	29.6	559.0	532.6	29.7	June
300.4	4,170.7	3,880.3	3,716.8	2,409.9	163.5	30.0	552.8	531.5	29.2	July
301.3	4,202.4	3,889.9	3,720.2	2,419.2	159.3	30.1	551.3	531.6	28.8	Aug.
301.9	4,235.6	3,905.7	3,745.0	2,445.3	160.3	30.3	549.2	531.5	28.4	Sep.
303.6	4,245.3	3,935.3	3,781.4	2,476.4	165.4	30.5	549.7	531.5	28.0	Oct.
306.6	4,260.2	3,961.8	3,804.4	2,507.7	157.7	30.6	549.0	531.8	27.6	Nov.
312.2	4,228.5	3,954.1	3,801.5	2,500.9	160.3	31.0	548.8	533.1	27.3	Dec.
313.1	4,218.7	3,980.7	3,829.7	2,541.7	147.0	31.0	548.5	534.8	26.8	2021 Jan.
314.6	4,245.1	3,990.0	3,837.4	2,555.8	141.0	31.1	547.0	536.0	26.4	Feb.
317.3	4,264.3	4,011.8	3,863.4	2,579.8	145.1	31.7	544.6	536.1	26.1	Mar.
319.9	4,262.2	4,013.0	3,874.5	2,594.4	143.0	31.9	542.5	536.8	25.8	Apr.
322.8	4,308.8	4,040.3	3,895.1	2,613.5	145.8	32.2	540.5	537.4	25.7	May

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 month	Liabilities (cont'd) – Deposits of non-banks (non-MFIs) in the euro area (cont'd) – General government – Central government	Other general government – Total	Other general government – Overnight	With agreed maturities of – up to 1 year	With agreed maturities of – over 1 year and up to 2 years	With agreed maturities of – over 2 years	At agreed notice of 2 – up to 3 months	At agreed notice of 2 – over 3 months	Repo transactions with non-banks in the euro area – Total	Repo transactions – of which: Enterprises and households	Money market fund shares (net) 3	Debt securities – Total	Debt securities – of which: Denominated in euro
	Euro area (€ billion) 1												
2019 Apr.	352.9	424.6	212.2	91.4	34.5	56.9	25.3	4.4	295.0	294.6	532.3	2,174.9	1,488.0
May	370.7	431.6	216.9	94.9	33.4	57.0	25.1	4.3	287.4	287.0	522.6	2,191.0	1,497.2
June	404.2	441.8	224.4	94.6	35.1	58.1	25.2	4.4	266.0	265.7	510.6	2,182.2	1,493.8
July	391.2	437.1	221.5	93.8	34.1	58.2	25.2	4.4	284.1	283.8	533.0	2,189.1	1,492.7
Aug.	397.4	447.4	228.3	97.2	34.1	58.3	25.3	4.3	289.0	288.5	550.9	2,173.6	1,484.1
Sep.	402.9	449.3	231.4	98.0	31.7	58.9	25.0	4.2	257.0	256.5	537.1	2,181.1	1,484.7
Oct.	365.0	440.5	224.5	95.5	32.3	59.1	25.2	3.9	298.8	298.3	538.6	2,174.6	1,488.4
Nov.	363.9	452.6	235.7	95.5	33.8	59.1	24.8	3.8	284.3	283.7	541.6	2,187.8	1,493.0
Dec.	297.5	430.4	224.7	85.9	33.7	59.1	23.6	3.6	250.3	249.8	520.3	2,153.8	1,486.7
2020 Jan.	381.8	422.3	209.6	92.7	33.2	59.5	23.2	4.1	243.4	242.9	555.1	2,187.7	1,500.2
Feb.	425.5	436.0	219.8	96.8	32.8	59.2	23.3	4.0	263.2	262.7	550.5	2,191.4	1,497.8
Mar.	430.2	441.4	232.8	93.3	31.0	58.2	22.3	3.9	293.2	292.6	529.8	2,175.2	1,484.3
Apr.	502.3	428.6	233.9	84.0	29.4	56.4	21.1	3.8	289.0	288.6	552.9	2,159.1	1,472.6
May	603.1	434.8	245.9	81.7	28.4	54.7	20.3	3.8	297.8	297.5	552.4	2,134.1	1,470.7
June	726.5	441.1	259.5	82.4	24.6	51.8	19.3	3.4	254.8	254.6	566.9	2,109.6	1,455.2
July	788.0	441.4	264.1	80.1	23.2	51.0	19.4	3.5	271.8	271.6	596.8	2,059.9	1,436.2
Aug.	828.6	448.5	273.6	79.5	22.1	50.3	19.6	3.5	266.9	266.7	597.4	2,041.3	1,427.0
Sep.	849.0	442.1	274.8	74.4	20.8	49.1	19.5	3.4	237.7	237.5	605.6	2,065.3	1,432.8
Oct.	831.8	437.6	277.4	69.5	20.8	47.0	19.5	3.4	243.1	242.9	619.8	2,052.2	1,420.4
Nov.	733.3	458.4	307.1	64.6	17.8	46.1	19.4	3.3	246.4	246.4	620.5	2,033.1	1,408.3
Dec.	605.1	439.3	294.7	60.3	17.2	44.8	19.0	3.3	221.4	221.3	636.2	2,001.9	1,387.9
2021 Jan.	684.1	437.2	294.4	58.8	17.3	43.9	19.1	3.8	251.7	251.6	639.7	1,994.9	1,371.2
Feb.	714.4	435.9	296.3	54.3	18.9	43.7	19.0	3.7	254.6	254.5	609.2	2,008.0	1,371.0
Mar.	733.8	429.1	295.3	52.1	16.3	42.9	18.8	3.7	236.8	236.7	604.4	2,009.6	1,359.2
Apr.	701.6	423.5	293.9	48.5	16.1	42.6	18.7	3.6	251.2	251.2	612.0	1,996.0	1,352.6
May	692.5	436.9	308.3	47.7	15.9	42.4	19.1	3.5	246.8	246.8	602.8	1,984.8	1,341.1
	German contribution (€ billion)												
2019 Apr.	41.2	234.7	73.6	78.4	29.4	49.6	3.1	0.6	12.5	12.5	1.9	552.8	293.5
May	60.3	240.7	77.4	81.7	28.3	49.6	3.2	0.5	11.2	11.2	2.0	560.1	300.1
June	64.0	245.1	80.4	81.5	29.0	50.6	3.1	0.5	12.9	12.9	2.0	558.0	301.8
July	36.9	242.9	79.6	80.7	28.2	50.8	3.1	0.5	13.9	13.9	2.0	559.4	296.9
Aug.	47.6	251.2	84.7	83.8	28.1	50.9	3.2	0.5	16.9	16.7	2.0	557.3	295.0
Sep.	57.3	250.3	84.6	85.0	25.8	51.1	3.1	0.5	1.5	1.3	2.2	563.5	297.7
Oct.	37.4	239.6	76.3	82.4	26.1	51.3	3.1	0.5	1.2	1.0	2.1	555.2	299.2
Nov.	45.4	249.3	83.4	83.9	27.4	51.1	3.1	0.5	1.7	1.5	1.9	560.4	302.2
Dec.	43.4	246.2	89.5	75.4	27.0	51.0	2.9	0.4	3.5	3.4	1.8	551.4	301.6
2020 Jan.	37.8	240.2	77.8	81.4	26.6	51.3	2.7	0.4	2.5	2.4	1.8	560.9	306.5
Feb.	62.2	251.9	85.5	86.0	26.3	50.9	2.8	0.4	2.0	1.8	1.8	563.9	310.3
Mar.	69.7	257.9	97.6	82.5	24.7	49.8	2.8	0.4	1.7	1.6	2.2	553.0	310.7
Apr.	87.5	244.0	94.7	74.4	23.7	48.3	2.7	0.4	3.4	3.3	2.1	550.6	306.2
May	116.2	253.6	108.0	72.9	22.9	46.7	2.8	0.3	2.4	2.3	1.9	543.1	305.4
June	174.0	246.5	106.1	74.1	19.5	44.0	2.5	0.3	0.9	0.7	1.8	532.8	297.2
July	208.5	245.3	109.6	71.4	18.3	43.2	2.5	0.3	2.1	2.0	1.6	523.3	293.3
Aug.	229.5	252.8	118.7	71.3	17.4	42.4	2.6	0.3	1.7	1.5	1.9	517.9	291.1
Sep.	244.7	245.8	119.4	66.0	16.5	41.1	2.5	0.3	1.3	1.1	2.0	525.3	296.1
Oct.	224.8	239.1	119.1	61.7	16.6	39.0	2.5	0.3	1.4	1.3	2.7	519.9	296.2
Nov.	212.1	243.7	131.6	57.3	14.0	38.0	2.5	0.2	9.1	9.1	2.4	515.5	296.1
Dec.	189.2	237.8	131.9	52.8	13.5	36.8	2.5	0.2	12.2	12.2	2.5	503.3	290.1
2021 Jan.	148.9	240.1	136.5	51.6	13.5	35.8	2.4	0.2	8.4	8.4	2.4	503.3	284.6
Feb.	164.3	243.4	142.8	47.3	15.2	35.5	2.5	0.2	6.0	6.0	2.4	510.0	288.4
Mar.	161.9	239.0	144.4	44.9	12.7	34.4	2.4	0.2	11.0	11.0	2.9	523.3	289.8
Apr.	154.6	233.1	142.4	41.5	12.5	34.1	2.4	0.2	7.6	7.6	2.8	524.3	296.2
May	173.3	240.3	150.8	41.0	12.5	33.4	2.4	0.2	9.2	9.2	2.1	518.0	293.3

* 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 euro banknotes

II. Overall monetary survey in the euro area

issued (net) 3						Other liability items		Memo item: Monetary aggregates 7 (from 2002 German contribution excludes currency in circulation)					
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 month
Euro area (€ billion) 1													
17.0	21.4	2,136.5	4,770.2	2,760.9	14.1	3,202.5	0.0	8,487.7	11,942.4	12,591.3	6,890.6	151.5	2019 Apr.
23.4	22.1	2,145.4	4,776.3	2,774.6	26.3	3,364.1	0.0	8,575.0	12,032.4	12,675.1	6,910.2	149.7	May
20.0	21.6	2,140.6	4,640.6	2,830.3	33.6	3,469.1	0.0	8,669.1	12,114.5	12,741.2	6,980.7	155.2	June
16.1	21.3	2,151.6	4,796.8	2,878.9	25.7	3,685.3	0.0	8,697.8	12,150.2	12,798.2	7,020.3	151.7	July
2.7	20.7	2,150.1	4,854.7	2,940.4	– 2.9	4,083.0	0.0	8,786.7	12,264.2	12,915.0	7,066.9	152.7	Aug.
3.2	19.0	2,158.9	4,803.5	2,942.7	25.4	3,943.1	0.0	8,788.8	12,251.2	12,883.3	7,104.7	153.4	Sep.
7.5	19.8	2,147.2	4,768.1	2,935.0	34.1	3,716.0	0.0	8,846.0	12,293.2	12,936.5	7,077.7	152.9	Oct.
6.8	19.5	2,161.5	4,770.3	2,922.7	31.1	3,675.5	0.0	8,971.7	12,401.3	13,041.7	7,081.1	157.9	Nov.
– 11.3	19.2	2,145.9	4,452.2	2,912.4	25.0	3,469.1	0.0	8,975.3	12,395.7	12,995.3	7,060.0	152.0	Dec.
– 0.4	21.9	2,166.2	4,759.3	2,949.8	24.3	3,715.6	0.0	8,927.4	12,357.5	13,006.4	7,115.3	154.9	2020 Jan.
3.6	23.4	2,164.4	4,817.2	2,966.7	26.4	3,965.0	0.0	9,012.7	12,441.8	13,104.6	7,127.1	156.9	Feb.
29.9	21.7	2,123.7	4,907.3	2,930.7	11.6	4,144.8	0.0	9,312.6	12,762.0	13,453.0	7,043.0	152.5	Mar.
12.8	21.5	2,124.8	5,048.8	2,947.0	– 25.4	4,209.0	0.0	9,490.6	12,941.2	13,629.7	7,050.8	153.0	Apr.
3.8	22.3	2,108.0	4,946.7	2,952.7	– 33.1	4,053.6	0.0	9,682.0	13,166.2	13,846.0	7,042.6	154.7	May
3.3	21.6	2,084.7	4,708.0	2,977.4	– 4.2	4,009.1	0.0	9,768.9	13,242.8	13,930.3	7,035.8	158.0	June
– 7.9	20.6	2,047.1	4,729.4	3,017.5	– 54.6	4,064.3	0.0	9,812.9	13,307.9	14,026.9	7,042.1	159.4	July
– 11.3	19.7	2,032.9	4,696.1	3,014.5	– 38.8	3,862.7	0.0	9,856.0	13,340.6	14,043.0	7,033.2	160.0	Aug.
– 9.4	16.0	2,058.7	4,651.4	3,011.2	– 15.9	3,879.4	0.0	9,923.5	13,428.0	14,138.0	7,045.9	163.9	Sep.
3.1	18.6	2,030.4	4,774.0	3,038.2	– 47.9	3,858.8	0.0	10,026.0	13,516.4	14,252.4	7,038.9	165.3	Oct.
3.5	20.1	2,009.5	4,853.0	2,995.8	– 44.2	3,885.1	0.0	10,167.5	13,629.7	14,372.0	6,979.5	174.0	Nov.
– 0.4	17.6	1,984.7	4,657.1	3,020.5	– 11.2	3,771.8	0.0	10,278.7	13,750.4	14,495.2	6,969.4	176.0	Dec.
5.0	16.4	1,973.6	4,822.2	2,998.3	– 10.3	3,700.2	0.0	10,326.1	13,784.6	14,549.9	6,928.2	177.5	2021 Jan.
16.6	17.0	1,974.3	4,873.8	2,953.2	– 10.9	3,516.6	0.0	10,398.6	13,851.0	14,603.1	6,877.7	176.8	Feb.
2.7	17.6	1,989.3	4,943.4	2,968.2	19.3	3,582.2	0.0	10,487.8	13,961.4	14,695.6	6,901.2	173.1	Mar.
9.7	17.2	1,969.1	4,991.0	2,948.3	13.9	3,483.2	0.0	10,567.6	14,019.3	14,776.5	6,828.3	173.5	Apr.
17.7	17.5	1,949.6	4,998.5	2,968.5	54.8	3,476.4	0.0	10,680.2	14,130.4	14,881.7	6,827.3	174.1	May
German contribution (€ billion)													
18.6	8.2	525.9	953.9	692.7	– 985.8	1,398.5	400.8	2,230.0	3,069.0	3,110.2	1,890.7	0.0	2019 Apr.
18.9	8.4	532.9	944.9	702.5	– 1,016.3	1,496.1	404.8	2,254.0	3,093.0	3,133.5	1,906.3	0.0	May
19.7	7.6	530.7	957.2	722.3	– 1,013.1	1,542.9	407.8	2,263.6	3,100.7	3,142.8	1,926.0	0.0	June
19.7	7.9	531.9	925.0	735.6	– 950.3	1,600.3	411.4	2,271.3	3,104.7	3,148.2	1,938.3	0.0	July
20.3	7.6	529.4	944.3	757.0	– 980.7	1,826.9	417.2	2,297.9	3,135.9	3,182.8	1,952.6	0.0	Aug.
22.3	7.4	533.8	927.2	755.6	– 992.1	1,761.2	422.1	2,298.5	3,131.2	3,164.7	1,954.3	0.0	Sep.
20.7	6.7	527.8	867.4	750.0	– 918.5	1,664.0	426.3	2,316.5	3,147.7	3,178.4	1,941.3	0.0	Oct.
21.4	5.8	533.1	877.7	749.1	– 951.9	1,671.9	430.8	2,341.2	3,168.5	3,199.3	1,943.1	0.0	Nov.
21.0	6.1	524.3	863.5	750.1	– 999.8	1,681.4	435.8	2,340.1	3,161.1	3,193.6	1,933.9	0.0	Dec.
23.9	6.7	530.2	831.0	757.2	– 900.5	1,744.6	437.9	2,333.0	3,157.1	3,192.1	1,942.8	0.0	2020 Jan.
21.7	6.8	535.4	850.2	764.8	– 912.0	1,867.4	442.7	2,350.9	3,174.6	3,207.0	1,953.8	0.0	Feb.
18.4	6.3	528.3	901.4	757.6	– 990.7	1,940.1	455.0	2,444.0	3,263.9	3,292.5	1,935.1	0.0	Mar.
15.9	6.9	527.8	942.0	759.1	– 1,003.6	2,007.1	458.2	2,454.3	3,266.4	3,294.7	1,930.3	0.0	Apr.
14.9	7.3	520.8	917.3	756.1	– 1,003.8	1,932.8	458.5	2,505.0	3,323.2	3,349.8	1,918.3	0.0	May
14.8	7.1	510.9	939.7	769.1	– 1,074.1	1,923.1	458.1	2,514.8	3,325.2	3,349.7	1,913.0	0.0	June
12.8	6.7	503.7	907.0	784.6	– 1,089.1	1,967.5	460.5	2,519.5	3,336.8	3,360.1	1,913.6	0.0	July
12.0	7.2	498.7	891.2	778.4	– 1,114.7	1,888.5	464.3	2,537.9	3,350.2	3,372.9	1,899.9	0.0	Aug.
12.4	6.7	506.2	952.4	787.3	– 1,172.8	1,905.3	467.0	2,564.6	3,371.8	3,394.2	1,912.5	0.0	Sep.
11.1	7.0	501.8	906.4	794.7	– 1,107.6	1,894.1	469.4	2,595.4	3,403.6	3,425.7	1,913.5	0.0	Oct.
10.0	7.1	498.4	923.3	780.2	– 1,109.5	1,859.4	470.7	2,639.3	3,433.2	3,461.8	1,893.5	0.0	Nov.
9.0	6.6	487.7	985.7	787.5	– 1,192.0	1,844.9	473.1	2,632.8	3,426.1	3,456.4	1,888.4	0.0	Dec.
7.8	6.8	488.7	1,026.4	778.3	– 1,113.3	1,796.5	474.2	2,678.2	3,458.5	3,483.9	1,878.3	0.0	2021 Jan.
7.4	7.5	495.1	1,007.6	756.3	– 1,095.7	1,750.3	476.5	2,698.6	3,471.7	3,494.9	1,860.6	0.0	Feb.
8.1	6.8	508.4	1,080.1	754.4	– 1,144.4	1,742.0	479.0	2,724.1	3,497.0	3,525.7	1,868.2	0.0	Mar.
7.8	6.6	510.0	1,029.5	759.2	– 1,074.2	1,717.0	479.7	2,736.8	3,505.0	3,529.7	1,871.8	0.0	Apr.
9.6	6.6	501.7	1,051.5	768.1	– 1,125.1	1,696.6	482.8	2,764.3	3,535.6	3,563.3	1,869.6	0.0	May

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 systems liquidity position *
Stocks

€ billion; period averages of daily positions

Reserve maintenance period ending in 1	Liquidity-providing factors: Net assets in gold and foreign currency	Monetary policy operations of the Eurosystem: Main refinancing operations	Longer-term refinancing operations	Marginal lending facility	Other liquidity-providing operations 3	Liquidity-absorbing factors: 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												
2019 June	689.7	5.5	718.6	0.4	2,630.6	601.9	0.0	1,228.2	248.2	561.9	1,404.6	3,234.7
July	710.3	4.6	700.1	0.0	2,620.4	570.8	0.0	1,240.8	295.9	592.2	1,335.7	3,147.4
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	720.2	3.0	692.5	0.0	2,612.4	555.7	0.0	1,251.1	268.5	621.2	1,331.5	3,138.3
Oct.	758.5	2.0	668.5	0.0	2,608.7	456.6	0.0	1,252.7	298.6	641.3	1,388.5	3,097.8
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	773.3	1.8	663.7	0.0	2,618.8	257.9	0.0	1,262.9	226.6	648.1	1,662.1	3,182.9
2020 Jan.	768.6	2.9	616.1	0.0	2,639.1	254.6	0.0	1,282.2	211.8	654.3	1,623.7	3,160.6
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	767.1	1.4	615.9	0.0	2,666.7	244.6	0.0	1,277.1	268.6	618.4	1,642.3	3,164.1
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	926.3	0.6	865.7	0.0	2,784.2	271.8	0.0	1,321.9	374.4	788.6	1,820.2	3,413.8
June	950.4	0.3	984.2	0.0	2,986.9	299.9	0.0	1,347.9	477.1	830.5	1,966.5	3,614.4
July	871.3	0.8	1,401.5	0.0	3,168.2	356.0	0.0	1,365.7	671.2	703.1	2,345.9	4,067.5
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	865.9	1.3	1,593.2	0.0	3,323.6	413.2	0.0	1,381.2	712.9	651.0	2,625.7	4,420.1
Oct.	.	.	.	.	.	.	.	.	.	.	.	.
Nov.	864.4	1.3	1,707.8	0.0	3,475.8	460.7	0.0	1,389.1	749.0	653.5	2,797.0	4,646.8
Dec.	865.1	0.5	1,754.4	0.0	3,614.7	535.4	0.0	1,403.9	647.0	687.7	2,960.7	4,900.0
2021 Jan.	848.6	0.3	1,792.6	0.0	3,712.9	586.9	0.0	1,429.4	530.3	778.4	3,029.4	5,045.7
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	834.9	0.4	1,792.4	0.0	3,825.1	598.0	0.0	1,433.4	595.8	667.9	3,157.7	5,189.1
Apr.	816.7	0.3	2,054.6	0.0	3,951.4	676.4	0.0	1,447.7	644.5	633.4	3,421.1	5,545.2
May	.	.	.	.	.	.	.	.	.	.	.	.
June	809.8	0.2	2,107.0	0.0	4,092.7	706.5	0.0	1,465.8	586.7	659.1	3,591.7	5,763.9
Deutsche Bundesbank												
2019 June	163.6	0.6	86.1	0.0	565.2	166.3	0.0	299.6	58.0	− 213.6	505.3	971.1
July	169.4	0.7	85.3	0.0	563.1	150.1	0.0	303.0	65.7	− 175.0	474.5	927.7
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	172.5	0.5	84.9	0.0	562.7	150.1	0.0	305.6	57.6	− 157.6	464.9	920.6
Oct.	182.8	0.4	82.8	0.0	560.0	151.5	0.0	306.5	70.8	− 159.4	456.6	914.7
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	186.9	0.4	82.4	0.0	566.1	82.2	0.0	307.6	55.9	− 135.3	525.4	915.3
2020 Jan.	186.0	0.9	74.0	0.0	567.9	73.6	0.0	311.7	52.7	− 95.7	486.5	871.8
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	185.0	0.4	74.0	0.0	573.7	65.4	0.0	311.2	64.4	− 125.0	517.1	893.7
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	238.0	0.2	106.8	0.0	585.3	76.3	0.0	324.1	102.0	− 174.5	602.8	1,003.2
June	248.7	0.1	122.5	0.0	623.1	85.0	0.0	326.4	137.6	− 172.6	618.1	1,029.5
July	222.1	0.5	235.2	0.0	655.9	108.2	0.0	331.5	205.0	− 238.1	707.1	1,146.8
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	212.1	0.8	284.0	0.0	692.0	136.0	0.0	336.4	239.6	− 298.0	774.8	1,247.3
Oct.	.	.	.	.	.	.	.	.	.	.	.	.
Nov.	212.1	0.7	319.5	0.0	729.0	145.5	0.0	338.1	254.7	− 302.9	826.0	1,309.6
Dec.	213.0	0.3	333.9	0.0	768.7	166.6	0.0	341.2	217.9	− 294.5	884.7	1,392.5
2021 Jan.	208.3	0.1	341.1	0.0	791.3	178.9	0.0	347.3	189.4	− 252.8	878.0	1,404.2
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	205.3	0.1	341.0	0.0	816.9	177.5	0.0	348.3	172.7	− 298.0	962.8	1,488.6
Apr.	198.0	0.0	407.3	0.0	845.8	203.0	0.0	351.7	187.4	− 300.4	1,008.9	1,563.5
May	.	.	.	.	.	.	.	.	.	.	.	.
June	194.3	0.0	420.5	0.0	884.3	208.5	0.0	356.8	187.3	− 301.9	1,046.7	1,612.0

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

Reserve maintenance period ending in [1]	Liquidity-providing factors: Net assets in gold and foreign currency	Monetary policy operations of the Eurosystem: Main refinancing operations	Longer-term refinancing operations	Marginal lending facility	Other liquidity-providing operations [3]	Deposit facility	Other liquidity-absorbing operations [4]	Liquidity-absorbing factors: 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]												
2019 June	+ 11.1	− 0.2	− 1.7	+ 0.3	− 5.3	− 17.7	± 0.0	+ 12.4	− 22.3	+ 6.3	+ 25.6	+ 20.3
July	+ 20.6	− 0.9	− 18.5	− 0.4	− 10.2	− 31.1	± 0.0	+ 12.6	+ 47.7	+ 30.3	− 68.9	− 87.3
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	+ 9.9	− 1.6	− 7.6	± 0.0	− 8.0	− 15.1	± 0.0	+ 10.3	− 27.4	+ 29.0	− 4.2	− 9.1
Oct.	+ 38.3	− 1.0	− 24.0	± 0.0	− 3.7	− 99.1	± 0.0	+ 1.6	+ 30.1	+ 20.1	+ 57.0	− 40.5
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	+ 14.8	− 0.2	− 4.8	± 0.0	+ 10.1	− 198.7	± 0.0	+ 10.2	− 72.0	+ 6.8	+ 273.6	+ 85.1
2020 Jan.	− 4.7	+ 1.1	− 47.6	± 0.0	+ 20.3	− 3.3	± 0.0	+ 19.3	− 14.8	+ 6.2	− 38.4	− 22.3
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	− 1.5	− 1.5	− 0.2	± 0.0	+ 27.6	− 10.0	± 0.0	− 5.1	+ 56.8	− 35.9	+ 18.6	+ 3.5
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	+ 159.2	− 0.8	+ 249.8	± 0.0	+ 117.5	+ 27.2	± 0.0	+ 44.8	+105.8	+ 170.2	+ 177.9	+ 249.7
June	+ 24.1	− 0.3	+ 118.5	± 0.0	+ 202.7	+ 28.1	± 0.0	+ 26.0	+102.7	+ 41.9	+ 146.3	+ 200.6
July	− 79.1	+ 0.5	+ 417.3	± 0.0	+ 181.3	+ 56.1	± 0.0	+ 17.8	+194.1	− 127.4	+ 379.4	+ 453.1
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	− 5.4	+ 0.5	+ 191.7	± 0.0	+ 155.4	+ 57.2	± 0.0	+ 15.5	+ 41.7	− 52.1	+ 279.8	+ 352.6
Oct.	.	.	.	.	.	.	.	.	.	.	.	.
Nov.	− 1.5	± 0.0	+ 114.6	± 0.0	+ 152.2	+ 47.5	± 0.0	+ 7.9	+ 36.1	+ 2.5	+ 171.3	+ 226.7
Dec.	+ 0.7	− 0.8	+ 46.6	± 0.0	+ 138.9	+ 74.7	± 0.0	+ 14.8	−102.0	+ 34.2	+ 163.7	+ 253.2
2021 Jan.	− 16.5	− 0.2	+ 38.2	± 0.0	+ 98.2	+ 51.5	± 0.0	+ 25.5	−116.7	+ 90.7	+ 68.7	+ 145.7
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	− 13.7	+ 0.1	− 0.2	± 0.0	+ 112.2	+ 11.1	± 0.0	+ 4.0	+ 65.5	− 110.5	+ 128.3	+ 143.4
Apr.	− 18.2	− 0.1	+ 262.2	± 0.0	+ 126.3	+ 78.4	± 0.0	+ 14.3	+ 48.7	− 34.5	+ 263.4	+ 356.1
May	.	.	.	.	.	.	.	.	.	.	.	.
June	− 6.9	− 0.1	+ 52.4	± 0.0	+ 141.3	+ 30.1	± 0.0	+ 18.1	− 57.8	+ 25.7	+ 170.6	+ 218.7
Deutsche Bundesbank												
2019 June	+ 2.8	+ 0.0	− 0.6	− 0.0	+ 1.4	− 6.2	± 0.0	+ 3.5	− 3.2	− 14.2	+ 23.7	+ 21.0
July	+ 5.7	+ 0.0	− 0.9	+ 0.0	− 2.1	− 16.2	± 0.0	+ 3.5	+ 7.6	+ 38.6	− 30.7	− 43.5
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	+ 3.2	− 0.2	− 0.4	− 0.0	− 0.4	+ 0.0	± 0.0	+ 2.5	− 8.1	+ 17.4	− 9.6	− 7.1
Oct.	+ 10.3	− 0.1	− 2.1	+ 0.0	− 2.7	+ 1.4	± 0.0	+ 1.0	+ 13.2	− 1.8	− 8.3	− 5.9
Nov.	.	.	.	.	.	.	.	.	.	.	.	.
Dec.	+ 4.1	+ 0.0	− 0.4	+ 0.0	+ 6.1	− 69.3	± 0.0	+ 1.1	− 14.9	+ 24.1	+ 68.8	+ 0.6
2020 Jan.	− 0.9	+ 0.4	− 8.5	+ 0.0	+ 1.8	− 8.6	± 0.0	+ 4.1	− 3.2	+ 39.6	− 38.9	− 43.5
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	− 1.0	− 0.5	+ 0.0	− 0.0	+ 5.8	− 8.2	± 0.0	− 0.5	+ 11.7	− 29.3	+ 30.7	+ 21.9
Apr.	.	.	.	.	.	.	.	.	.	.	.	.
May	+ 53.0	− 0.2	+ 32.9	− 0.0	+ 11.6	+ 10.9	± 0.0	+ 12.9	+ 37.6	− 49.6	+ 85.6	+ 109.5
June	+ 10.7	− 0.1	+ 15.7	+ 0.0	+ 37.8	+ 8.7	± 0.0	+ 2.3	+ 35.6	+ 2.0	+ 15.3	+ 26.3
July	− 26.6	+ 0.4	+ 112.6	− 0.0	+ 32.8	+ 23.2	± 0.0	+ 5.1	+ 67.5	− 65.5	+ 89.0	+ 117.3
Aug.	.	.	.	.	.	.	.	.	.	.	.	.
Sep.	− 10.0	+ 0.3	+ 48.9	+ 0.0	+ 36.1	+ 27.9	± 0.0	+ 5.0	+ 34.6	− 59.9	+ 67.6	+ 100.5
Oct.	.	.	.	.	.	.	.	.	.	.	.	.
Nov.	+ 0.0	− 0.1	+ 35.5	− 0.0	+ 37.0	+ 9.5	± 0.0	+ 1.7	+ 15.0	− 5.0	+ 51.2	+ 62.3
Dec.	+ 0.9	− 0.4	+ 14.4	+ 0.0	+ 39.8	+ 21.1	± 0.0	+ 3.1	− 36.8	+ 8.4	+ 58.7	+ 82.9
2021 Jan.	− 4.7	− 0.2	+ 7.1	+ 0.0	+ 22.6	+ 12.3	± 0.0	+ 6.1	− 28.5	+ 41.7	− 6.7	+ 11.7
Feb.	.	.	.	.	.	.	.	.	.	.	.	.
Mar.	− 3.0	− 0.0	− 0.1	− 0.0	+ 25.6	− 1.4	± 0.0	+ 1.0	− 16.7	− 45.2	+ 84.8	+ 84.4
Apr.	− 7.3	− 0.1	+ 66.3	+ 0.0	+ 28.8	+ 25.5	± 0.0	+ 3.4	+ 14.7	− 2.4	+ 46.0	+ 74.9
May	.	.	.	.	.	.	.	.	.	.	.	.
June	− 3.7	+ 0.0	+ 13.2	+ 0.0	+ 38.6	+ 5.5	± 0.0	+ 5.1	− 0.1	− 1.5	+ 37.9	+ 48.5

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-pro viding 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: Total	Claims on non-euro area residents denominated in foreign currency: Receivables from the IMF	Claims on non-euro area residents denominated in foreign currency: Balances with banks, security investments, external loans and other external assets	Claims on euro area residents denominated in foreign currency	Claims on non-euro area residents denominated in euro: Total	Claims on non-euro area residents denominated in euro: Balances with banks, security investments and loans	Claims on non-euro area residents denominated in euro: Claims arising from the credit facility under ERM II
Eurosystem [1]									
2020 Dec. 11	6,949.6	559.3	353.3	86.2	267.1	22.3	12.8	12.8	–
18	7,008.9	559.3	354.7	86.2	268.4	25.2	12.2	12.2	–
25	7,014.7	559.3	356.7	87.1	269.7	24.5	13.0	13.0	–
2021 Jan. 1	6,979.3	536.5	347.2	85.4	261.8	23.4	14.3	14.3	–
8	6,984.7	536.5	344.3	85.1	259.2	20.1	10.8	10.8	–
15	7,015.6	536.5	343.0	85.3	257.6	21.2	10.9	10.9	–
22	7,024.2	536.5	342.9	85.3	257.6	21.8	11.1	11.1	–
29	7,033.3	536.5	342.3	85.2	257.0	22.9	10.7	10.7	–
Feb. 5	7,054.5	536.5	339.9	85.2	254.7	25.4	10.9	10.9	–
12	7,079.1	536.5	339.7	85.2	254.4	25.8	11.5	11.5	–
19	7,101.2	536.5	338.8	85.2	253.6	26.7	11.1	11.1	–
26	7,110.5	536.5	341.0	85.2	255.8	24.8	10.9	10.9	–
Mar. 5	7,120.3	536.5	342.6	85.2	257.4	25.4	11.2	11.2	–
12	7,137.5	536.5	340.7	85.2	255.6	25.8	11.2	11.2	–
19	7,162.2	536.5	338.9	84.4	254.5	26.8	11.5	11.5	–
26	7,505.0	536.5	340.0	84.4	255.6	25.9	12.1	12.1	–
Apr. 2	7,494.1	499.3	350.7	86.6	264.2	26.6	11.5	11.5	–
9	7,514.3	499.3	350.7	86.6	264.1	26.8	10.9	10.9	–
16	7,522.2	499.3	350.7	86.5	264.1	26.8	11.1	11.1	–
23	7,558.3	499.3	351.2	86.5	264.7	27.1	10.9	10.9	–
30	7,567.9	499.3	352.0	86.5	265.4	26.5	10.6	10.6	–
May 7	7,588.8	499.3	352.6	86.5	266.0	25.7	10.8	10.8	–
14	7,615.7	499.3	352.1	86.5	265.5	27.0	11.4	11.4	–
21	7,643.2	499.3	353.9	86.5	267.4	25.6	11.1	11.1	–
28	7,657.6	499.2	353.9	86.5	267.4	25.8	11.2	11.2	–
June 4	7,680.1	499.2	354.2	86.5	267.7	26.7	10.3	10.3	–
11	7,700.9	499.2	354.7	87.1	267.6	27.6	10.7	10.7	–
18	7,736.5	499.2	358.8	87.1	271.8	24.7	10.6	10.6	–
25	7,877.1	499.2	359.9	87.0	272.9	23.8	13.5	13.5	–
July 2	7,907.8	514.7	354.5	87.1	267.5	25.6	13.1	13.1	–
Deutsche Bundesbank									
2020 Dec. 11	2,451.1	174.0	54.0	22.6	31.4	0.2	1.5	1.5	–
18	2,458.9	174.0	53.9	22.6	31.3	0.5	0.8	0.8	–
25	2,485.2	174.0	54.0	22.6	31.4	0.5	0.4	0.4	–
2021 Jan. 1	2,526.9	166.9	52.2	22.2	30.1	0.5	1.5	1.5	–
8	2,474.3	166.9	52.0	22.1	30.0	0.1	–	–	–
15	2,481.2	166.9	52.3	22.1	30.3	0.1	–	–	–
22	2,460.5	166.9	52.9	22.1	30.8	0.1	0.2	0.2	–
29	2,464.6	166.9	53.0	22.0	31.0	0.2	–	–	–
Feb. 5	2,460.7	166.9	52.9	22.0	30.9	0.1	0.2	0.2	–
12	2,487.4	166.9	52.9	22.0	30.9	0.1	0.3	0.3	–
19	2,480.1	166.9	53.1	22.0	31.1	0.1	–	–	–
26	2,472.3	166.9	53.1	22.0	31.1	0.1	–	–	–
Mar. 5	2,468.0	166.9	53.0	22.0	31.0	0.1	–	–	–
12	2,469.3	166.9	53.3	22.0	31.3	0.1	–	–	–
19	2,465.0	166.9	52.9	21.8	31.1	0.1	–	–	–
26	2,551.4	166.9	52.8	21.8	31.0	0.1	–	–	–
Apr. 2	2,556.4	155.3	53.9	22.3	31.6	0.2	–	–	–
9	2,558.7	155.3	53.9	22.3	31.6	0.1	–	–	–
16	2,548.1	155.3	53.8	22.3	31.5	0.1	–	–	–
23	2,554.0	155.3	53.8	22.3	31.5	0.1	–	–	–
30	2,562.0	155.3	53.8	22.3	31.5	0.1	–	–	–
May 7	2,568.4	155.3	53.6	22.3	31.4	0.1	–	–	–
14	2,592.5	155.3	54.0	22.3	31.7	0.1	–	–	–
21	2,617.3	155.3	54.0	22.3	31.7	0.1	–	–	–
28	2,639.3	155.2	54.0	22.3	31.8	0.1	–	–	–
June 4	2,634.5	155.2	54.0	22.3	31.8	0.0	–	–	–
11	2,605.1	155.2	54.0	22.4	31.6	0.0	–	–	–
18	2,608.1	155.2	54.0	22.4	31.6	0.0	–	–	–
25	2,648.6	155.2	54.0	22.3	31.7	0.0	–	–	–
July 2	2,679.7	160.0	53.8	22.4	31.4	0.0	–	–	–

***** 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]	
1,756.0	0.2	1,755.7	–	–	–	–	38.4	3,875.5	3,681.1	194.5	22.7	309.3	2020 Dec. 11
1,792.9	0.3	1,792.6	–	–	0.0	–	36.7	3,895.6	3,700.0	195.6	22.7	309.6	18
1,792.8	0.3	1,792.6	–	–	0.0	–	31.9	3,900.9	3,704.9	196.0	22.7	312.8	25
1,793.2	0.5	1,792.6	–	–	0.2	–	25.3	3,890.9	3,694.6	196.3	22.7	325.7	2021 Jan. 1
1,792.8	0.2	1,792.6	–	–	–	–	38.9	3,899.8	3,703.4	196.3	22.7	318.9	8
1,793.1	0.5	1,792.6	–	–	–	–	36.6	3,925.9	3,729.4	196.5	22.7	325.8	15
1,792.8	0.2	1,792.6	–	–	–	–	40.6	3,942.6	3,746.1	196.4	22.7	313.2	22
1,792.7	0.2	1,792.5	–	–	–	–	35.6	3,960.7	3,765.3	195.3	22.7	309.1	29
1,792.6	0.2	1,792.5	–	–	–	–	37.9	3,979.5	3,784.1	195.3	22.6	309.2	Feb. 5
1,792.9	0.4	1,792.5	–	–	–	–	45.5	4,004.6	3,809.1	195.5	22.6	300.0	12
1,792.9	0.5	1,792.5	–	–	–	–	42.3	4,028.3	3,832.4	195.9	22.6	301.8	19
1,792.8	0.6	1,792.2	–	–	–	–	43.8	4,042.1	3,846.1	196.0	22.6	296.0	26
1,792.7	0.5	1,792.2	–	–	0.0	–	41.2	4,053.5	3,858.5	195.1	22.6	294.5	Mar. 5
1,792.9	0.7	1,792.2	–	–	–	–	38.3	4,072.1	3,877.8	194.3	22.6	297.4	12
1,792.8	0.6	1,792.2	–	–	–	–	41.0	4,100.6	3,906.4	194.1	22.6	291.6	19
2,107.6	0.3	2,107.4	–	–	0.0	–	40.7	4,125.7	3,930.4	195.3	22.6	293.7	26
2,107.4	0.5	2,107.0	–	–	–	–	39.0	4,132.8	3,936.7	196.1	22.6	304.0	Apr. 2
2,107.2	0.2	2,107.0	–	–	0.0	–	37.0	4,153.4	3,956.8	196.5	22.6	306.4	9
2,107.1	0.1	2,107.0	–	–	–	–	31.9	4,167.9	3,973.1	194.8	22.6	304.8	16
2,107.1	0.1	2,107.0	–	–	–	–	34.3	4,199.5	4,005.1	194.4	22.6	306.2	23
2,107.2	0.3	2,107.0	–	–	–	–	37.5	4,208.0	4,019.9	188.1	22.6	304.2	30
2,107.1	0.1	2,107.0	–	–	0.0	–	35.7	4,230.0	4,044.1	186.0	22.6	305.0	May 7
2,107.1	0.1	2,107.0	–	–	–	–	29.1	4,258.5	4,072.7	185.8	22.6	308.7	14
2,107.1	0.1	2,107.0	–	–	–	–	28.2	4,287.4	4,101.2	186.3	22.6	307.9	21
2,107.4	0.4	2,107.0	–	–	–	–	29.4	4,302.9	4,116.5	186.4	22.6	305.3	28
2,107.2	0.2	2,107.0	–	–	0.0	–	28.4	4,327.0	4,140.5	186.6	22.6	304.5	June 4
2,107.2	0.2	2,107.0	–	–	–	–	33.9	4,339.8	4,154.0	185.8	22.6	305.1	11
2,107.1	0.1	2,107.0	–	–	–	–	35.4	4,368.4	4,182.6	185.8	22.6	309.7	18
2,217.3	0.1	2,217.2	–	–	0.0	–	33.7	4,400.5	4,214.5	186.0	22.6	306.6	25
2,217.3	0.1	2,217.2	–	–	0.0	–	35.1	4,414.5	4,228.2	186.2	22.1	311.0	July 2
												Deutsche Bundesbank	
334.3	0.0	334.2	–	–	0.0	–	10.7	785.6	785.6	–	4.4	1,086.6	2020 Dec. 11
341.2	0.1	341.1	–	–	0.0	–	9.6	790.8	790.8	–	4.4	1,083.7	18
341.2	0.1	341.1	–	–	0.0	–	7.4	791.3	791.3	–	4.4	1,112.1	25
341.4	0.2	341.1	–	–	0.2	–	2.4	789.2	789.2	–	4.4	1,168.4	2021 Jan. 1
341.2	0.1	341.1	–	–	0.0	–	9.6	787.9	787.9	–	4.4	1,112.1	8
341.2	0.1	341.1	–	–	0.0	–	9.7	794.4	794.4	–	4.4	1,112.1	15
341.2	0.1	341.1	–	–	0.0	–	10.5	796.1	796.1	–	4.4	1,088.2	22
341.0	0.0	341.0	–	–	0.0	–	8.4	802.9	802.9	–	4.4	1,087.7	29
341.1	0.1	341.0	–	–	0.0	–	9.0	806.2	806.2	–	4.4	1,079.9	Feb. 5
341.2	0.2	341.0	–	–	0.0	–	8.6	813.3	813.3	–	4.4	1,099.6	12
341.1	0.1	341.0	–	–	0.0	–	9.0	818.4	818.4	–	4.4	1,086.9	19
341.0	0.1	340.9	–	–	–	–	9.2	823.6	823.6	–	4.4	1,073.9	26
341.0	0.1	340.9	–	–	0.0	–	5.6	824.9	824.9	–	4.4	1,072.0	Mar. 5
341.1	0.2	340.9	–	–	0.0	–	8.4	827.3	827.3	–	4.4	1,067.8	12
341.0	0.1	340.9	–	–	0.0	–	6.2	834.3	834.3	–	4.4	1,059.1	19
420.7	0.0	420.7	–	–	0.0	–	4.8	841.4	841.4	–	4.4	1,060.1	26
420.5	0.0	420.5	–	–	0.0	–	5.2	844.9	844.9	–	4.4	1,071.9	Apr. 2
420.5	0.0	420.5	–	–	0.0	–	7.3	844.2	844.2	–	4.4	1,072.9	9
420.5	0.0	420.5	–	–	0.0	–	5.0	848.5	848.5	–	4.4	1,060.5	16
420.5	0.0	420.5	–	–	0.0	–	6.5	858.4	858.4	–	4.4	1,055.0	23
420.5	0.0	420.5	–	–	0.0	–	5.0	866.6	866.6	–	4.4	1,056.2	30
420.5	0.0	420.5	–	–	0.0	–	7.6	870.9	870.9	–	4.4	1,055.9	May 7
420.5	0.0	420.5	–	–	0.0	–	5.7	879.5	879.5	–	4.4	1,073.0	14
420.5	0.0	420.5	–	–	0.0	–	6.7	886.6	886.6	–	4.4	1,089.7	21
420.6	0.1	420.5	–	–	0.0	–	6.0	891.4	891.4	–	4.4	1,107.6	28
420.6	0.1	420.5	–	–	0.0	–	7.1	899.3	899.3	–	4.4	1,093.9	June 4
420.5	0.0	420.5	–	–	0.0	–	5.9	895.5	895.5	–	4.4	1,069.5	11
420.5	0.0	420.5	–	–	0.0	–	6.9	903.4	903.4	–	4.4	1,063.7	18
437.6	0.0	437.6	–	–	0.0	–	5.1	912.4	912.4	–	4.4	1,079.9	25
437.5	–	437.5	–	–	0.0	–	5.8	917.1	917.1	–	4.4	1,101.0	July 2

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: Total	Current accounts (covering the minimum reserve system)	Deposit facility	Fixed-term deposits	Fine-tuning reverse operations	Deposits related to margin calls	Other liabilities to euro area credit institutions denominated in euro	Debt certificates issued	Liabilities to other euro area residents denominated in euro: Total	General government	Other liabilities
Eurosystem 3													
2020 Dec. 11	6,949.6	1,417.2	3,610.4	3,038.5	571.8	–	–	0.1	12.7	–	627.1	557.8	69.3
18	7,008.9	1,424.7	3,600.6	3,036.8	563.7	–	–	–	15.6	–	643.3	560.5	82.8
25	7,014.7	1,433.6	3,570.9	2,979.4	591.4	–	–	–	17.8	–	621.3	540.1	81.2
2021 Jan. 1	6,979.3	1,434.5	3,489.2	2,805.3	683.9	–	–	–	23.6	–	611.3	516.2	95.1
8	6,984.7	1,430.1	3,637.3	3,089.9	547.3	–	–	0.0	14.2	–	559.1	474.8	84.3
15	7,015.6	1,427.4	3,688.6	3,130.1	558.5	–	–	0.0	13.6	–	604.8	522.2	82.6
22	7,024.2	1,426.8	3,702.7	3,082.0	620.7	–	–	0.0	14.1	–	646.1	559.7	86.5
29	7,033.3	1,427.6	3,688.0	3,231.6	456.4	–	–	–	9.0	–	681.7	593.3	88.4
Feb. 5	7,054.5	1,429.5	3,735.4	3,209.6	525.8	–	–	–	11.6	–	653.9	566.6	87.3
12	7,079.1	1,431.6	3,740.0	3,116.3	623.7	–	–	–	11.2	–	685.5	600.4	85.2
19	7,101.2	1,432.8	3,703.8	3,086.0	617.7	–	–	0.0	14.6	–	755.1	667.2	87.9
26	7,110.5	1,434.9	3,739.6	3,094.0	645.6	–	–	0.0	14.3	–	722.0	630.5	91.5
Mar. 5	7,120.3	1,438.3	3,843.0	3,187.7	655.3	–	–	–	18.7	–	621.3	538.7	82.6
12	7,137.5	1,440.7	3,840.5	3,183.7	656.8	–	–	–	14.6	–	653.9	567.2	86.7
19	7,162.2	1,441.5	3,785.4	3,249.3	536.1	–	–	–	17.8	–	734.0	648.5	85.5
26	7,505.0	1,443.9	4,089.1	3,445.2	643.9	–	–	–	16.5	–	772.7	683.6	89.1
Apr. 2	7,494.1	1,450.1	4,134.3	3,400.2	734.0	–	–	–	16.8	–	722.4	634.8	87.7
9	7,514.3	1,449.5	4,213.7	3,470.2	743.5	–	–	–	19.2	–	678.0	597.4	80.6
16	7,522.2	1,449.8	4,183.5	3,478.4	703.4	–	–	1.6	17.0	–	715.0	632.8	82.2
23	7,558.3	1,452.1	4,183.6	3,465.6	716.3	–	–	1.7	17.4	–	748.0	670.3	77.7
30	7,567.9	1,455.1	4,237.2	3,633.7	601.8	–	–	1.7	17.4	–	687.2	605.9	81.3
May 7	7,588.8	1,459.4	4,321.4	3,654.5	665.2	–	–	1.7	18.0	–	619.6	540.0	79.6
14	7,615.7	1,463.1	4,305.6	3,573.8	730.1	–	–	1.7	18.5	–	652.7	572.3	80.4
21	7,643.2	1,467.3	4,281.3	3,541.3	738.2	–	–	1.7	19.3	–	698.8	612.8	86.0
28	7,657.6	1,469.4	4,264.4	3,503.7	758.9	–	–	1.7	19.7	–	717.8	627.7	90.1
June 4	7,680.1	1,473.0	4,350.1	3,611.8	736.6	–	–	1.7	25.8	–	656.9	565.5	91.3
11	7,700.9	1,474.8	4,361.3	3,614.8	744.8	–	–	1.7	18.6	–	657.0	559.4	97.6
18	7,736.5	1,477.4	4,271.6	3,739.2	530.7	–	–	1.7	18.7	–	775.8	668.9	106.9
25	7,877.1	1,479.6	4,377.8	3,691.7	684.3	–	–	1.8	21.7	–	780.5	683.2	97.3
July 2	7,907.8	1,484.5	4,441.8	3,653.2	786.8	–	–	1.8	22.3	–	712.6	616.0	96.6
Deutsche Bundesbank													
2020 Dec. 11	2,451.1	345.2	1,075.2	883.1	192.0	–	–	0.1	4.9	–	200.4	192.6	7.8
18	2,458.9	347.4	1,034.5	839.9	194.6	–	–	–	3.2	–	216.1	208.0	8.2
25	2,485.2	349.9	1,029.4	814.6	214.8	–	–	–	3.2	–	217.5	208.8	8.6
2021 Jan. 1	2,526.9	347.9	1,018.8	793.8	225.0	–	–	–	7.5	–	209.7	196.0	13.7
8	2,474.3	346.2	1,055.3	918.6	136.7	–	–	–	6.1	–	184.8	172.8	12.0
15	2,481.2	346.0	1,086.5	942.3	144.2	–	–	0.0	5.8	–	207.3	193.7	13.6
22	2,460.5	346.2	1,106.8	913.9	193.0	–	–	0.0	6.7	–	181.8	168.1	13.7
29	2,464.6	346.2	1,128.9	1,010.1	118.8	–	–	–	4.0	–	176.4	162.9	13.5
Feb. 5	2,460.7	347.0	1,140.2	1,009.0	131.1	–	–	–	4.8	–	163.8	151.1	12.7
12	2,487.4	347.8	1,151.9	955.0	196.9	–	–	–	4.3	–	189.9	176.1	13.8
19	2,480.1	348.4	1,137.5	949.3	188.2	–	–	0.0	6.6	–	206.7	192.6	14.1
26	2,472.3	348.0	1,139.3	931.1	208.2	–	–	0.0	7.0	–	193.0	180.6	12.4
Mar. 5	2,468.0	349.5	1,158.3	948.8	209.5	–	–	–	10.6	–	170.5	158.5	12.0
12	2,469.3	350.8	1,153.2	948.3	204.8	–	–	–	8.4	–	183.6	169.3	14.3
19	2,465.0	350.9	1,125.2	983.0	142.2	–	–	–	10.2	–	211.0	198.0	13.0
26	2,551.4	351.9	1,206.0	1,043.7	162.3	–	–	–	8.5	–	218.9	205.1	13.8
Apr. 2	2,556.4	351.9	1,232.6	1,003.1	229.5	–	–	–	7.8	–	196.3	182.9	13.4
9	2,558.7	351.6	1,254.8	1,012.5	242.4	–	–	–	10.2	–	181.8	169.4	12.4
16	2,548.1	351.9	1,231.4	1,013.3	216.4	–	–	1.6	8.0	–	191.1	179.9	11.1
23	2,554.0	352.2	1,228.3	1,003.3	223.4	–	–	1.7	9.2	–	200.5	187.9	12.6
30	2,562.0	352.9	1,247.3	1,061.8	183.8	–	–	1.7	8.3	–	185.3	172.3	12.9
May 7	2,568.4	354.7	1,259.9	1,103.0	155.2	–	–	1.7	9.1	–	175.4	162.3	13.1
14	2,592.5	356.5	1,254.7	1,035.4	217.6	–	–	1.7	8.9	–	198.6	185.6	12.9
21	2,617.3	358.4	1,265.1	1,046.0	217.4	–	–	1.7	10.0	–	210.5	196.4	14.1
28	2,639.3	359.2	1,257.5	1,028.2	227.6	–	–	1.7	10.6	–	232.6	218.0	14.6
June 4	2,634.5	358.0	1,271.5	1,035.8	234.0	–	–	1.7	13.3	–	212.5	197.0	15.6
11	2,605.1	359.1	1,259.4	1,028.8	228.9	–	–	1.7	9.4	–	192.5	179.3	13.2
18	2,608.1	360.2	1,224.5	1,085.7	137.0	–	–	1.7	7.9	–	230.2	215.5	14.8
25	2,648.6	361.1	1,249.1	1,086.0	161.4	–	–	1.8	10.1	–	241.3	226.9	14.4
July 2	2,679.7	360.3	1,280.8	1,050.0	229.1	–	–	1.8	9.8	–	220.9	204.6	16.3

* 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 quarrter. **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 monthy basis. The counterpart of this adjustment is disclosed as an "Intra-Eurosystem liability related to

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: Total	Deposits, balances and other liabilities	Liabilities arising from the credit facility under ERM II	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
									Eurosystem 3	
260.5	8.0	4.2	4.2	–	55.9	301.5	–	543.5	108.8	2020 Dec. 11
300.3	8.4	3.8	3.8	–	55.9	304.2	–	543.5	108.8	18
349.2	8.0	4.1	4.1	–	55.9	301.7	–	543.5	108.8	25
431.1	7.8	3.9	3.9	–	54.8	301.4	–	512.9	108.8	2021 Jan. 1
355.5	8.0	3.9	3.9	–	54.8	300.6	–	512.5	108.6	8
285.9	7.9	3.7	3.7	–	54.8	307.8	–	512.5	108.6	15
249.6	8.3	3.8	3.8	–	54.8	297.0	–	512.5	108.6	22
241.6	8.2	4.1	4.1	–	54.8	297.2	–	512.5	108.6	29
233.8	8.3	4.0	4.0	–	54.8	302.3	–	512.5	108.3	Feb. 5
222.1	8.6	3.7	3.7	–	54.8	300.7	–	512.5	108.3	12
209.0	8.4	4.1	4.1	–	54.8	297.8	–	512.5	108.3	19
214.2	8.2	4.3	4.3	–	54.8	297.1	–	512.5	108.5	26
208.8	10.3	4.5	4.5	–	54.8	299.5	–	512.5	108.5	Mar. 5
199.3	8.5	4.6	4.6	–	54.8	298.5	–	512.5	109.6	12
194.4	8.9	3.9	3.9	–	54.8	299.4	–	512.5	109.6	19
193.1	9.4	3.4	3.4	–	54.8	299.8	–	512.5	109.7	26
207.5	9.7	3.4	3.4	–	56.2	298.2	–	485.4	110.1	Apr. 2
198.5	9.8	3.3	3.3	–	56.2	290.7	–	485.4	110.1	9
202.3	9.8	3.2	3.2	–	56.2	289.9	–	485.4	110.1	16
199.8	9.8	3.2	3.2	–	56.2	292.7	–	485.4	110.1	23
208.0	10.0	3.0	3.0	–	56.2	298.4	–	485.4	110.0	30
206.6	10.0	2.8	2.8	–	56.2	299.1	–	485.4	110.2	May 7
210.5	10.3	2.7	2.7	–	56.2	300.3	–	485.4	110.2	14
211.4	10.7	2.4	2.4	–	56.2	300.2	–	485.4	110.2	21
219.4	10.6	2.1	2.1	–	56.2	302.4	–	485.4	110.2	28
211.5	11.0	2.1	2.1	–	56.2	298.7	–	485.4	109.5	June 4
220.2	11.3	2.1	2.1	–	56.2	304.6	–	485.4	109.5	11
218.2	11.4	2.5	2.5	–	56.2	309.9	–	485.4	109.5	18
242.2	11.1	2.9	2.9	–	56.2	310.2	–	485.4	109.5	25
264.5	10.4	2.7	2.7	–	55.8	306.1	–	497.6	109.5	July 2
									Deutsche Bundesbank	
132.6	0.0	0.1	0.1	–	14.5	31.5	470.7	170.4	5.7	2020 Dec. 11
164.4	0.0	0.0	0.0	–	14.5	31.9	470.7	170.4	5.7	18
192.1	0.0	0.0	0.0	–	14.5	31.9	470.7	170.4	5.7	25
256.8	0.0	–	–	–	14.2	31.5	473.1	161.8	5.7	2021 Jan. 1
194.9	0.0	0.0	0.0	–	14.2	32.1	473.1	161.8	5.7	8
148.5	0.0	– 0.0	– 0.0	–	14.2	32.3	473.1	161.8	5.7	15
130.7	0.4	– 0.0	– 0.0	–	14.2	33.0	473.1	161.8	5.7	22
119.9	0.4	– 0.0	– 0.0	–	14.2	32.9	474.2	161.8	5.7	29
115.5	0.4	0.1	0.1	–	14.2	33.0	474.2	161.8	5.7	Feb. 5
104.1	0.4	0.1	0.1	–	14.2	33.0	474.2	161.8	5.7	12
91.1	0.4	0.2	0.2	–	14.2	33.2	474.2	161.8	5.7	19
93.0	0.4	0.2	0.2	–	14.2	33.2	476.5	161.8	5.7	26
87.2	0.4	0.2	0.2	–	14.2	33.1	476.5	161.8	5.7	Mar. 5
81.1	0.4	0.4	0.4	–	14.2	33.3	476.5	161.8	5.7	12
75.1	0.3	0.4	0.4	–	14.2	33.7	476.5	161.8	5.7	19
73.6	0.3	0.3	0.3	–	14.2	33.6	476.5	161.8	5.7	26
84.5	0.1	0.0	0.0	–	14.6	32.7	479.0	151.2	5.7	Apr. 2
76.5	0.0	0.2	0.2	–	14.6	33.0	479.0	151.2	5.7	9
82.2	0.0	0.2	0.2	–	14.6	32.9	479.0	151.2	5.7	16
80.1	0.0	0.2	0.2	–	14.6	33.0	479.0	151.2	5.7	23
83.4	0.0	0.2	0.2	–	14.6	33.4	479.7	151.2	5.7	30
84.5	0.0	0.0	0.0	–	14.6	33.5	479.7	151.2	5.7	May 7
88.5	0.4	0.0	0.0	–	14.6	33.6	479.7	151.2	5.7	14
87.8	0.4	0.0	0.0	–	14.6	33.7	479.7	151.2	5.7	21
93.9	0.4	0.0	0.0	–	14.6	33.8	479.7	151.2	5.7	28
90.6	0.4	0.0	0.0	–	14.6	33.9	482.8	151.2	5.7	June 4
96.2	0.3	0.0	0.0	–	14.6	33.9	482.8	151.2	5.7	11
96.2	0.3	0.0	0.0	–	14.6	34.5	482.8	151.2	5.7	18
97.5	0.2	0.2	0.2	–	14.6	34.8	482.8	151.2	5.7	25
112.0	0.4	–	–	–	14.5	33.9	485.9	155.5	5.7	July 2

euro banknote issue". The remaining 92% of the value of the euro banknotes in circulation is allocated, likewise on an 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 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 Deutsche Bundesbank) in Germany *
Assets

€ billion

Period	Balance sheet total 1	Cash in hand	Lending to banks (MFIs) in the euro area: Total	to banks in the home country: Total	to banks in the home country: Loans	to banks in the home country: Securities issued by banks	to banks in other Member States: Total	to banks in other Member States: Loans	to banks in other Member States: Securities issued by banks	Lending to non-banks (non-MFIs) in the: Total	to non-banks in the home country: Total	Enterprises and households: Total	Enterprises and households: Loans
													End of year or month
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
2018	7,776.0	40.6	2,188.0	1,768.3	1,500.7	267.5	419.7	284.8	134.9	3,864.0	3,458.2	3,024.3	2,727.0
2019	8,311.0	43.4	2,230.1	1,759.8	1,493.5	266.3	470.4	327.6	142.8	4,020.1	3,584.9	3,168.7	2,864.9
2020	8,943.3	47.5	2,622.7	2,177.9	1,913.5	264.4	444.8	307.1	137.7	4,179.6	3,709.8	3,297.0	2,993.1
2019 Aug.	8,645.5	38.3	2,327.7	1,857.2	1,589.6	267.6	470.5	327.6	142.9	4,009.7	3,554.6	3,127.0	2,827.3
Sep.	8,550.4	38.0	2,323.6	1,835.8	1,569.4	266.4	487.8	344.3	143.5	4,001.0	3,562.6	3,139.5	2,839.7
Oct.	8,445.6	39.3	2,312.0	1,810.4	1,543.9	266.5	501.6	358.5	143.1	4,008.1	3,569.7	3,149.2	2,847.6
Nov.	8,509.2	40.1	2,361.5	1,860.2	1,590.2	270.0	501.3	358.1	143.2	4,027.4	3,586.5	3,166.8	2,863.7
Dec.	8,311.0	43.4	2,230.1	1,759.8	1,493.5	266.3	470.4	327.6	142.8	4,020.1	3,584.9	3,168.7	2,864.9
2020 Jan.	8,482.2	39.4	2,293.1	1,800.7	1,531.5	269.2	492.4	348.1	144.3	4,033.9	3,591.5	3,173.1	2,867.5
Feb.	8,666.7	40.3	2,308.1	1,815.4	1,545.5	269.9	492.7	348.9	143.8	4,055.3	3,606.4	3,190.1	2,885.8
Mar.	8,912.6	48.1	2,421.0	1,920.7	1,651.9	268.8	500.4	357.5	142.8	4,096.9	3,641.9	3,215.5	2,915.9
Apr.	9,014.6	48.6	2,442.9	1,943.2	1,674.0	269.2	499.7	355.0	144.8	4,115.5	3,656.4	3,225.2	2,926.3
May	8,915.3	48.1	2,395.2	1,896.4	1,631.8	264.6	498.8	355.2	143.6	4,149.8	3,682.9	3,247.5	2,946.1
June	9,026.9	46.0	2,542.6	2,056.2	1,788.0	268.2	486.4	343.6	142.8	4,153.0	3,683.1	3,249.8	2,949.1
July	9,069.0	45.5	2,574.4	2,099.6	1,830.7	268.9	474.8	333.3	141.5	4,153.7	3,688.0	3,258.4	2,958.3
Aug.	8,985.5	46.0	2,595.4	2,127.5	1,858.5	269.0	467.9	328.0	139.9	4,148.3	3,691.9	3,266.7	2,966.1
Sep.	9,097.4	46.1	2,657.2	2,196.9	1,926.4	270.6	460.3	320.7	139.5	4,153.9	3,696.5	3,269.8	2,968.7
Oct.	9,124.3	46.3	2,686.7	2,226.8	1,957.0	269.8	459.9	320.9	139.0	4,181.8	3,713.6	3,283.1	2,980.6
Nov.	9,096.0	45.7	2,684.1	2,232.1	1,965.3	266.9	452.0	313.9	138.1	4,198.6	3,723.7	3,293.3	2,991.0
Dec.	8,943.3	47.5	2,622.7	2,177.9	1,913.5	264.4	444.8	307.1	137.7	4,179.6	3,709.8	3,297.0	2,993.1
2021 Jan.	9,150.4	44.9	2,793.5	2,309.4	2,042.2	267.2	484.1	348.8	135.3	4,195.0	3,716.6	3,302.6	2,997.8
Feb.	9,148.1	45.5	2,824.0	2,328.8	2,060.6	268.2	495.2	361.1	134.1	4,210.4	3,731.9	3,318.5	3,011.4
Mar.	9,261.9	45.7	2,904.5	2,419.8	2,145.0	274.8	484.8	351.2	133.6	4,245.8	3,762.0	3,347.6	3,038.5
Apr.	9,269.2	44.9	2,935.1	2,441.4	2,168.7	272.8	493.7	360.0	133.7	4,236.4	3,756.9	3,347.0	3,036.8
May	9,276.8	45.7	2,973.3	2,485.2	2,212.9	272.4	488.1	354.2	133.9	4,245.5	3,772.3	3,362.8	3,049.3
													Changes 3
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
2018	101.8	8.5	− 29.2	− 49.7	− 53.4	3.7	20.6	13.0	7.6	78.7	71.9	118.1	127.8
2019	483.4	2.8	20.7	− 3.8	− 2.3	− 1.5	24.5	16.9	7.5	161.8	130.5	148.2	140.9
2020	769.5	4.1	505.4	524.2	512.6	11.6	− 18.8	− 16.2	− 2.6	161.0	130.0	132.3	132.2
2019 Sep.	− 100.4	− 0.3	− 19.8	− 19.0	− 18.0	− 1.0	− 0.7	− 1.3	0.6	7.9	8.2	12.1	12.1
Oct.	− 93.5	1.2	− 9.8	− 24.8	− 25.0	0.2	15.0	15.3	− 0.3	8.8	8.1	10.5	8.8
Nov.	55.4	0.8	48.2	49.3	45.9	3.3	− 1.1	− 1.2	0.1	18.6	16.6	17.3	15.8
Dec.	− 187.4	3.3	− 129.3	− 99.6	− 96.3	− 3.3	− 29.7	− 29.4	− 0.3	− 6.1	− 1.2	2.2	1.6
2020 Jan.	162.1	− 4.0	61.4	40.5	37.7	2.8	21.0	19.6	1.4	13.0	6.8	4.7	3.1
Feb.	193.8	0.8	20.5	18.6	13.8	4.8	1.9	0.5	1.3	21.8	15.0	17.2	18.3
Mar.	251.0	7.9	113.4	105.3	106.1	− 0.9	8.2	8.8	− 0.6	44.3	36.8	26.5	31.0
Apr.	96.1	0.5	20.8	21.8	21.5	0.3	− 1.1	− 3.0	1.9	18.2	14.2	9.8	10.5
May	− 40.6	− 0.6	22.6	22.4	19.3	3.1	0.2	1.3	− 1.1	27.3	24.9	20.5	18.0
June	118.6	− 2.1	149.4	161.5	157.8	3.7	− 12.1	− 11.2	− 0.9	5.0	1.7	3.6	4.3
July	67.5	− 0.5	36.5	45.1	44.3	0.8	− 8.6	− 7.5	− 1.1	3.1	6.6	10.2	10.8
Aug.	− 79.5	0.5	21.7	28.2	28.0	0.1	− 6.4	− 4.9	− 1.5	− 4.9	4.3	8.7	8.1
Sep.	104.9	0.1	60.5	69.0	67.5	1.5	− 8.5	− 8.0	− 0.4	5.2	4.5	3.0	2.6
Oct.	25.2	0.2	29.1	29.7	30.5	− 0.8	− 0.6	0.1	− 0.7	27.6	17.3	12.9	11.3
Nov.	12.0	− 0.6	29.0	35.8	37.2	− 1.4	− 6.8	− 6.1	− 0.8	18.6	11.3	11.2	11.5
Dec.	− 141.5	1.8	− 59.5	− 53.6	− 51.2	− 2.4	− 5.9	− 5.8	− 0.2	− 18.3	− 13.3	4.2	2.7
2021 Jan.	201.4	− 2.6	169.3	131.0	128.3	2.8	38.2	40.5	− 2.3	16.8	7.7	6.6	5.1
Feb.	− 2.3	0.7	30.3	19.2	18.2	1.1	11.0	12.2	− 1.2	15.9	15.5	15.7	13.4
Mar.	100.0	0.2	78.0	90.0	83.7	6.3	− 12.0	− 11.5	− 0.5	34.3	29.7	28.8	27.0
Apr.	21.2	− 0.8	33.6	23.0	24.6	− 1.6	10.6	10.5	0.2	− 8.8	− 5.2	− 0.1	− 1.1
May	7.9	0.8	37.8	43.8	44.2	− 0.4	− 6.1	− 6.3	0.2	9.7	15.6	15.2	12.6

* 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 exchange

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													
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
297.2	433.9	263.4	170.5	405.8	286.7	176.5	119.2	28.6	90.6	1,033.2	778.5	650.2	2018
303.8	416.2	254.7	161.6	435.2	312.6	199.0	122.6	29.4	93.2	1,035.8	777.5	981.5	2019
303.9	412.8	252.3	160.5	469.8	327.5	222.2	142.3	29.7	112.7	1,003.2	751.2	1,090.3	2020
299.7	427.6	260.2	167.4	455.1	330.1	216.8	125.0	28.9	96.1	1,122.3	857.7	1,147.5	2019 Aug.
299.8	423.2	255.1	168.1	438.3	313.4	200.6	124.9	28.8	96.1	1,106.8	841.9	1,081.1	Sep.
301.6	420.5	257.1	163.4	438.4	313.1	201.3	125.3	30.1	95.2	1,102.8	842.5	983.5	Oct.
303.1	419.8	257.7	162.0	440.8	315.2	201.0	125.6	30.5	95.1	1,091.3	828.7	989.0	Nov.
303.8	416.2	254.7	161.6	435.2	312.6	199.0	122.6	29.4	93.2	1,035.8	777.5	981.5	Dec.
305.6	418.3	258.6	159.8	442.4	316.4	203.8	126.0	29.8	96.2	1,078.6	819.6	1,037.1	2020 Jan.
304.3	416.3	256.5	159.8	448.9	322.8	206.6	126.2	29.9	96.3	1,088.6	829.3	1,174.5	Feb.
299.6	426.4	258.5	167.9	455.0	325.2	212.8	129.8	29.5	100.3	1,104.4	838.8	1,242.1	Mar.
298.8	431.2	259.2	172.0	459.1	329.0	217.4	130.2	31.1	99.1	1,119.2	852.3	1,288.4	Apr.
301.4	435.4	258.3	177.1	466.9	334.5	220.6	132.3	31.0	101.3	1,102.1	840.8	1,220.2	May
300.7	433.3	257.8	175.5	469.9	331.1	215.4	138.8	29.2	109.6	1,075.8	816.4	1,209.5	June
300.1	429.6	259.1	170.5	465.7	313.2	217.1	152.5	29.9	122.6	1,047.3	792.5	1,248.1	July
300.7	425.1	253.7	171.4	456.5	311.1	214.5	145.4	29.2	116.1	1,037.6	784.0	1,158.2	Aug.
301.1	426.7	256.0	170.8	457.4	311.0	215.2	146.4	29.3	117.0	1,063.9	808.9	1,176.3	Sep.
302.5	430.5	257.3	173.2	468.2	318.6	219.6	149.5	30.2	119.3	1,049.9	793.4	1,159.6	Oct.
302.2	430.5	256.7	173.8	474.8	325.6	222.5	149.2	29.1	120.1	1,048.0	792.3	1,119.7	Nov.
303.9	412.8	252.3	160.5	469.8	327.5	222.2	142.3	29.7	112.7	1,003.2	751.2	1,090.3	Dec.
304.9	414.0	253.3	160.7	478.4	330.8	224.5	147.6	28.7	118.9	1,087.5	834.6	1,029.5	2021 Jan.
307.1	413.4	250.6	162.9	478.5	334.5	227.0	144.0	28.8	115.2	1,093.8	843.9	974.4	Feb.
309.1	414.4	249.3	165.1	483.8	339.4	232.3	144.4	28.9	115.5	1,105.7	855.5	960.1	Mar.
310.2	409.9	251.0	158.9	479.5	339.8	232.3	139.7	30.3	109.4	1,122.5	876.2	930.3	Apr.
313.5	409.5	250.6	158.9	473.2	339.1	231.9	134.1	28.4	105.7	1,110.1	864.2	902.3	May
Changes 3													
– 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
– 9.8	– 46.2	– 19.1	– 27.0	6.8	18.2	18.6	– 11.4	– 1.5	– 9.9	29.0	18.9	14.8	2018
7.3	– 17.7	– 8.6	– 9.1	31.3	29.5	26.9	1.7	0.0	1.7	– 32.1	– 33.3	330.3	2019
0.2	– 2.4	– 1.7	– 0.7	31.0	30.6	20.9	0.3	– 0.4	0.7	– 9.7	– 8.2	108.8	2020
0.0	– 4.0	– 4.7	0.8	– 0.3	– 0.1	0.5	– 0.1	– 0.1	– 0.0	– 21.9	– 21.7	– 66.4	2019 Sep.
1.7	– 2.4	2.1	– 4.6	0.8	0.2	1.0	0.5	1.3	– 0.8	3.9	7.7	– 97.7	Oct.
1.5	– 0.8	0.6	– 1.4	2.1	1.7	– 0.7	0.4	0.4	0.0	– 17.6	– 19.3	5.3	Nov.
0.7	– 3.4	– 3.0	– 0.4	– 4.9	– 1.4	– 0.9	– 3.5	– 1.8	– 1.7	– 47.9	– 44.3	– 7.5	Dec.
1.6	2.1	3.9	– 1.8	6.2	3.2	4.5	3.0	0.4	2.6	36.0	35.9	55.6	2020 Jan.
– 1.1	– 2.2	– 2.1	– 0.1	6.8	6.7	2.8	0.1	0.1	– 0.0	13.5	12.5	137.3	Feb.
– 4.5	10.2	2.0	8.3	7.5	3.3	6.5	4.2	– 0.4	4.6	17.8	11.2	67.6	Mar.
– 0.7	4.5	0.6	3.9	4.0	3.7	4.3	0.3	1.6	– 1.3	10.4	9.3	46.3	Apr.
2.5	4.4	– 0.9	5.3	2.5	0.8	– 1.2	1.6	– 0.6	2.2	– 23.0	– 18.2	– 67.0	May
– 0.7	– 1.9	– 0.3	– 1.6	3.3	– 3.2	– 4.9	6.4	– 1.8	8.2	– 22.9	– 21.2	– 10.8	June
– 0.6	– 3.6	1.3	– 4.9	– 3.5	1.6	2.7	– 5.1	0.6	– 5.7	– 10.3	– 7.1	38.7	July
0.6	– 4.4	– 5.4	0.9	– 9.2	– 2.3	– 2.5	– 6.9	– 0.7	– 6.2	– 7.0	– 6.0	– 89.8	Aug.
0.4	1.5	2.2	– 0.7	0.7	– 0.1	0.7	0.9	0.1	0.7	21.1	20.0	18.0	Sep.
1.6	4.4	2.0	2.5	10.4	7.3	4.2	3.0	0.9	2.1	– 15.3	– 16.7	– 16.4	Oct.
– 0.3	0.2	– 0.5	0.7	7.3	7.6	3.6	– 0.3	– 1.1	0.8	6.4	6.6	– 41.4	Nov.
1.5	– 17.5	– 4.4	– 13.2	– 4.9	1.9	0.3	– 6.9	0.6	– 7.4	– 36.3	– 34.4	– 29.3	Dec.
1.5	1.1	0.9	0.2	9.1	3.8	2.9	5.3	– 0.9	6.2	80.2	79.8	– 62.3	2021 Jan.
2.3	– 0.2	– 2.4	2.3	0.3	3.7	2.4	– 3.4	0.1	– 3.4	6.3	8.9	– 55.4	Feb.
1.9	0.9	– 1.3	2.2	4.6	4.2	4.9	0.4	0.1	0.3	2.8	3.3	– 15.3	Mar.
1.0	– 5.0	1.7	– 6.7	– 3.6	0.9	0.7	– 4.5	1.5	– 6.0	26.0	29.0	– 28.8	Apr.
2.6	0.3	– 0.3	0.7	– 5.8	– 0.3	0.2	– 5.6	– 1.9	– 3.6	– 12.4	– 12.0	– 28.0	May

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 Deutsche Bundesbank) in Germany *
Liabilities

€ billion

Period	Balance sheet total 1	Deposits of banks (MFIs) in the euro area: Total	of banks: in the home country	of banks: in other Member States	Deposits of non-banks (non-MFIs) in the euro area: Total	Deposits of non-banks in the home country: Total	Overnight	With agreed maturities: Total	of which: up to 2 years	At agreed notice: Total	of which: up to 3 months	Deposits of non-banks: Total	Overnight
													End of year or month
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
2018	7,776.0	1,213.8	1,021.8	192.0	3,642.8	3,527.0	2,075.5	872.9	267.2	578.6	541.1	104.5	45.0
2019	8,311.0	1,242.8	1,010.4	232.4	3,778.1	3,649.8	2,230.9	843.7	261.7	575.1	540.5	116.3	54.6
2020	8,943.3	1,493.2	1,237.0	256.3	4,021.6	3,836.7	2,508.4	767.8	227.1	560.5	533.2	135.1	57.0
2019 Aug.	8,645.5	1,306.3	1,062.2	244.1	3,754.1	3,626.8	2,182.9	863.7	276.0	580.2	542.2	114.6	54.3
Sep.	8,550.4	1,299.7	1,038.3	261.4	3,745.4	3,618.0	2,179.8	859.2	273.5	579.0	541.5	115.2	55.7
Oct.	8,445.6	1,313.5	1,050.3	263.2	3,761.4	3,633.5	2,201.7	854.6	270.4	577.2	540.6	114.1	51.4
Nov.	8,509.2	1,326.4	1,057.3	269.1	3,791.3	3,663.8	2,238.9	849.3	266.7	575.6	539.9	115.8	52.6
Dec.	8,311.0	1,242.8	1,010.4	232.4	3,778.1	3,649.8	2,230.9	843.7	261.7	575.1	540.5	116.3	54.6
2020 Jan.	8,482.2	1,293.2	1,033.0	260.2	3,775.6	3,647.0	2,229.5	846.8	267.2	570.7	537.5	116.3	54.3
Feb.	8,666.7	1,313.5	1,047.8	265.7	3,794.5	3,664.6	2,249.1	847.1	270.3	568.4	535.8	117.0	55.2
Mar.	8,912.6	1,418.4	1,135.8	282.6	3,853.2	3,705.0	2,299.1	841.5	268.6	564.4	532.5	135.5	72.3
Apr.	9,014.6	1,426.3	1,156.6	269.6	3,872.7	3,729.4	2,339.0	826.7	259.6	563.8	532.6	130.3	65.2
May	8,915.3	1,386.1	1,112.0	274.0	3,913.5	3,764.4	2,370.9	829.9	266.6	563.6	532.9	136.6	70.6
June	9,026.9	1,503.5	1,230.4	273.1	3,906.1	3,754.5	2,379.1	812.8	256.1	562.5	532.8	139.2	71.1
July	9,069.0	1,488.7	1,209.5	279.2	3,937.1	3,783.3	2,408.1	814.3	263.0	560.9	531.7	132.9	65.5
Aug.	8,985.5	1,489.8	1,213.2	276.6	3,951.0	3,790.7	2,421.8	808.3	258.8	560.6	531.8	129.7	63.6
Sep.	9,097.4	1,523.9	1,252.4	271.5	3,975.9	3,795.1	2,436.7	798.3	251.4	560.1	531.7	140.6	72.8
Oct.	9,124.3	1,536.3	1,264.9	271.4	4,015.2	3,827.0	2,473.1	794.2	249.1	559.7	531.7	140.8	69.6
Nov.	9,096.0	1,515.4	1,245.5	269.9	4,035.0	3,846.2	2,508.7	778.0	235.3	559.6	532.0	140.2	69.0
Dec.	8,943.3	1,493.2	1,237.0	256.3	4,021.6	3,836.7	2,508.4	767.8	227.1	560.5	533.2	135.1	57.0
2021 Jan.	9,150.4	1,560.0	1,262.3	297.7	4,044.0	3,855.8	2,536.8	757.4	219.4	561.6	534.8	138.4	65.8
Feb.	9,148.1	1,584.4	1,261.7	322.7	4,053.2	3,865.2	2,552.4	750.1	214.1	562.6	536.1	137.7	68.2
Mar.	9,261.9	1,634.1	1,336.6	297.6	4,068.3	3,876.2	2,569.2	744.7	212.3	562.3	536.2	142.2	71.0
Apr.	9,269.2	1,659.9	1,344.1	315.8	4,079.3	3,886.3	2,588.3	735.3	205.8	562.7	536.9	143.0	70.2
May	9,276.8	1,661.1	1,353.0	308.1	4,103.8	3,909.2	2,614.0	732.0	204.8	563.2	537.5	146.4	70.4
													Changes 4
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
2018	101.8	– 20.1	– 25.7	5.6	112.4	114.7	137.7	– 18.8	– 6.5	– 4.3	1.2	– 4.3	2.3
2019	483.4	12.6	– 10.0	22.6	132.1	120.0	154.1	– 30.6	– 6.6	– 3.4	– 0.6	10.6	8.7
2020	769.5	340.0	317.0	23.0	244.9	188.4	277.6	– 74.7	– 34.9	– 14.5	– 7.2	18.7	1.8
2019 Sep.	– 100.4	– 19.2	– 21.7	2.5	– 9.5	– 9.5	– 3.5	– 4.7	– 2.7	– 1.2	– 0.7	0.5	1.3
Oct.	– 93.5	15.0	12.5	2.5	17.1	16.2	22.5	– 4.5	– 3.1	– 1.8	– 1.0	– 0.9	– 4.2
Nov.	55.4	11.9	6.6	5.3	29.1	29.5	36.7	– 5.7	– 3.8	– 1.6	– 0.7	1.5	1.1
Dec.	– 187.4	– 82.4	– 46.4	– 36.0	– 12.2	– 13.2	– 7.3	– 5.4	– 4.9	– 0.5	0.6	0.7	2.2
2020 Jan.	162.1	49.3	22.2	27.2	– 3.4	– 3.5	– 2.0	2.9	5.3	– 4.5	– 3.0	– 0.1	– 0.4
Feb.	193.8	20.0	14.6	5.4	18.5	17.3	19.4	0.2	3.0	– 2.2	– 1.7	0.6	0.9
Mar.	251.0	104.6	87.7	16.9	58.9	40.4	50.1	– 5.6	– 1.7	– 4.0	– 3.4	18.5	17.1
Apr.	96.1	7.0	20.3	– 13.3	18.8	24.0	39.6	– 15.0	– 9.2	– 0.7	0.1	– 5.3	– 7.1
May	– 40.6	22.0	16.8	5.2	34.0	33.3	29.9	3.6	7.3	– 0.2	0.3	1.2	0.1
June	118.6	118.2	118.9	– 0.7	– 7.0	– 9.6	8.3	– 16.8	– 10.5	– 1.1	– 0.1	2.6	0.6
July	67.5	– 11.0	– 19.0	8.1	34.1	31.5	31.0	2.1	7.4	– 1.6	– 1.1	– 5.7	– 5.4
Aug.	– 79.5	1.6	4.0	– 2.4	14.4	7.7	13.8	– 5.9	– 4.1	– 0.2	0.2	– 3.2	– 1.9
Sep.	104.9	33.1	38.7	– 5.7	24.1	3.7	14.4	– 10.2	– 7.6	– 0.5	– 0.1	10.7	9.1
Oct.	25.2	12.3	12.4	– 0.1	39.1	32.1	36.4	– 3.9	– 3.3	– 0.4	– 0.0	0.1	– 3.3
Nov.	12.0	8.2	8.4	– 0.1	25.6	20.2	36.4	– 16.0	– 13.6	– 0.1	0.3	4.1	3.9
Dec.	– 141.5	– 25.2	– 7.9	– 17.3	– 12.3	– 8.7	0.3	– 10.0	– 8.0	1.0	1.3	– 4.8	– 11.8
2021 Jan.	201.4	65.4	25.0	40.4	21.0	18.6	28.1	– 10.6	– 7.8	1.1	1.6	2.6	9.7
Feb.	– 2.3	24.4	– 0.7	25.1	9.0	9.2	15.5	– 7.3	– 5.3	1.0	1.3	– 0.7	2.4
Mar.	100.0	47.8	73.8	– 26.0	13.6	9.9	15.8	– 5.6	– 1.9	– 0.3	0.1	4.0	2.5
Apr.	21.2	27.6	8.3	19.3	12.5	11.2	20.1	– 9.4	– 6.5	0.4	0.7	1.2	– 0.6
May	7.9	1.2	8.9	– 7.7	24.5	22.9	25.7	– 3.3	– 0.9	0.5	0.6	3.4	0.3

* 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 governments.

IV. Banks

in other Member States 2				Deposits of central governments		Liabilities arising from repos with non-banks in the euro area	Money market fund shares issued 3	Debt securities issued 3		Liabilities to non-euro area residents	Capital and reserves	Other Liabilities 1	Period
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 govern-ments			Total	of which: with maturities of up to 2 years 3				
End of year or month													
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
56.7	15.8	2.8	2.5	11.3	10.5	0.8	2.4	1,034.0	31.9	575.9	695.6	610.7	2018
59.0	16.5	2.7	2.4	12.0	11.2	1.5	1.9	1,063.2	32.3	559.4	728.6	935.6	2019
75.6	30.6	2.6	2.3	49.8	48.6	9.4	2.5	1,056.9	21.2	617.6	710.8	1,031.3	2020
57.5	17.4	2.8	2.5	12.8	11.2	16.9	2.2	1,072.7	33.9	676.2	713.0	1,103.9	2019 Aug.
56.8	15.2	2.7	2.4	12.2	10.9	1.5	2.3	1,077.8	35.7	671.4	719.2	1,033.2	Sep.
60.1	17.8	2.7	2.4	13.8	10.6	1.2	2.2	1,067.5	33.4	657.4	711.0	931.3	Oct.
60.6	18.3	2.7	2.4	11.7	10.6	1.7	2.0	1,076.7	33.7	653.6	723.6	933.9	Nov.
59.0	16.5	2.7	2.4	12.0	11.2	1.5	1.9	1,063.2	32.3	559.4	728.6	935.6	Dec.
59.4	17.1	2.7	2.4	12.3	10.8	2.5	1.8	1,078.0	36.0	622.5	712.5	996.0	2020 Jan.
59.2	15.3	2.6	2.4	12.9	11.2	2.0	1.9	1,087.4	34.6	638.8	714.0	1,114.6	Feb.
60.6	16.5	2.6	2.4	12.8	11.2	1.7	2.5	1,074.1	30.8	674.1	713.4	1,175.2	Mar.
62.4	17.6	2.6	2.4	13.0	11.1	3.4	2.4	1,078.1	29.6	704.0	693.5	1,234.2	Apr.
63.4	16.4	2.6	2.4	12.5	10.8	2.2	2.2	1,076.9	28.8	693.7	686.4	1,154.4	May
65.4	19.2	2.6	2.4	12.5	11.8	0.9	2.1	1,074.0	28.6	696.8	702.1	1,141.4	June
64.8	20.2	2.6	2.3	20.8	20.1	2.1	1.9	1,067.4	25.9	698.3	694.7	1,178.9	July
63.6	19.3	2.6	2.3	30.6	29.8	1.7	1.9	1,063.9	25.5	682.1	699.9	1,095.2	Aug.
65.2	21.8	2.6	2.3	40.2	39.0	1.2	2.6	1,077.3	25.6	687.1	720.4	1,108.9	Sep.
68.6	25.0	2.6	2.3	47.3	46.6	1.4	2.7	1,075.1	24.6	687.8	712.4	1,093.3	Oct.
68.7	24.3	2.6	2.3	48.5	47.6	9.1	2.5	1,070.0	23.3	696.7	713.1	1,054.3	Nov.
75.6	30.6	2.6	2.3	49.8	48.6	9.4	2.5	1,056.9	21.2	617.6	710.8	1,031.3	Dec.
70.0	23.7	2.6	2.3	49.7	48.3	6.3	2.5	1,058.8	19.7	790.8	708.3	979.7	2021 Jan.
67.0	20.5	2.5	2.3	50.3	48.2	4.5	2.5	1,068.3	19.6	803.5	702.4	929.4	Feb.
68.7	22.0	2.5	2.3	49.9	48.9	6.7	2.9	1,090.4	21.5	833.7	712.0	913.8	Mar.
70.3	23.2	2.5	2.3	50.0	48.6	5.1	2.9	1,091.8	21.0	839.1	705.9	885.3	Apr.
73.5	26.7	2.5	2.3	48.2	46.6	6.0	2.2	1,087.6	23.4	854.7	702.6	858.8	May
Changes 4													
– 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
– 6.4	– 4.1	– 0.1	– 0.1	2.1	2.1	– 2.6	0.3	30.0	– 5.9	– 36.0	7.4	10.3	2018
2.0	0.6	– 0.1	– 0.1	1.4	1.4	5.6	– 0.5	22.3	0.1	– 47.9	30.0	329.1	2019
17.0	14.3	– 0.1	– 0.1	37.8	37.3	3.6	0.6	11.8	– 9.3	61.6	– 1.5	108.5	2020
– 0.8	– 2.2	– 0.0	– 0.0	– 0.5	– 0.2	– 1.1	0.1	1.3	1.7	– 8.3	5.3	– 69.0	2019 Sep.
3.4	2.7	– 0.0	– 0.0	1.8	– 0.1	– 0.3	– 0.1	– 6.5	– 2.1	– 9.7	– 6.9	– 102.1	Oct.
0.4	0.4	– 0.0	– 0.0	– 2.0	0.2	0.4	– 0.2	5.6	0.2	– 7.2	11.5	4.2	Nov.
– 1.5	– 1.7	– 0.0	– 0.0	0.3	0.6	– 0.2	– 0.1	– 9.2	– 1.3	– 90.5	6.4	0.7	Dec.
0.3	0.5	– 0.0	– 0.0	0.3	– 0.5	1.1	– 0.1	11.0	3.5	59.9	– 17.2	61.4	2020 Jan.
– 0.3	– 1.8	– 0.0	– 0.0	0.6	0.4	– 0.6	0.1	8.6	– 1.4	15.5	1.3	130.4	Feb.
1.4	1.2	– 0.0	– 0.0	– 0.0	– 0.0	– 0.3	0.6	– 11.9	– 3.8	36.2	– 0.3	63.2	Mar.
1.8	1.1	– 0.0	– 0.0	0.1	– 0.1	1.7	– 0.1	1.6	– 1.3	27.6	– 20.7	60.3	Apr.
1.1	– 1.1	– 0.0	– 0.0	– 0.5	– 0.3	– 1.2	– 0.1	5.1	– 0.6	– 21.9	3.5	– 82.0	May
2.0	2.8	– 0.0	0.0	0.0	1.0	– 1.3	– 0.2	– 1.3	– 0.1	4.6	16.4	– 10.8	June
– 0.3	1.2	– 0.0	– 0.0	8.3	8.3	1.3	– 0.2	3.3	– 1.2	10.9	– 4.3	33.3	July
– 1.3	– 0.8	– 0.0	– 0.0	9.8	9.8	– 0.5	0.0	– 2.2	– 0.4	– 14.9	5.7	– 83.7	Aug.
1.6	2.4	– 0.0	– 0.0	9.6	9.2	– 0.5	0.7	10.5	0.0	2.6	19.6	14.9	Sep.
3.4	3.2	– 0.0	0.0	7.0	7.5	0.3	0.1	– 2.9	– 1.0	– 0.1	– 8.2	– 15.5	Oct.
0.2	– 0.6	– 0.0	– 0.0	1.2	1.0	3.3	– 0.2	– 0.9	– 1.2	12.6	3.3	– 39.9	Nov.
7.0	6.3	0.0	0.0	1.3	1.0	0.3	– 0.0	– 9.0	– 1.9	– 71.4	– 0.7	– 23.2	Dec.
– 7.1	– 6.9	0.0	0.0	– 0.1	– 0.2	– 3.0	– 0.0	– 0.5	– 1.5	171.3	– 3.7	– 49.0	2021 Jan.
– 3.1	– 3.2	– 0.0	– 0.0	0.6	– 0.2	– 1.8	– 0.0	8.9	– 0.1	12.2	– 6.2	– 48.9	Feb.
1.5	1.3	– 0.0	0.0	– 0.4	0.8	2.1	0.5	15.7	1.7	24.0	7.1	– 10.8	Mar.
1.8	1.3	– 0.0	– 0.0	0.1	– 0.4	– 2.2	– 0.1	7.3	– 0.4	11.1	– 3.7	– 31.3	Apr.
3.1	3.5	– 0.0	0.0	– 1.8	– 1.9	0.9	– 0.7	– 4.6	2.0	15.6	– 2.8	– 26.2	May

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): Total	Lending to banks (MFIs), of which: Balances and loans	Lending to banks (MFIs), of which: Securities issued by banks	Lending to non-banks (non-MFIs): Total	Lending to non-banks, of which: Loans for up to and including 1 year	Loans for more than 1 year	Bills	Securities issued by non-banks	Participating interests	Other assets 1
All categories of banks													
2020 Dec.	1,501	9,002.1	843.3	2,392.1	1,904.5	484.2	4,469.8	364.3	3,403.7	0.3	686.2	95.6	1,201.2
2021 Jan.	1,495	9,209.2	1,054.7	2,418.2	1,929.9	485.0	4,500.9	383.5	3,405.8	0.3	690.6	94.9	1,140.6
Feb.	1,494	9,207.5	975.3	2,528.6	2,042.8	482.6	4,522.9	392.2	3,417.5	0.3	690.7	94.9	1,085.7
Mar.	1,494	9,321.2	1,029.8	2,559.8	2,068.8	487.7	4,563.9	407.6	3,439.2	0.3	698.3	95.1	1,072.7
Apr.	1,494	9,329.3	1,107.6	2,534.6	2,048.7	482.7	4,549.4	395.3	3,447.6	0.3	687.5	95.1	1,042.7
May	1,492	9,338.2	1,090.9	2,580.8	2,095.4	482.1	4,555.6	391.2	3,458.8	0.2	688.8	95.3	1,015.6
Commercial banks 6													
2021 Apr.	255	3,936.0	591.9	1,103.9	1,018.2	85.0	1,417.9	251.7	945.0	0.3	209.0	32.7	789.5
May	253	3,919.9	616.6	1,106.0	1,020.8	84.2	1,409.9	249.4	945.8	0.2	205.2	32.8	754.7
Big banks 7													
2021 Apr.	3	2,128.2	208.2	523.7	489.7	34.0	668.5	124.5	432.7	0.1	104.3	26.8	701.0
May	3	2,093.3	219.6	517.3	484.1	33.3	661.2	122.4	433.4	0.1	100.8	26.8	668.3
Regional banks and other commercial banks													
2021 Apr.	143	1,350.9	234.1	390.6	341.0	49.4	639.8	94.8	442.0	0.1	98.6	5.2	81.1
May	143	1,366.4	254.4	388.2	338.3	49.4	639.3	94.1	442.7	0.1	98.4	5.3	79.2
Branches of foreign banks													
2021 Apr.	109	456.8	149.7	189.5	187.6	1.5	109.6	32.4	70.4	0.1	6.0	0.7	7.3
May	107	460.2	142.5	200.4	198.4	1.5	109.4	32.9	69.7	0.0	6.1	0.7	7.2
Landesbanken													
2021 Apr.	6	852.4	87.8	264.1	212.9	50.7	401.0	43.8	314.2	0.0	40.4	8.4	91.1
May	6	862.0	122.6	232.8	182.8	49.8	399.3	41.4	314.4	0.0	41.2	8.5	98.7
Savings banks													
2021 Apr.	372	1,498.6	165.1	175.4	57.3	118.0	1,120.5	46.2	899.2	–	174.5	14.9	22.6
May	372	1,506.4	166.1	175.1	56.8	118.2	1,127.2	46.1	904.2	–	175.7	14.9	23.1
Credit cooperatives													
2021 Apr.	815	1,094.8	55.7	200.2	86.8	113.2	795.9	32.0	643.5	0.0	120.2	18.5	24.7
May	815	1,100.6	55.5	200.4	86.8	113.4	801.2	32.5	647.4	0.0	121.2	18.5	25.0
Mortgage banks													
2021 Apr.	10	243.0	10.2	20.0	10.9	8.8	205.0	2.9	183.4	–	18.8	0.1	7.6
May	10	243.4	9.4	20.4	11.1	8.9	205.9	3.0	184.0	–	18.8	0.2	7.5
Building and loan associations													
2021 Apr.	18	245.9	2.2	43.7	27.9	15.8	196.2	1.0	169.7	.	25.5	0.3	3.5
May	18	246.9	2.2	44.2	28.5	15.7	196.8	1.0	170.3	.	25.5	0.3	3.5
Banks with special, development and other central support tasks													
2021 Apr.	18	1,458.7	194.7	727.4	634.7	91.4	412.9	17.7	292.5	–	99.3	20.1	103.6
May	18	1,459.0	118.5	801.9	708.6	91.9	415.2	17.7	292.7	0.0	101.2	20.1	103.2
Memo item: Foreign banks 8													
2021 Apr.	142	1,590.0	291.3	591.8	553.6	37.6	563.5	106.6	357.8	0.2	94.3	3.7	139.6
May	140	1,607.0	303.7	598.9	561.0	37.0	561.4	106.0	356.6	0.1	94.5	3.7	139.3
of which: Banks majority-owned by foreign banks 9													
2021 Apr.	33	1,133.1	141.6	402.3	366.0	36.1	453.9	74.2	287.4	0.1	88.2	3.0	132.3
May	33	1,146.8	161.2	398.6	362.6	35.5	452.0	73.0	286.9	0.1	88.5	3.0	132.1

* 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)								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
	of which:			of which:										
					Time deposits 2		Memo item: Liabilities arising from repos 3	Savings deposits 4		Bank savings bonds				
Total	Sight deposits	Time deposits	Total	Sight deposits	for up to and including 1 year	for more than 1 year 2		Total	of which: At 3 months' notice					
All categories of banks														
1,997.9	553.8	1,444.1	4,143.7	2,646.4	248.7	651.6	32.6	566.8	539.0	30.2	1,153.8	548.4	1,158.3	2020 Dec.
2,216.6	648.3	1,568.2	4,184.3	2,687.0	245.3	654.4	39.6	567.9	540.6	29.7	1,159.9	548.2	1,100.3	2021 Jan.
2,248.4	658.1	1,590.3	4,197.1	2,702.6	240.5	656.3	42.7	568.8	541.8	28.9	1,164.6	547.0	1,050.4	Feb.
2,327.6	655.7	1,671.9	4,214.7	2,722.9	243.4	651.8	42.9	568.5	541.9	28.0	1,195.6	548.9	1,034.5	Mar.
2,351.7	658.3	1,693.4	4,231.4	2,745.3	244.2	645.4	49.7	568.9	542.5	27.6	1,184.0	555.0	1,007.1	Apr.
2,365.0	653.9	1,711.1	4,260.3	2,768.9	248.2	647.1	50.8	569.4	543.1	26.8	1,176.6	550.7	985.6	May
Commercial banks 6														
1,223.9	497.1	726.8	1,665.3	1,162.2	158.6	232.9	47.9	99.8	95.7	11.8	163.2	186.1	697.4	2021 Apr.
1,222.5	491.9	730.6	1,682.2	1,175.2	159.1	236.0	49.2	100.2	96.2	11.7	162.7	180.2	672.3	May
Big banks 7														
479.7	189.6	290.1	828.9	580.5	81.2	81.0	37.3	84.7	81.3	1.5	120.5	78.8	620.4	2021 Apr.
473.1	182.7	290.4	834.6	585.8	82.0	80.3	37.7	85.0	81.7	1.5	120.0	72.2	593.3	May
Regional banks and other commercial banks														
478.5	146.3	332.1	664.9	463.1	48.8	128.1	10.6	14.7	14.0	10.2	42.4	96.2	68.9	2021 Apr.
481.4	144.4	337.0	676.1	470.6	49.0	131.7	11.6	14.8	14.1	10.1	42.4	96.4	70.1	May
Branches of foreign banks														
265.7	161.1	104.6	171.5	118.6	28.6	23.8	–	0.4	0.4	0.1	0.3	11.2	8.1	2021 Apr.
268.0	164.7	103.2	171.4	118.8	28.1	24.0	–	0.4	0.4	0.1	0.3	11.6	8.9	May
Landesbanken														
296.4	51.4	245.0	244.4	144.2	24.6	69.4	1.8	6.2	6.1	0.0	182.4	43.3	85.9	2021 Apr.
304.1	55.2	248.8	245.5	146.4	24.8	68.2	1.6	6.2	6.1	0.0	179.7	43.3	89.3	May
Savings banks														
182.4	3.8	178.6	1,121.7	808.3	10.4	13.5	–	278.2	260.9	11.3	17.1	128.2	49.3	2021 Apr.
182.9	3.5	179.4	1,128.6	815.3	10.4	13.3	–	278.5	261.2	11.0	17.2	128.8	49.0	May
Credit cooperatives														
154.8	1.1	153.7	805.2	575.3	28.5	13.2	–	184.3	179.3	3.8	9.7	90.3	34.9	2021 Apr.
156.0	1.2	154.8	809.8	579.7	28.8	13.5	–	184.1	179.2	3.8	9.6	91.2	34.0	May
Mortgage banks														
62.4	3.1	59.4	61.3	1.7	4.0	55.6	–	–	–	.	101.6	10.8	6.8	2021 Apr.
62.4	2.9	59.5	60.7	2.1	3.5	55.1	–	–	–	.	103.0	10.8	6.4	May
Building and loan associations														
28.2	1.2	27.0	191.6	3.4	1.2	186.4	–	0.5	0.4	0.1	3.3	12.3	10.5	2021 Apr.
29.0	1.9	27.0	191.8	3.4	1.3	186.6	–	0.5	0.5	0.1	3.3	12.3	10.6	May
Banks with special, development and other central support tasks														
403.6	100.7	302.9	142.1	50.1	16.9	74.5	0.0	–	–	.	706.7	84.0	122.4	2021 Apr.
408.2	97.3	310.9	141.7	46.9	20.3	74.4	0.0	–	–	.	701.2	84.0	123.9	May
***Memo item:* Foreign banks 8**														
714.7	321.1	393.6	628.5	471.0	55.1	79.7	6.5	19.3	19.0	3.4	35.3	75.1	136.3	2021 Apr.
722.5	326.7	395.8	633.3	477.1	54.3	79.2	6.6	19.4	19.1	3.3	36.1	75.5	139.6	May
***of which:* Banks majority-owned by foreign banks 9**														
449.0	160.0	289.0	457.0	352.5	26.5	55.9	6.5	18.8	18.5	3.3	35.1	63.9	128.2	2021 Apr.
454.5	161.9	292.6	461.9	358.2	26.2	55.2	6.6	19.0	18.7	3.3	35.8	63.9	130.7	May

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), Deutsche Postbank AG (from December 2004 up to April 2018) and DB Privat- und Firmenkundenbank AG (from May 2018) (see the explanatory notes in the Statistical Supplement to the Monthly Report 1, Banking statistics, Table I.3, banking group "Big banks"). **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): Total	Credit balances and loans	Bills	Negotiable money market paper issued by banks	Securities issued by banks	Memo item: Fiduciary loans	Lending to domestic non-banks (non-MFIs): 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 *
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
2018	40.4	416.1	1,323.5	1,083.8	0.0	0.8	239.0	5.9	3,394.5	2,990.2	0.2	0.2	403.9
2019	43.2	476.6	1,254.7	1,016.2	0.0	0.7	237.9	4.5	3,521.5	3,119.2	0.3	3.3	398.7
2020	47.2	792.9	1,367.9	1,119.7	0.0	0.7	247.5	8.8	3,647.0	3,245.1	0.2	4.0	397.7
2019 Dec.	43.2	476.6	1,254.7	1,016.2	0.0	0.7	237.9	4.5	3,521.5	3,119.2	0.3	3.3	398.7
2020 Jan.	39.2	515.2	1,256.9	1,015.4	0.0	0.8	240.7	4.6	3,528.4	3,125.8	0.3	3.3	399.1
Feb.	40.0	509.4	1,280.0	1,035.2	0.0	0.9	243.8	5.0	3,544.7	3,141.9	0.3	4.6	397.8
Mar.	47.9	621.7	1,273.0	1,029.4	0.0	1.0	242.6	5.1	3,580.0	3,174.1	0.2	5.1	400.6
Apr.	48.4	582.3	1,334.6	1,090.6	0.0	1.2	242.8	5.0	3,594.3	3,185.3	0.2	7.2	401.6
May	47.8	586.2	1,291.8	1,044.7	0.0	1.1	246.0	6.0	3,620.9	3,204.2	0.1	10.1	406.4
June	45.7	767.6	1,270.4	1,019.6	0.0	1.1	249.6	6.9	3,621.1	3,206.6	0.2	8.0	406.2
July	45.2	810.5	1,270.5	1,019.2	0.0	1.2	250.0	7.5	3,625.7	3,217.2	0.2	8.0	400.3
Aug.	45.7	760.8	1,348.1	1,096.7	0.0	1.1	250.3	7.8	3,629.7	3,219.6	0.2	9.4	400.5
Sep.	45.8	884.4	1,293.9	1,041.1	0.0	1.0	251.8	8.3	3,634.2	3,224.4	0.2	8.4	401.3
Oct.	46.1	811.0	1,397.3	1,145.2	0.0	0.8	251.2	8.6	3,651.1	3,237.6	0.2	9.0	404.3
Nov.	45.4	863.2	1,351.9	1,101.3	0.0	0.8	249.8	8.6	3,661.1	3,247.4	0.2	7.6	405.8
Dec.	47.2	792.9	1,367.9	1,119.7	0.0	0.7	247.5	8.8	3,647.0	3,245.1	0.2	4.0	397.7
2021 Jan.	44.6	1,009.1	1,283.1	1,032.1	0.0	0.7	250.2	9.2	3,654.0	3,250.7	0.3	6.6	396.3
Feb.	45.0	929.2	1,382.3	1,130.2	0.0	1.0	251.1	9.6	3,669.3	3,261.7	0.2	7.4	400.0
Mar.	45.5	983.4	1,419.4	1,160.8	0.0	0.9	257.7	9.8	3,699.1	3,287.5	0.2	6.7	404.7
Apr.	44.7	1,062.1	1,362.4	1,105.7	0.0	0.9	255.8	9.8	3,693.9	3,287.5	0.2	5.6	400.5
May	45.4	1,044.7	1,423.6	1,167.3	0.0	0.9	255.4	10.1	3,709.1	3,299.7	0.1	4.6	404.7
													Changes *
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
2018	+ 8.5	+ 24.0	– 81.0	– 76.6	+ 0.0	+ 0.1	– 4.4	+ 3.8	+ 71.5	+ 105.4	– 0.1	– 0.5	– 33.2
2019	+ 2.8	+ 59.7	– 63.0	– 61.1	– 0.0	– 0.2	– 1.6	– 1.4	+ 126.7	+ 129.1	+ 0.1	+ 3.1	– 5.5
2020	+ 4.1	+ 316.4	+ 201.2	+ 191.6	– 0.0	+ 0.0	+ 9.6	+ 4.3	+ 123.2	+ 123.6	– 0.1	+ 0.7	– 1.1
2019 Dec.	+ 3.3	– 53.0	– 46.9	– 43.5	– 0.0	– 0.4	– 3.1	– 0.1	– 1.9	– 1.9	+ 0.1	+ 0.0	– 0.1
2020 Jan.	– 4.0	+ 38.6	+ 2.3	– 0.7	– 0.0	+ 0.1	+ 2.9	+ 0.1	+ 6.8	+ 6.5	– 0.1	– 0.0	+ 0.4
Feb.	+ 0.8	– 5.9	+ 23.1	+ 19.8	– 0.0	+ 0.1	+ 3.1	+ 0.4	+ 16.3	+ 16.2	+ 0.1	+ 1.4	– 1.3
Mar.	+ 7.8	+ 112.4	– 7.0	– 5.9	–	+ 0.1	– 1.3	+ 0.0	+ 35.3	+ 32.1	– 0.1	+ 0.4	+ 2.8
Apr.	+ 0.5	– 39.4	+ 61.6	+ 61.2	+ 0.0	+ 0.2	+ 0.2	– 0.0	+ 14.4	+ 11.2	– 0.1	+ 2.2	+ 1.0
May	– 0.6	+ 3.9	+ 16.9	+ 13.7	–	– 0.1	+ 3.2	+ 0.9	+ 24.1	+ 16.4	– 0.0	+ 2.9	+ 4.8
June	– 2.1	+ 181.4	– 21.4	– 25.0	–	– 0.0	+ 3.6	+ 0.9	+ 0.2	+ 2.4	+ 0.0	– 2.1	– 0.2
July	– 0.5	+ 42.9	+ 0.1	– 0.4	–	+ 0.1	+ 0.4	+ 0.6	+ 4.6	+ 10.5	– 0.0	+ 0.0	– 5.9
Aug.	+ 0.5	– 49.7	+ 77.6	+ 77.5	– 0.0	– 0.2	+ 0.3	+ 0.3	+ 4.0	+ 2.4	+ 0.0	+ 1.4	+ 0.2
Sep.	+ 0.1	+ 123.6	– 54.2	– 55.6	+ 0.0	– 0.0	+ 1.5	+ 0.5	+ 4.6	+ 4.8	+ 0.0	– 1.0	+ 0.7
Oct.	+ 0.2	– 73.5	+ 103.4	+ 104.2	–	– 0.2	– 0.6	+ 0.3	+ 16.5	+ 12.9	+ 0.0	+ 0.6	+ 3.0
Nov.	– 0.6	+ 52.3	– 17.1	– 15.6	– 0.0	– 0.0	– 1.5	– 0.0	+ 10.6	+ 10.5	– 0.0	– 1.4	+ 1.6
Dec.	+ 1.8	– 70.3	+ 16.0	+ 18.4	–	– 0.1	– 2.3	+ 0.2	– 14.1	– 2.3	+ 0.0	– 3.6	– 8.1
2021 Jan.	– 2.6	+ 216.2	– 84.9	– 87.8	+ 0.0	+ 0.0	+ 2.8	+ 0.4	+ 6.6	+ 5.3	+ 0.0	+ 2.6	– 1.4
Feb.	+ 0.3	– 79.9	+ 98.9	+ 97.8	–	+ 0.3	+ 0.8	+ 0.4	+ 15.3	+ 11.0	– 0.0	+ 0.7	+ 3.6
Mar.	+ 0.6	+ 54.3	+ 37.1	+ 30.6	–	– 0.1	+ 6.6	+ 0.2	+ 29.7	+ 25.6	– 0.0	– 1.4	+ 5.4
Apr.	– 0.8	+ 78.7	– 56.7	– 54.9	– 0.0	– 0.1	– 1.7	+ 0.0	– 5.2	+ 0.0	– 0.0	– 1.1	– 4.1
May	+ 0.8	– 17.5	+ 61.2	+ 61.6	–	+ 0.0	– 0.4	+ 0.4	+ 15.2	+ 12.2	– 0.0	– 1.1	+ 4.2

* 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;

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	Rediscounted 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 *														
–	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
–	18.0	90.9	1,020.9	105.5	915.4	0.0	4.7	3,537.6	2,080.1	841.5	578.6	37.3	33.9	2018
–	17.3	90.4	1,010.2	107.2	902.9	0.0	4.4	3,661.0	2,236.3	816.2	575.2	33.2	32.5	2019
–	23.5	78.3	1,236.7	125.0	1,111.6	0.0	13.1	3,885.2	2,513.0	783.3	560.6	28.3	34.4	2020
–	17.3	90.4	1,010.2	107.2	902.9	0.0	4.4	3,661.0	2,236.3	816.2	575.2	33.2	32.5	2019 Dec.
–	16.9	90.0	1,031.4	125.4	906.0	0.0	4.4	3,658.2	2,235.1	819.7	570.7	32.6	32.3	2020 Jan.
–	16.9	86.1	1,046.8	133.2	913.6	0.0	4.4	3,675.9	2,254.4	820.8	568.5	32.2	32.8	Feb.
–	16.9	86.3	1,134.7	147.5	987.2	0.0	4.3	3,716.6	2,304.9	815.5	564.5	31.8	32.5	Mar.
–	17.1	86.4	1,154.9	141.2	1,013.6	0.0	4.3	3,741.9	2,345.4	801.6	563.8	31.1	32.8	Apr.
–	19.4	78.8	1,110.9	131.6	979.3	0.0	7.1	3,775.3	2,376.3	804.7	563.6	30.7	33.3	May
–	20.8	78.8	1,229.5	131.4	1,098.1	0.0	9.4	3,766.3	2,385.3	788.2	562.6	30.3	33.4	June
–	22.2	79.3	1,207.9	125.0	1,082.8	0.0	11.1	3,803.4	2,414.0	798.6	560.9	29.9	33.8	July
–	22.5	79.2	1,211.5	126.2	1,085.3	0.0	11.5	3,820.8	2,427.7	802.9	560.6	29.6	34.0	Aug.
–	22.7	79.2	1,251.5	123.8	1,127.8	0.0	12.0	3,834.2	2,442.8	802.0	560.1	29.3	34.3	Sep.
–	22.8	79.4	1,263.7	131.5	1,132.2	0.0	12.3	3,874.1	2,481.4	804.1	559.7	28.9	34.6	Oct.
–	22.9	78.1	1,244.8	134.6	1,110.2	0.0	12.5	3,894.3	2,515.3	790.9	559.6	28.5	34.4	Nov.
–	23.5	78.3	1,236.7	125.0	1,111.6	0.0	13.1	3,885.2	2,513.0	783.3	560.6	28.3	34.4	Dec.
–	23.7	78.2	1,261.6	140.5	1,121.2	0.0	13.6	3,904.5	2,542.0	773.1	561.6	27.9	34.3	2021 Jan.
–	24.0	78.2	1,260.6	138.0	1,122.5	0.0	14.2	3,913.7	2,557.5	766.1	562.6	27.5	34.3	Feb.
–	24.3	78.3	1,336.0	135.4	1,200.6	0.0	14.7	3,925.8	2,575.2	761.2	562.3	27.1	34.4	Mar.
–	24.5	77.7	1,343.0	136.2	1,206.8	0.0	15.1	3,935.7	2,594.6	751.6	562.8	26.8	34.4	Apr.
–	24.7	78.6	1,351.9	140.0	1,211.9	0.0	15.5	3,956.3	2,620.5	746.2	563.2	26.3	34.6	May
Changes *														
–	– 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
–	– 1.0	+ 3.1	– 25.0	– 3.1	– 21.9	+ 0.0	– 0.4	+ 117.7	+ 139.3	– 10.8	– 4.3	– 6.5	+ 3.9	2018
–	– 0.7	+ 0.1	– 8.6	+ 1.6	– 10.2	+ 0.0	– 0.3	+ 122.5	+ 155.8	– 25.7	– 3.5	– 4.1	– 1.4	2019
–	+ 5.7	– 3.3	+ 313.4	+ 23.2	+ 290.2	– 0.0	+ 8.2	+ 221.6	+ 273.7	– 32.7	– 14.5	– 4.9	+ 1.9	2020
–	+ 0.1	+ 0.2	– 45.8	– 19.3	– 26.4	+ 0.0	– 0.1	– 13.8	– 8.2	– 4.6	– 0.5	– 0.5	– 0.0	2019 Dec.
–	– 0.3	– 0.4	+ 21.2	+ 18.2	+ 3.1	– 0.0	– 0.0	– 2.8	– 1.3	+ 3.5	– 4.5	– 0.6	– 0.1	2020 Jan.
–	– 0.0	– 3.9	+ 15.4	+ 7.8	+ 7.6	– 0.0	+ 0.0	+ 17.7	+ 19.3	+ 1.1	– 2.2	– 0.4	+ 0.4	Feb.
–	– 0.1	+ 0.2	+ 87.9	+ 14.3	+ 73.7	+ 0.0	– 0.0	+ 40.7	+ 50.5	– 5.3	– 4.0	– 0.4	– 0.2	Mar.
–	+ 0.3	+ 0.1	+ 20.2	– 6.2	+ 26.4	+ 0.0	+ 0.0	+ 25.3	+ 40.7	– 14.0	– 0.7	– 0.7	+ 0.2	Apr.
–	+ 2.2	– 0.2	+ 15.6	– 4.6	+ 20.3	– 0.0	+ 2.7	+ 30.5	+ 27.9	+ 3.2	– 0.2	– 0.4	+ 0.6	May
–	+ 1.5	+ 0.0	+ 118.6	– 0.2	+ 118.8	– 0.0	+ 2.3	– 9.0	+ 8.8	– 16.4	– 1.1	– 0.4	+ 0.1	June
–	+ 0.9	+ 0.5	– 21.7	– 6.4	– 15.2	– 0.0	+ 1.2	+ 37.1	+ 28.7	+ 10.5	– 1.6	– 0.4	+ 0.4	July
–	+ 0.3	– 0.1	+ 3.7	+ 1.2	+ 2.4	+ 0.0	+ 0.4	+ 17.4	+ 13.6	+ 4.3	– 0.2	– 0.3	+ 0.2	Aug.
–	+ 0.2	+ 0.0	+ 40.0	– 2.5	+ 42.5	+ 0.0	+ 0.5	+ 13.4	+ 15.1	– 0.9	– 0.5	– 0.4	+ 0.3	Sep.
–	+ 0.1	+ 0.2	+ 12.2	+ 7.7	+ 4.4	–	+ 0.2	+ 40.0	+ 38.6	+ 2.2	– 0.4	– 0.4	+ 0.3	Oct.
–	+ 0.2	+ 0.1	+ 8.3	+ 3.5	+ 4.8	– 0.0	+ 0.3	+ 20.5	+ 34.1	– 13.2	– 0.1	– 0.3	– 0.2	Nov.
–	+ 0.6	+ 0.1	– 8.1	– 9.6	+ 1.5	–	+ 0.5	– 9.2	– 2.3	– 7.6	+ 1.0	– 0.2	– 0.0	Dec.
–	+ 0.2	– 0.1	+ 24.9	+ 15.7	+ 9.2	+ 0.0	+ 0.5	+ 19.2	+ 28.9	– 10.3	+ 1.1	– 0.4	– 0.1	2021 Jan.
–	+ 0.3	+ 0.1	– 1.2	– 2.4	+ 1.2	– 0.0	+ 0.6	+ 9.1	+ 15.4	– 7.0	+ 1.0	– 0.4	– 0.0	Feb.
–	+ 0.3	+ 0.1	+ 75.1	– 2.6	+ 77.7	–	+ 0.5	+ 12.2	+ 17.7	– 4.8	– 0.3	– 0.4	+ 0.1	Mar.
–	+ 0.2	– 0.6	+ 7.1	+ 0.8	+ 6.3	+ 0.0	+ 0.3	+ 9.8	+ 19.6	– 9.8	+ 0.4	– 0.3	– 0.0	Apr.
–	+ 0.3	+ 0.3	+ 8.9	+ 3.9	+ 5.0	–	+ 0.5	+ 20.6	+ 26.0	– 5.3	+ 0.5	– 0.5	+ 0.2	May

including subordinated liabilities. **4** Including liabilities arising from monetary policy 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): Total	Credit balances and loans, bills: Total	Credit balances and loans, bills: Short-term	Credit balances and loans, bills: Medium and long-term	Negotiable money market paper issued by banks	Securities issued by banks	Memo item: Fiduciary loans	Lending to foreign non-banks (non-MFIs): Total	Loans and bills: Total	Loans and bills: Short-term	Loans and bills: Medium and long-term	Treasury bills and negotiable money market paper issued by non-banks	Securities issued by non-banks
	End of year or month *													
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
2018	0.2	1,014.1	771.9	503.8	268.1	1.0	241.3	3.0	762.0	489.6	99.9	389.7	4.3	268.1
2019	0.2	1,064.2	814.0	532.7	281.3	1.8	248.5	3.7	795.3	513.1	111.0	402.1	7.7	274.5
2020	0.2	1,024.3	784.8	532.1	252.8	2.6	236.8	4.0	822.8	523.0	125.4	397.5	11.3	288.5
2019 Dec.	0.2	1,064.2	814.0	532.7	281.3	1.8	248.5	3.7	795.3	513.1	111.0	402.1	7.7	274.5
2020 Jan.	0.2	1,111.1	859.7	578.2	281.5	2.7	248.7	3.8	821.5	536.9	133.0	403.8	7.7	277.0
Feb.	0.2	1,119.0	865.9	590.7	275.2	2.9	250.2	3.8	832.3	543.7	136.8	406.9	8.6	279.9
Mar.	0.3	1,145.4	889.8	615.5	274.4	3.0	252.5	3.5	834.1	543.2	135.7	407.5	11.7	279.2
Apr.	0.3	1,156.2	899.6	626.2	273.4	2.8	253.8	3.5	843.1	552.5	142.6	410.0	11.4	279.2
May	0.3	1,139.4	884.7	613.2	271.5	3.3	251.4	3.7	849.7	559.2	152.6	406.5	12.1	278.4
June	0.3	1,113.8	860.8	592.4	268.5	3.7	249.3	3.8	838.4	538.2	134.7	403.5	15.8	284.5
July	0.3	1,083.1	834.0	574.4	259.6	3.4	245.7	3.9	829.1	536.3	138.8	397.5	15.1	277.6
Aug.	0.3	1,066.8	821.2	563.3	257.9	3.5	242.1	4.1	819.9	531.3	133.7	397.6	15.6	272.9
Sep.	0.2	1,084.3	841.3	583.4	257.9	3.6	239.4	4.1	821.9	530.4	130.3	400.2	15.2	276.3
Oct.	0.3	1,064.7	822.9	564.5	258.5	3.5	238.3	4.1	839.8	539.3	137.7	401.6	16.5	284.1
Nov.	0.2	1,056.0	815.8	563.4	252.4	3.5	236.7	4.0	845.6	539.5	139.8	399.7	14.0	292.1
Dec.	0.2	1,024.3	784.8	532.1	252.8	2.6	236.8	4.0	822.8	523.0	125.4	397.5	11.3	288.5
2021 Jan.	0.2	1,135.1	897.8	645.6	252.2	2.6	234.7	3.8	846.9	538.6	142.7	395.8	14.0	294.3
Feb.	0.6	1,146.4	912.7	659.6	253.1	2.2	231.5	3.8	853.6	548.2	150.4	397.7	14.7	290.7
Mar.	0.2	1,140.4	908.0	646.7	261.3	2.3	230.1	3.8	864.8	559.3	153.3	406.1	11.9	293.5
Apr.	0.2	1,172.3	943.1	680.7	262.3	2.3	227.0	3.9	855.5	555.5	152.6	402.9	13.0	287.0
May	0.2	1,157.2	928.1	669.7	258.4	2.4	226.8	3.9	846.5	550.4	147.6	402.8	11.9	284.2
	Changes *													
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
2018	+ 0.0	+ 49.6	+ 34.0	+ 57.7	− 23.7	+ 0.2	+ 15.3	+ 0.7	+ 18.3	+ 28.3	+ 3.2	+ 25.2	− 0.4	− 9.7
2019	− 0.0	− 4.1	− 11.3	− 21.9	+ 10.7	+ 0.8	+ 6.3	+ 0.7	+ 26.8	+ 19.9	+ 12.7	+ 7.3	+ 3.0	+ 3.8
2020	− 0.0	− 32.0	− 22.4	− 6.6	− 15.8	+ 0.9	− 10.5	+ 0.3	+ 34.4	+ 14.7	+ 9.0	+ 5.7	+ 3.6	+ 16.1
2019 Dec.	+ 0.0	− 53.1	− 51.2	− 50.3	− 0.9	− 1.5	− 0.4	− 0.1	− 29.1	− 24.9	− 24.9	− 0.0	− 2.3	− 1.9
2020 Jan.	− 0.0	+ 42.2	+ 41.2	+ 43.2	− 1.9	+ 0.9	+ 0.1	+ 0.1	+ 23.1	+ 21.1	+ 21.4	− 0.3	+ 0.0	+ 1.9
Feb.	+ 0.0	+ 6.5	+ 4.7	+ 11.5	− 6.8	+ 0.3	+ 1.5	− 0.0	+ 10.1	+ 6.4	+ 3.7	+ 2.7	+ 0.9	+ 2.8
Mar.	+ 0.0	+ 27.5	+ 24.9	+ 25.3	− 0.4	+ 0.1	+ 2.5	− 0.3	+ 3.6	+ 1.1	− 0.7	+ 1.7	+ 3.1	− 0.6
Apr.	+ 0.0	+ 7.4	+ 6.5	+ 5.5	+ 1.0	− 0.2	+ 1.1	− 0.0	+ 6.5	+ 7.2	+ 6.3	+ 0.9	− 0.3	− 0.4
May	− 0.0	− 22.7	− 21.4	− 22.6	+ 1.2	+ 0.5	− 1.8	+ 0.2	+ 3.2	+ 2.4	+ 2.5	− 0.1	+ 0.7	+ 0.1
June	+ 0.0	− 23.5	− 21.8	− 19.6	− 2.2	+ 0.3	− 2.0	+ 0.1	− 9.8	− 19.7	− 17.5	− 2.2	+ 3.7	+ 6.2
July	− 0.0	− 17.9	− 14.4	− 11.2	− 3.2	− 0.2	− 3.3	+ 0.1	− 0.9	+ 5.3	+ 5.9	− 0.6	− 0.7	− 5.4
Aug.	− 0.0	− 14.4	− 11.1	− 10.0	− 1.1	+ 0.1	− 3.4	+ 0.1	− 8.4	− 4.2	− 4.8	+ 0.6	+ 0.5	− 4.7
Sep.	− 0.0	+ 13.9	+ 16.6	+ 18.2	− 1.6	+ 0.1	− 2.8	− 0.0	+ 0.1	− 2.5	− 3.8	+ 1.3	− 0.4	+ 3.0
Oct.	+ 0.0	− 20.8	− 19.5	− 19.8	+ 0.3	− 0.1	− 1.2	+ 0.1	+ 16.7	+ 7.8	+ 6.9	+ 0.9	+ 1.3	+ 7.6
Nov.	− 0.0	− 3.4	− 1.9	+ 1.8	− 3.7	− 0.0	− 1.5	− 0.1	+ 9.7	+ 3.6	+ 2.8	+ 0.8	− 2.5	+ 8.6
Dec.	− 0.0	− 26.9	− 26.3	− 28.9	+ 2.6	− 0.9	+ 0.2	− 0.1	− 19.3	− 13.7	− 13.6	− 0.0	− 2.7	− 3.0
2021 Jan.	− 0.0	+ 106.1	+ 108.3	+ 110.3	− 1.9	− 0.1	− 2.1	− 0.1	+ 22.5	+ 14.5	+ 17.8	− 3.3	+ 2.7	+ 5.3
Feb.	+ 0.3	+ 11.1	+ 14.7	+ 14.0	+ 0.7	− 0.4	− 3.2	− 0.1	+ 6.3	+ 9.0	+ 7.5	+ 1.5	+ 0.7	− 3.5
Mar.	− 0.3	− 11.7	− 10.1	− 15.8	+ 5.6	+ 0.1	− 1.7	+ 0.0	+ 3.9	+ 4.9	+ 0.7	+ 4.1	− 2.8	+ 1.8
Apr.	− 0.0	+ 37.7	+ 40.7	+ 36.8	+ 3.9	− 0.1	− 2.9	+ 0.1	− 4.0	+ 0.6	+ 0.7	− 0.0	+ 1.1	− 5.6
May	+ 0.0	− 13.9	− 13.6	− 10.5	− 3.1	− 0.1	− 0.3	+ 0.0	− 7.4	− 3.9	− 4.1	+ 0.2	− 0.9	− 2.6

***** 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.

Memo item: Fiduciary loans	Partici-pating interests in foreign banks and enter-prises	Deposits of foreign banks (MFIs) Total	Sight deposits	Time deposits (including bank savings bonds) Total	Short-term	Medium and long-term	Memo item: Fiduciary loans	Deposits of foreign non-banks (non-MFIs) Total	Sight deposits	Time deposits (including savings deposits and bank savings bonds) Total	Short-term	Medium and long-term	Memo item: Fiduciary loans	Period
End of year or month *														
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
11.8	22.1	643.1	370.6	272.5	185.6	86.8	0.0	231.5	110.2	121.3	63.7	57.6	0.1	2018
11.5	21.3	680.6	339.3	341.2	243.2	98.0	–	229.8	112.3	117.4	60.5	57.0	0.1	2019
11.3	17.2	761.2	428.8	332.5	205.1	127.3	–	258.5	133.3	125.2	65.6	59.7	0.1	2020
11.5	21.3	680.6	339.3	341.2	243.2	98.0	–	229.8	112.3	117.4	60.5	57.0	0.1	2019 Dec.
11.4	21.4	756.2	433.4	322.8	223.1	99.8	–	247.8	121.8	126.0	68.1	57.8	0.1	2020 Jan.
11.4	19.0	770.5	433.8	336.7	230.1	106.6	–	255.3	129.1	126.2	66.5	59.6	0.1	Feb.
11.4	19.0	826.9	463.3	363.6	250.9	112.6	–	269.0	146.3	122.7	62.8	60.0	0.1	Mar.
11.4	19.0	835.3	438.6	396.7	288.0	108.7	–	274.1	143.0	131.1	69.9	61.2	0.1	Apr.
11.4	19.0	828.1	459.2	368.9	260.8	108.0	–	280.8	150.9	129.9	67.9	62.0	0.1	May
11.3	19.1	835.5	472.5	363.0	247.2	115.9	–	275.7	145.2	130.5	69.5	61.1	0.1	June
11.2	19.0	843.9	489.3	354.7	238.8	115.8	–	270.6	139.4	131.3	72.5	58.8	0.1	July
11.2	19.0	828.9	474.8	354.1	238.8	115.2	–	263.2	134.8	128.3	69.9	58.5	0.1	Aug.
11.4	19.0	832.4	486.5	345.9	226.4	119.6	–	269.6	145.5	124.1	66.0	58.1	0.1	Sep.
11.5	19.0	833.2	487.3	345.9	224.6	121.3	–	269.5	142.6	127.0	68.5	58.4	0.1	Oct.
11.5	19.0	836.8	491.3	345.5	219.0	126.5	–	279.9	154.2	125.8	66.0	59.7	0.1	Nov.
11.3	17.2	761.2	428.8	332.5	205.1	127.3	–	258.5	133.3	125.2	65.6	59.7	0.1	Dec.
11.3	16.5	954.9	507.8	447.0	298.5	148.5	–	279.8	145.0	134.8	69.4	65.3	0.1	2021 Jan.
11.3	16.5	987.8	520.0	467.7	318.0	149.7	–	283.4	145.2	138.3	71.5	66.8	0.1	Feb.
11.3	16.6	991.5	520.2	471.3	319.5	151.8	–	288.9	147.8	141.1	73.7	67.4	0.1	Mar.
11.3	16.5	1,008.7	522.1	486.6	343.1	143.5	–	295.8	150.7	145.0	81.0	64.1	0.1	Apr.
11.3	16.5	1,013.1	513.9	499.2	360.2	139.0	–	304.0	148.4	155.6	88.0	67.6	0.1	May
Changes *														
– 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
– 0.2	– 2.2	– 23.9	– 23.4	– 0.4	+ 2.1	– 2.6	– 0.0	– 11.9	– 0.2	– 11.8	– 5.7	– 6.0	– 0.2	2018
– 0.3	– 0.9	– 9.5	– 49.4	+ 39.8	+ 28.0	+ 11.8	– 0.0	– 0.8	+ 2.1	– 2.9	– 1.8	– 1.1	– 0.0	2019
– 0.2	– 3.9	+ 83.8	+ 87.8	– 4.1	– 34.7	+ 30.6	–	+ 23.6	+ 13.8	+ 9.8	+ 7.1	+ 2.8	+ 0.0	2020
– 1.1	– 0.2	– 106.0	–111.5	+ 5.5	+ 5.5	+ 0.1	– 1.1	– 20.7	– 7.7	– 12.9	– 11.4	– 1.6	– 0.0	2019 Dec.
– 0.1	+ 0.0	+ 73.0	+ 92.9	– 19.8	– 21.6	+ 1.7	–	+ 16.7	+ 9.2	+ 7.6	+ 7.4	+ 0.2	+ 0.0	2020 Jan.
– 0.0	– 2.4	+ 13.3	+ 5.0	+ 8.4	+ 5.9	+ 2.5	–	+ 7.3	+ 7.2	+ 0.1	– 1.7	+ 1.8	– 0.0	Feb.
+ 0.0	– 0.0	+ 57.2	+ 29.9	+ 27.3	+ 21.1	+ 6.2	–	+ 14.2	+ 17.4	– 3.2	– 3.5	+ 0.4	+ 0.0	Mar.
– 0.0	+ 0.0	+ 6.0	– 25.9	+ 31.9	+ 33.0	– 1.1	–	+ 4.4	– 3.7	+ 8.1	+ 6.9	+ 1.2	– 0.0	Apr.
– 0.0	+ 0.0	– 15.3	+ 9.3	– 24.6	– 24.6	+ 0.0	–	– 1.0	– 0.7	– 0.3	– 1.3	+ 1.0	+ 0.0	May
– 0.2	+ 0.1	+ 8.8	+ 13.9	– 5.1	– 13.1	+ 8.0	–	– 4.7	– 5.6	+ 0.9	+ 1.8	– 0.9	– 0.0	June
– 0.1	+ 0.0	+ 17.6	+ 20.7	– 3.1	– 4.1	+ 1.0	–	– 2.7	– 4.7	+ 2.0	+ 4.0	– 2.0	+ 0.0	July
+ 0.0	– 0.0	– 13.9	– 13.8	– 0.0	+ 0.5	– 0.5	–	– 7.2	– 4.4	– 2.7	– 2.5	– 0.2	– 0.0	Aug.
+ 0.2	+ 0.0	+ 1.0	+ 10.4	– 9.5	– 13.5	+ 4.0	–	+ 5.8	+ 10.4	– 4.6	– 4.1	– 0.5	+ 0.0	Sep.
+ 0.0	– 0.0	+ 0.1	+ 0.5	– 0.4	– 2.0	+ 1.6	–	– 0.6	– 3.2	+ 2.6	+ 2.3	+ 0.3	+ 0.0	Oct.
+ 0.0	+ 0.0	+ 7.9	+ 5.9	+ 2.0	– 3.7	+ 5.7	–	+ 11.6	+ 12.2	– 0.6	– 2.1	+ 1.5	– 0.0	Nov.
– 0.2	– 1.7	– 72.1	– 60.9	– 11.2	– 12.6	+ 1.4	–	– 20.3	– 20.3	– 0.0	– 0.1	+ 0.1	+ 0.0	Dec.
– 0.0	– 0.8	+ 191.3	+ 78.5	+ 112.9	+ 92.4	+ 20.5	–	+ 20.1	+ 12.3	+ 7.8	+ 3.6	+ 4.2	– 0.0	2021 Jan.
– 0.0	– 0.0	+ 32.7	+ 12.2	+ 20.5	+ 19.3	+ 1.2	–	+ 3.4	+ 0.0	+ 3.4	+ 2.0	+ 1.4	– 0.0	Feb.
+ 0.1	– 0.0	– 1.8	– 2.6	+ 0.8	– 1.1	+ 1.9	–	+ 3.2	+ 1.6	+ 1.6	+ 1.3	+ 0.3	+ 0.0	Mar.
– 0.0	+ 0.0	+ 23.2	+ 4.3	+ 19.0	+ 26.8	– 7.8	–	+ 7.9	+ 3.7	+ 4.2	+ 7.3	– 3.0	+ 0.0	Apr.
+ 0.0	+ 0.0	+ 5.9	– 7.4	+ 13.3	+ 17.6	– 4.4	–	+ 8.6	– 2.2	+ 10.8	+ 7.2	+ 3.5	– 0.0	May

IV. Banks

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

€ billion

Period	Lending to domestic non-banks, total: including negotiable money market paper, securities, equalisation claims	Lending to domestic non-banks, total: excluding negotiable money market paper, securities, equalisation claims	Short-term lending: Total	Short-term lending to enterprises and households: Total	Short-term lending to enterprises and households: Loans and bills	Short-term lending to enterprises and households: Negotiable money market paper	Short-term lending to general government: Total	Short-term lending to general government: Loans	Short-term lending to general government: Treasury bills	Medium and long-term: Total	Medium and long-term to enterprises: Total
											End of year or month *
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
2018	3,394.5	2,990.4	249.5	228.0	227.6	0.4	21.5	21.7	– 0.2	3,145.0	2,732.8
2019	3,521.5	3,119.5	260.4	238.8	238.4	0.4	21.6	18.7	2.9	3,261.1	2,866.9
2020	3,647.0	3,245.3	243.3	221.6	221.2	0.4	21.6	18.0	3.6	3,403.8	3,013.0
2019 Dec.	3,521.5	3,119.5	260.4	238.8	238.4	0.4	21.6	18.7	2.9	3,261.1	2,866.9
2020 Jan.	3,528.4	3,126.0	261.5	236.3	235.7	0.6	25.2	22.6	2.6	3,266.9	2,874.2
Feb.	3,544.7	3,142.3	264.8	240.0	239.3	0.7	24.8	20.8	4.0	3,279.9	2,888.9
Mar.	3,580.0	3,174.3	288.4	261.9	261.1	0.8	26.4	22.2	4.2	3,291.6	2,892.2
Apr.	3,594.3	3,185.5	285.0	255.6	254.9	0.7	29.4	22.9	6.5	3,309.3	2,908.0
May	3,620.9	3,204.4	285.3	254.3	253.2	1.1	31.1	22.0	9.1	3,335.6	2,931.7
June	3,621.1	3,206.8	278.9	248.5	247.6	0.8	30.4	23.3	7.2	3,342.2	2,939.8
July	3,625.7	3,217.4	274.8	243.4	242.6	0.8	31.5	24.2	7.3	3,350.9	2,953.2
Aug.	3,629.7	3,219.7	265.6	237.7	236.9	0.8	28.0	19.4	8.6	3,364.0	2,967.3
Sep.	3,634.2	3,224.6	261.9	232.0	231.3	0.7	29.9	22.3	7.7	3,372.3	2,976.0
Oct.	3,651.1	3,237.8	261.0	229.5	228.7	0.7	31.6	23.3	8.2	3,390.1	2,991.5
Nov.	3,661.1	3,247.6	258.7	229.3	228.7	0.6	29.4	22.4	7.0	3,402.4	3,001.7
Dec.	3,647.0	3,245.3	243.3	221.6	221.2	0.4	21.6	18.0	3.6	3,403.8	3,013.0
2021 Jan.	3,654.0	3,251.0	247.7	221.9	221.3	0.6	25.8	19.7	6.1	3,406.3	3,018.4
Feb.	3,669.3	3,261.9	249.5	224.2	223.6	0.6	25.3	18.5	6.8	3,419.7	3,031.9
Mar.	3,699.1	3,287.7	261.3	236.6	236.0	0.6	24.7	18.6	6.1	3,437.8	3,048.6
Apr.	3,693.9	3,287.7	248.6	223.5	222.8	0.7	25.1	20.2	4.9	3,445.2	3,061.5
May	3,709.1	3,299.8	248.4	225.1	224.3	0.8	23.3	19.5	3.8	3,460.7	3,074.9
											Changes *
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
2018	+ 71.5	+ 105.3	+ 6.6	+ 15.8	+ 15.7	+ 0.1	– 9.2	– 8.6	– 0.6	+ 65.0	+ 102.0
2019	+ 126.7	+ 129.1	+ 11.7	+ 11.6	+ 11.6	+ 0.0	+ 0.1	– 3.0	+ 3.1	+ 115.0	+ 132.8
2020	+ 123.2	+ 123.6	– 19.6	– 19.8	– 19.8	– 0.0	+ 0.2	– 0.5	+ 0.7	+ 142.8	+ 145.6
2019 Dec.	– 1.9	– 1.8	– 2.0	– 0.8	– 0.7	– 0.2	– 1.2	– 1.4	+ 0.2	+ 0.1	+ 2.5
2020 Jan.	+ 6.8	+ 6.5	+ 1.1	– 2.5	– 2.7	+ 0.2	+ 3.6	+ 3.8	– 0.2	+ 5.7	+ 7.2
Feb.	+ 16.3	+ 16.2	+ 3.3	+ 3.7	+ 3.6	+ 0.1	– 0.4	– 1.7	+ 1.3	+ 13.0	+ 14.7
Mar.	+ 35.3	+ 32.1	+ 23.6	+ 21.9	+ 21.8	+ 0.2	+ 1.7	+ 1.4	+ 0.3	+ 11.7	+ 3.3
Apr.	+ 14.4	+ 11.2	– 3.3	– 6.3	– 6.2	– 0.1	+ 3.0	+ 0.7	+ 2.3	+ 17.7	+ 15.9
May	+ 24.1	+ 16.4	– 2.2	– 3.9	– 4.2	+ 0.4	+ 1.7	– 0.9	+ 2.5	+ 26.3	+ 23.7
June	+ 0.2	+ 2.5	– 6.4	– 5.8	– 5.6	– 0.2	– 0.6	+ 1.3	– 1.9	+ 6.6	+ 7.9
July	+ 4.6	+ 10.5	– 5.9	– 6.9	– 6.8	– 0.1	+ 1.0	+ 0.9	+ 0.1	+ 10.5	+ 15.2
Aug.	+ 4.0	+ 2.4	– 7.5	– 4.1	– 4.1	– 0.0	– 3.5	– 4.9	+ 1.4	+ 11.5	+ 12.6
Sep.	+ 4.6	+ 4.9	– 3.7	– 5.6	– 5.6	– 0.1	+ 2.0	+ 2.9	– 0.9	+ 8.3	+ 8.6
Oct.	+ 16.5	+ 12.9	– 0.9	– 2.6	– 2.6	+ 0.0	+ 1.7	+ 1.1	+ 0.6	+ 17.4	+ 14.6
Nov.	+ 10.6	+ 10.4	– 2.1	– 0.1	+ 0.0	– 0.1	– 2.0	– 0.7	– 1.2	+ 12.7	+ 10.6
Dec.	– 14.1	– 2.3	– 15.5	– 7.7	– 7.5	– 0.2	– 7.8	– 4.4	– 3.4	+ 1.4	+ 11.2
2021 Jan.	+ 6.6	+ 5.3	+ 4.4	+ 0.3	+ 0.1	+ 0.2	+ 4.2	+ 1.7	+ 2.5	+ 2.1	+ 5.2
Feb.	+ 15.3	+ 10.9	+ 1.8	+ 2.3	+ 2.3	+ 0.0	– 0.5	– 1.2	+ 0.7	+ 13.5	+ 13.3
Mar.	+ 29.7	+ 25.6	+ 11.2	+ 12.5	+ 12.5	– 0.0	– 1.3	+ 0.0	– 1.4	+ 18.5	+ 16.3
Apr.	– 5.2	– 0.0	– 12.8	– 13.1	– 13.2	+ 0.1	+ 0.3	+ 1.6	– 1.2	+ 7.5	+ 13.0
May	+ 15.2	+ 12.1	– 0.3	+ 1.5	+ 1.4	+ 0.1	– 1.8	– 0.6	– 1.2	+ 15.5	+ 13.4

***** 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 *												
2,099.5	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
2,499.4	282.6	2,216.8	233.4	16.5	412.1	241.7	19.7	222.0	170.4	–	1.4	2018
2,626.4	301.3	2,325.1	240.5	15.7	394.2	235.9	17.2	218.8	158.2	–	1.5	2019
2,771.8	310.5	2,461.4	241.1	22.4	390.8	234.3	15.7	218.6	156.6	–	1.1	2020
2,626.4	301.3	2,325.1	240.5	15.7	394.2	235.9	17.2	218.8	158.2	–	1.5	2019 Dec.
2,631.8	300.0	2,331.8	242.4	15.7	392.7	236.0	17.0	219.0	156.7	–	1.2	2020 Jan.
2,646.4	302.5	2,344.0	242.5	15.7	391.0	235.7	17.2	218.5	155.3	–	1.2	Feb.
2,654.8	304.5	2,350.2	237.5	15.6	399.4	236.3	17.2	219.1	163.1	–	1.2	Mar.
2,671.3	307.2	2,364.1	236.7	15.9	401.3	236.4	17.3	219.1	164.9	–	1.3	Apr.
2,692.9	310.7	2,382.2	238.9	18.1	403.9	236.3	17.4	218.9	167.6	–	1.3	May
2,701.4	310.8	2,390.6	238.4	19.6	402.4	234.5	17.1	217.4	167.9	–	1.2	June
2,715.7	312.5	2,403.2	237.5	21.0	397.7	234.9	16.7	218.1	162.8	–	1.2	July
2,729.1	313.1	2,416.0	238.2	21.3	396.7	234.4	16.7	217.7	162.3	–	1.2	Aug.
2,737.4	313.1	2,424.2	238.6	21.5	396.3	233.7	16.2	217.5	162.6	–	1.2	Sep.
2,751.8	313.2	2,438.6	239.7	21.6	398.6	234.0	15.9	218.1	164.6	–	1.2	Oct.
2,762.3	311.5	2,450.8	239.4	21.8	400.7	234.2	15.7	218.6	166.4	–	1.2	Nov.
2,771.8	310.5	2,461.4	241.1	22.4	390.8	234.3	15.7	218.6	156.6	–	1.1	Dec.
2,776.4	307.8	2,468.6	242.0	22.5	387.9	233.6	15.3	218.3	154.3	–	1.2	2021 Jan.
2,787.7	309.7	2,478.1	244.2	22.8	387.8	232.0	15.4	216.6	155.8	–	1.1	Feb.
2,802.4	314.5	2,487.9	246.1	23.1	389.3	230.7	15.2	215.5	158.6	–	1.1	Mar.
2,813.9	313.6	2,500.3	247.6	23.4	383.7	230.8	15.0	215.8	153.0	–	1.1	Apr.
2,824.9	311.7	2,513.3	249.9	23.6	385.9	231.1	14.9	216.2	154.8	–	1.1	May
Changes *												
+ 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
+ 108.7	+ 19.3	+ 89.4	– 6.7	– 0.9	– 37.1	– 10.5	– 2.7	– 7.8	– 26.6	–	– 0.0	2018
+ 126.0	+ 18.9	+ 107.2	+ 6.8	– 0.8	– 17.8	– 5.5	– 2.6	– 2.9	– 12.3	–	+ 0.1	2019
+ 145.0	+ 9.4	+ 135.5	+ 0.6	+ 6.1	– 2.8	– 1.1	– 1.5	+ 0.4	– 1.7	–	– 0.4	2020
+ 1.9	– 0.2	+ 2.1	+ 0.5	– 0.2	– 2.4	– 1.7	– 0.5	– 1.2	– 0.7	–	+ 0.3	2019 Dec.
+ 5.3	– 1.4	+ 6.7	+ 1.9	– 0.0	– 1.5	+ 0.1	– 0.1	+ 0.2	– 1.6	–	– 0.3	2020 Jan.
+ 14.6	+ 2.4	+ 12.2	+ 0.0	– 0.0	– 1.7	– 0.3	+ 0.1	– 0.5	– 1.3	–	+ 0.0	Feb.
+ 8.3	+ 2.1	+ 6.3	– 5.0	– 0.1	+ 8.4	+ 0.6	+ 0.0	+ 0.6	+ 7.8	–	– 0.0	Mar.
+ 16.7	+ 2.7	+ 14.0	– 0.8	+ 0.2	+ 1.8	– 0.0	+ 0.1	– 0.1	+ 1.8	–	+ 0.0	Apr.
+ 21.5	+ 3.5	+ 18.0	+ 2.2	+ 2.2	+ 2.6	– 0.0	+ 0.2	– 0.2	+ 2.7	–	+ 0.0	May
+ 8.4	+ 0.0	+ 8.4	– 0.5	+ 1.5	– 1.3	– 1.6	– 0.3	– 1.3	+ 0.3	–	– 0.1	June
+ 16.1	+ 1.6	+ 14.5	– 0.9	+ 0.9	– 4.7	+ 0.3	– 0.4	+ 0.7	– 5.1	–	+ 0.0	July
+ 11.9	+ 0.7	+ 11.2	+ 0.7	+ 0.3	– 1.0	– 0.6	– 0.1	– 0.5	– 0.5	–	– 0.0	Aug.
+ 8.2	– 0.0	+ 8.2	+ 0.4	+ 0.1	– 0.4	– 0.7	– 0.4	– 0.3	+ 0.3	–	+ 0.0	Sep.
+ 13.5	+ 0.1	+ 13.5	+ 1.1	+ 0.1	+ 2.8	+ 0.9	– 0.4	+ 1.2	+ 1.9	–	+ 0.0	Oct.
+ 10.9	– 1.2	+ 12.1	– 0.3	+ 0.2	+ 2.1	+ 0.3	– 0.2	+ 0.5	+ 1.8	–	– 0.0	Nov.
+ 9.5	– 1.0	+ 10.5	+ 1.7	+ 0.7	– 9.8	+ 0.0	– 0.0	+ 0.0	– 9.9	–	– 0.1	Dec.
+ 4.3	– 2.7	+ 7.1	+ 0.9	+ 0.1	– 3.1	– 0.8	– 0.4	– 0.5	– 2.3	–	+ 0.1	2021 Jan.
+ 11.1	+ 1.8	+ 9.3	+ 2.1	+ 0.3	+ 0.2	– 1.3	+ 0.1	– 1.4	+ 1.5	–	– 0.0	Feb.
+ 14.4	+ 4.7	+ 9.7	+ 1.9	+ 0.3	+ 2.1	– 1.4	– 0.2	– 1.2	+ 3.5	–	– 0.0	Mar.
+ 11.5	– 0.9	+ 12.4	+ 1.5	+ 0.2	– 5.5	+ 0.1	– 0.2	+ 0.3	– 5.6	–	– 0.0	Apr.
+ 11.0	– 1.9	+ 13.0	+ 2.3	+ 0.2	+ 2.1	+ 0.3	– 0.1	+ 0.4	+ 1.8	–	+ 0.0	May

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:												
			Housing loans			Lending to enterprises and self-employed persons								
	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 ***
2019	2,864.8	1,512.1	1,470.4	1,213.0	257.4	1,560.5	416.1	146.6	119.0	77.1	141.6	54.2	50.3	168.2
2020 Mar.	2,915.9	1,533.2	1,488.6	1,225.8	262.8	1,598.9	421.9	155.8	120.1	79.4	143.5	54.5	52.5	176.4
June	2,949.0	1,558.5	1,510.6	1,246.6	263.9	1,613.5	423.2	164.5	120.6	80.8	138.1	55.4	56.6	175.2
Sep.	2,968.6	1,580.1	1,537.3	1,265.4	272.0	1,616.8	434.6	157.2	121.1	82.2	135.9	55.5	57.7	173.7
Dec.	2,993.0	1,601.8	1,565.6	1,285.1	280.5	1,623.4	443.3	146.7	123.4	82.7	135.8	55.3	59.8	176.0
2021 Mar.	3,038.4	1,618.9	1,587.9	1,302.5	285.4	1,657.2	451.2	149.2	123.0	84.6	139.1	55.4	60.1	182.5
	Short-term lending													
2019	238.4	–	8.1	–	8.1	206.2	4.7	35.9	5.6	15.7	48.6	3.8	4.6	27.0
2020 Mar.	261.1	–	8.3	–	8.3	230.3	4.9	43.4	6.7	17.1	49.5	4.1	6.1	34.6
June	247.6	–	8.2	–	8.2	217.9	4.7	44.5	6.1	16.9	41.8	4.2	5.4	33.4
Sep.	231.3	–	8.5	–	8.5	201.4	5.0	36.9	6.5	16.9	38.4	4.2	5.3	30.0
Dec.	221.2	–	8.0	–	8.0	192.1	4.6	29.0	6.9	16.0	37.0	3.6	6.1	31.6
2021 Mar.	236.0	–	8.0	–	8.0	207.4	4.7	33.4	6.4	16.7	38.9	3.9	6.1	34.2
	Medium-term lending													
2019	301.3	–	36.6	–	36.6	219.5	16.6	28.5	4.9	13.9	19.7	4.6	10.2	52.0
2020 Mar.	304.5	–	36.9	–	36.9	222.8	17.0	29.7	5.1	13.9	20.4	4.5	10.4	51.3
June	310.8	–	37.7	–	37.7	229.8	17.6	33.6	5.2	14.2	19.6	4.5	13.4	50.2
Sep.	313.1	–	38.0	–	38.0	232.1	17.9	33.1	5.3	14.6	19.2	4.6	14.3	51.4
Dec.	310.5	–	38.5	–	38.5	230.4	18.5	30.2	5.4	14.8	19.3	4.8	15.0	51.4
2021 Mar.	314.5	–	38.9	–	38.9	236.4	19.1	29.2	5.1	15.3	19.7	4.5	14.7	52.9
	Long-term lending													
2019	2,325.1	1,512.1	1,425.7	1,213.0	212.7	1,134.9	394.8	82.2	108.6	47.6	73.3	45.8	35.5	89.2
2020 Mar.	2,350.2	1,533.2	1,443.4	1,225.8	217.6	1,145.7	400.0	82.7	108.4	48.4	73.6	45.9	36.0	90.6
June	2,390.6	1,558.5	1,464.7	1,246.6	218.1	1,165.8	400.8	86.4	109.3	49.7	76.7	46.6	37.8	91.6
Sep.	2,424.2	1,580.1	1,490.9	1,265.4	225.5	1,183.3	411.6	87.2	109.3	50.7	78.2	46.7	38.2	92.2
Dec.	2,461.4	1,601.8	1,519.1	1,285.1	234.0	1,201.0	420.2	87.5	111.2	51.8	79.4	47.0	38.7	93.0
2021 Mar.	2,487.9	1,618.9	1,541.0	1,302.5	238.5	1,213.5	427.4	86.6	111.5	52.6	80.5	47.1	39.3	95.4
	Lending, total													**Change during quarter ***
2020 Q1	+ 51.0	+ 15.6	+ 17.8	+ 12.4	+ 5.4	+ 38.2	+ 5.4	+ 9.2	+ 1.1	+ 2.3	+ 1.9	+ 0.3	+ 2.2	+ 8.2
Q2	+ 30.6	+ 17.8	+ 21.0	+ 13.7	+ 7.3	+ 17.1	+ 5.2	+ 8.8	+ 0.3	+ 1.4	– 4.4	+ 0.9	+ 4.1	– 4.0
Q3	+ 19.7	+ 21.7	+ 26.5	+ 18.8	+ 7.7	– 1.9	+ 6.4	– 7.4	+ 0.5	+ 1.4	– 2.6	+ 0.1	+ 1.1	– 2.1
Q4	+ 23.9	+ 21.3	+ 27.7	+ 19.3	+ 8.4	+ 6.1	+ 8.4	– 10.3	+ 2.0	+ 0.5	– 0.0	– 0.2	+ 2.2	+ 2.4
2021 Q1	+ 44.8	+ 17.1	+ 22.2	+ 17.3	+ 4.9	+ 33.0	+ 7.6	+ 2.5	– 0.7	+ 1.9	+ 3.2	+ 0.1	+ 0.2	+ 6.2
	Short-term lending													
2020 Q1	+ 22.7	–	+ 0.3	–	+ 0.3	+ 24.2	+ 0.2	+ 7.5	+ 1.1	+ 1.4	+ 0.9	+ 0.3	+ 1.4	+ 7.6
Q2	– 16.0	–	– 0.2	–	– 0.2	– 14.9	– 0.1	+ 1.2	– 0.7	– 0.1	– 7.1	+ 0.1	– 0.7	– 4.2
Q3	– 16.5	–	+ 0.3	–	+ 0.3	– 16.7	+ 0.3	– 7.6	+ 0.5	– 0.0	– 3.4	– 0.1	– 0.1	– 3.4
Q4	– 10.0	–	– 0.5	–	– 0.5	– 9.3	– 0.4	– 8.0	+ 0.4	– 0.9	– 1.4	– 0.6	+ 0.8	+ 1.6
2021 Q1	+ 14.9	–	+ 0.0	–	+ 0.0	+ 15.4	+ 0.1	+ 4.4	– 0.5	+ 0.7	+ 1.8	+ 0.3	+ 0.1	+ 2.6
	Medium-term lending													
2020 Q1	+ 3.1	–	+ 0.2	–	+ 0.2	+ 3.3	+ 0.4	+ 1.2	+ 0.2	+ 0.0	+ 0.7	– 0.1	+ 0.3	– 0.7
Q2	+ 6.2	–	+ 0.7	–	+ 0.7	+ 7.4	+ 0.7	+ 3.9	+ 0.2	+ 0.3	– 0.8	+ 0.0	+ 2.9	– 1.0
Q3	+ 2.3	–	+ 0.2	–	+ 0.2	+ 2.1	+ 0.1	– 0.5	+ 0.0	+ 0.3	– 0.4	+ 0.1	+ 0.9	+ 0.6
Q4	– 2.2	–	+ 0.6	–	+ 0.6	– 1.6	+ 0.6	– 2.8	+ 0.1	+ 0.3	+ 0.1	+ 0.2	+ 0.8	– 0.2
2021 Q1	+ 3.8	–	+ 0.4	–	+ 0.4	+ 5.9	+ 0.6	– 1.0	– 0.2	+ 0.4	+ 0.4	– 0.2	– 0.4	+ 1.5
	Long-term lending													
2020 Q1	+ 25.1	+ 15.6	+ 17.3	+ 12.4	+ 4.9	+ 10.7	+ 4.9	+ 0.5	– 0.2	+ 0.9	+ 0.3	+ 0.1	+ 0.5	+ 1.4
Q2	+ 40.4	+ 17.8	+ 20.4	+ 13.7	+ 6.8	+ 24.6	+ 4.6	+ 3.7	+ 0.8	+ 1.3	+ 3.5	+ 0.7	+ 1.8	+ 1.2
Q3	+ 33.9	+ 21.7	+ 26.0	+ 18.8	+ 7.2	+ 12.7	+ 6.0	+ 0.7	– 0.0	+ 1.0	+ 1.2	+ 0.1	+ 0.4	+ 0.7
Q4	+ 36.1	+ 21.3	+ 27.7	+ 19.3	+ 8.4	+ 16.9	+ 8.2	+ 0.4	+ 1.6	+ 1.1	+ 1.2	+ 0.3	+ 0.6	+ 1.0
2021 Q1	+ 26.1	+ 17.1	+ 21.8	+ 17.3	+ 4.5	+ 11.7	+ 6.9	– 0.9	+ 0.1	+ 0.7	+ 1.0	+ 0.1	+ 0.5	+ 2.2

* 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): Total	of which: Housing enterprises	of which: Holding companies	of which: Other real estate activities	Memo items: Lending to self-employed persons 2	Memo items: Lending to craft enterprises	Lending to employees and other individuals: Total	Housing loans	Other lending: Total	of which: Instalment loans 3	of which: Debit balances on wage, salary and pension accounts	Lending to non-profit institutions: Total	of which: Housing loans	Period
End of year or quarter *												**Lending, total**	
803.6	264.5	51.1	193.9	447.5	47.6	1,288.4	1,050.4	238.0	176.5	7.9	15.9	3.9	2019
816.6	273.2	54.2	196.6	450.6	48.0	1,301.0	1,062.8	238.2	178.0	7.9	16.0	3.9	2020 Mar.
822.2	277.8	55.9	198.5	447.1	48.1	1,319.4	1,083.5	235.9	176.9	7.3	16.2	3.9	June
833.5	281.7	55.1	201.9	458.9	48.1	1,335.9	1,098.8	237.0	178.3	7.5	16.0	3.9	Sep.
843.7	286.6	53.8	204.1	464.0	47.9	1,353.4	1,118.3	235.2	177.4	6.7	16.2	4.0	Dec.
863.3	293.7	59.2	204.3	467.7	48.3	1,364.8	1,132.6	232.2	175.4	6.6	16.4	4.1	2021 Mar.
												Short-term lending	
65.0	14.4	9.7	10.2	23.9	4.9	31.6	3.3	28.2	1.3	7.9	0.7	0.0	2019
69.0	14.8	12.2	11.1	23.8	5.2	30.0	3.4	26.6	1.4	7.9	0.7	0.0	2020 Mar.
65.5	14.8	11.9	11.4	21.8	4.7	29.0	3.4	25.6	1.4	7.3	0.7	0.0	June
63.1	15.6	10.7	10.9	21.7	4.3	29.3	3.5	25.8	1.3	7.5	0.6	0.0	Sep.
61.9	15.7	9.6	10.5	20.9	3.7	28.6	3.4	25.2	1.3	6.7	0.6	0.0	Dec.
67.9	16.5	12.3	10.2	20.5	3.9	27.9	3.4	24.6	1.3	6.6	0.7	0.0	2021 Mar.
												Medium-term lending	
85.7	18.1	11.0	22.9	31.9	3.5	81.4	19.9	61.4	58.0	–	0.5	0.0	2019
87.4	19.1	11.6	23.3	31.9	3.6	81.2	19.8	61.4	58.0	–	0.5	0.0	2020 Mar.
89.0	19.7	12.6	23.5	31.6	3.5	80.4	20.0	60.4	56.9	–	0.6	0.0	June
89.6	20.0	12.6	24.1	31.9	3.6	80.6	20.0	60.6	57.2	–	0.5	0.0	Sep.
89.6	20.4	11.8	24.5	32.0	3.5	79.6	20.0	59.6	56.1	–	0.5	0.0	Dec.
94.9	21.9	14.4	25.2	31.5	3.6	77.6	19.8	57.8	54.2	–	0.5	0.0	2021 Mar.
												Long-term lending	
652.9	232.0	30.4	160.9	391.7	39.1	1,175.5	1,027.1	148.3	117.1	–	14.7	3.8	2019
660.2	239.3	30.5	162.3	394.9	39.3	1,189.8	1,039.5	150.2	118.6	–	14.8	3.8	2020 Mar.
667.7	243.3	31.4	163.6	393.7	39.9	1,210.0	1,060.1	149.9	118.5	–	14.9	3.8	June
680.8	246.1	31.8	166.9	405.3	40.1	1,226.0	1,075.4	150.7	119.8	–	15.0	3.9	Sep.
692.3	250.5	32.4	169.1	411.1	40.7	1,245.3	1,094.9	150.4	120.0	–	15.1	4.0	Dec.
700.5	255.3	32.5	168.9	415.7	40.8	1,259.3	1,109.5	149.8	119.9	–	15.2	4.1	2021 Mar.
Change during quarter *												**Lending, total**	
+ 13.0	+ 4.9	+ 3.1	+ 1.9	+ 3.0	+ 0.5	+ 12.6	+ 12.3	+ 0.2	+ 1.8	+ 0.0	+ 0.2	+ 0.0	2020 Q1
+ 10.0	+ 4.6	+ 1.7	+ 2.1	+ 3.5	+ 0.1	+ 13.4	+ 15.8	– 2.4	– 1.0	– 0.6	+ 0.1	+ 0.0	Q2
+ 7.0	+ 3.9	– 0.8	+ 3.2	+ 5.4	+ 0.0	+ 21.7	+ 20.0	+ 1.6	+ 1.7	+ 0.1	– 0.1	+ 0.0	Q3
+ 9.6	+ 5.2	– 1.5	+ 1.8	+ 4.4	– 0.2	+ 17.6	+ 19.3	– 1.6	– 0.7	– 0.8	+ 0.2	+ 0.1	Q4
+ 19.6	+ 7.0	+ 5.4	+ 0.3	+ 3.2	+ 0.4	+ 11.6	+ 14.6	– 2.9	– 2.0	– 0.0	+ 0.2	+ 0.1	2021 Q1
												Short-term lending	
+ 4.0	+ 0.3	+ 2.5	+ 0.9	– 0.1	+ 0.2	– 1.6	+ 0.1	– 1.7	+ 0.1	+ 0.0	+ 0.1	– 0.0	2020 Q1
– 3.5	– 0.1	– 0.3	+ 0.3	– 2.0	– 0.5	– 1.0	– 0.0	– 1.0	+ 0.1	– 0.6	+ 0.0	–	Q2
– 2.6	+ 0.8	– 1.2	– 0.5	– 0.0	– 0.3	+ 0.3	+ 0.1	+ 0.3	– 0.1	+ 0.1	– 0.1	+ 0.0	Q3
– 1.2	+ 0.2	– 1.1	– 0.4	– 0.8	– 0.6	– 0.7	– 0.1	– 0.6	– 0.1	– 0.8	– 0.1	– 0.0	Q4
+ 6.0	+ 0.7	+ 2.7	– 0.3	– 0.4	+ 0.2	– 0.5	– 0.0	– 0.5	– 0.0	– 0.0	+ 0.1	– 0.0	2021 Q1
												Medium-term lending	
+ 1.8	+ 0.8	+ 0.6	+ 0.3	– 0.1	+ 0.0	– 0.2	– 0.1	– 0.0	– 0.1	–	+ 0.0	– 0.0	2020 Q1
+ 1.8	+ 0.6	+ 1.0	+ 0.3	– 0.1	– 0.0	– 1.3	+ 0.0	– 1.3	– 1.3	–	+ 0.0	– 0.0	Q2
+ 1.1	+ 0.4	– 0.0	+ 0.8	+ 0.0	+ 0.1	+ 0.3	+ 0.0	+ 0.2	+ 0.3	–	– 0.1	+ 0.0	Q3
– 0.0	+ 0.4	– 0.9	+ 0.4	+ 0.2	– 0.1	– 0.6	+ 0.0	– 0.7	– 0.7	–	+ 0.0	– 0.0	Q4
+ 5.6	+ 1.5	+ 2.6	+ 0.9	– 0.5	+ 0.1	– 2.2	– 0.3	– 1.9	– 1.9	–	+ 0.0	+ 0.0	2021 Q1
												Long-term lending	
+ 7.3	+ 3.8	+ 0.1	+ 0.7	+ 3.2	+ 0.2	+ 14.3	+ 12.4	+ 1.9	+ 1.8	–	+ 0.1	+ 0.0	2020 Q1
+ 11.6	+ 4.1	+ 0.9	+ 1.5	+ 5.7	+ 0.6	+ 15.7	+ 15.8	– 0.2	+ 0.2	–	+ 0.1	+ 0.0	Q2
+ 8.6	+ 2.8	+ 0.4	+ 3.0	+ 5.4	+ 0.2	+ 21.1	+ 20.0	+ 1.1	+ 1.5	–	+ 0.1	+ 0.0	Q3
+ 10.8	+ 4.6	+ 0.4	+ 1.8	+ 4.9	+ 0.5	+ 19.0	+ 19.3	– 0.4	+ 0.1	–	+ 0.2	+ 0.1	Q4
+ 8.0	+ 4.8	+ 0.1	– 0.2	+ 4.1	+ 0.1	+ 14.3	+ 14.8	– 0.6	– 0.1	–	+ 0.1	+ 0.1	2021 Q1

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***
2018	3,537.6	2,080.1	841.5	203.4	638.2	56.8	581.4	578.6	37.3	33.9	14.9	0.5
2019	3,661.0	2,236.3	816.2	202.7	613.5	52.7	560.8	575.2	33.2	32.5	14.7	0.2
2020	3,885.2	2,513.0	783.3	188.9	594.4	47.9	546.5	560.6	28.3	34.4	14.4	0.1
2020 June	3,766.3	2,385.3	788.2	206.7	581.5	44.3	537.2	562.6	30.3	33.4	14.3	0.2
July	3,803.4	2,414.0	798.6	215.6	583.1	46.6	536.5	560.9	29.9	33.8	14.3	0.2
Aug.	3,820.8	2,427.7	802.9	215.0	587.9	45.8	542.0	560.6	29.6	34.0	14.4	0.5
Sep.	3,834.2	2,442.8	802.0	210.1	591.9	48.1	543.8	560.1	29.3	34.3	14.3	0.4
Oct.	3,874.1	2,481.4	804.1	207.6	596.5	50.7	545.8	559.7	28.9	34.6	14.3	0.6
Nov.	3,894.3	2,515.3	790.9	196.4	594.5	48.1	546.4	559.6	28.5	34.4	14.3	0.7
Dec.	3,885.2	2,513.0	783.3	188.9	594.4	47.9	546.5	560.6	28.3	34.4	14.4	0.1
2021 Jan.	3,904.5	2,542.0	773.1	181.6	591.5	47.4	544.2	561.6	27.9	34.3	14.3	0.5
Feb.	3,913.7	2,557.5	766.1	174.7	591.4	49.0	542.4	562.6	27.5	34.3	14.4	0.5
Mar.	3,925.8	2,575.2	761.2	175.4	585.9	46.9	539.0	562.3	27.1	34.4	14.4	0.9
Apr.	3,935.7	2,594.6	751.6	168.9	582.7	46.8	535.9	562.8	26.8	34.4	14.4	1.0
May	3,956.3	2,620.5	746.2	165.7	580.5	47.3	533.2	563.2	26.3	34.6	14.4	0.7
												Changes*
2019	+ 122.5	+ 155.8	– 25.7	– 0.8	– 24.9	– 4.1	– 20.7	– 3.5	– 4.1	– 1.4	+ 0.9	– 0.3
2020	+ 221.6	+ 273.7	– 32.7	– 15.0	– 17.7	– 4.8	– 12.9	– 14.5	– 4.9	+ 1.9	– 0.3	– 0.1
2020 June	– 9.0	+ 8.8	– 16.4	– 7.4	– 9.0	– 2.8	– 6.1	– 1.1	– 0.4	+ 0.1	– 0.1	– 0.1
July	+ 37.1	+ 28.7	+ 10.5	+ 8.9	+ 1.6	+ 2.3	– 0.7	– 1.6	– 0.4	+ 0.4	– 0.0	– 0.0
Aug.	+ 17.4	+ 13.6	+ 4.3	– 0.6	+ 4.9	– 0.7	+ 5.6	– 0.2	– 0.3	+ 0.2	+ 0.1	+ 0.2
Sep.	+ 13.4	+ 15.1	– 0.9	– 4.9	+ 4.0	+ 2.3	+ 1.7	– 0.5	– 0.4	+ 0.3	– 0.1	– 0.1
Oct.	+ 40.0	+ 38.6	+ 2.2	– 3.5	+ 5.7	+ 2.5	+ 3.2	– 0.4	– 0.4	+ 0.3	+ 0.0	+ 0.3
Nov.	+ 20.5	+ 34.1	– 13.2	– 11.2	– 2.0	– 2.6	+ 0.6	– 0.1	– 0.3	– 0.2	– 0.0	+ 0.1
Dec.	– 9.2	– 2.3	– 7.6	– 7.5	– 0.1	– 0.2	+ 0.1	+ 1.0	– 0.2	– 0.0	+ 0.1	– 0.6
2021 Jan.	+ 19.2	+ 28.9	– 10.3	– 7.3	– 3.0	– 0.6	– 2.5	+ 1.1	– 0.4	– 0.1	– 0.1	+ 0.4
Feb.	+ 9.1	+ 15.4	– 7.0	– 6.9	– 0.1	+ 1.7	– 1.8	+ 1.0	– 0.4	– 0.0	+ 0.0	– 0.0
Mar.	+ 12.2	+ 17.7	– 4.8	+ 0.7	– 5.5	– 2.2	– 3.4	– 0.3	– 0.4	+ 0.1	+ 0.0	+ 0.4
Apr.	+ 9.8	+ 19.6	– 9.8	– 6.6	– 3.2	– 0.0	– 3.1	+ 0.4	– 0.3	– 0.0	+ 0.0	+ 0.1
May	+ 20.6	+ 26.0	– 5.3	– 3.1	– 2.2	+ 0.4	– 2.6	+ 0.5	– 0.5	+ 0.2	– 0.0	– 0.3
Domestic government												**End of year or month***
2018	218.9	62.7	148.2	67.9	80.3	28.5	51.8	3.7	4.2	25.3	2.2	–
2019	237.1	74.7	154.9	76.0	78.9	26.1	52.8	3.4	4.1	24.7	2.2	0.2
2020	229.5	80.1	143.0	59.6	83.5	20.9	62.6	2.7	3.7	25.4	2.1	–
2020 June	221.4	75.4	139.1	75.0	64.1	18.5	45.5	2.9	3.9	25.8	2.1	0.2
July	226.5	76.7	143.0	73.4	69.6	20.3	49.3	2.8	3.9	25.9	2.1	0.2
Aug.	237.6	79.4	151.3	76.1	75.2	19.4	55.8	2.9	3.9	26.0	2.1	0.2
Sep.	236.6	77.4	152.6	72.4	80.2	21.5	58.7	2.8	3.8	26.1	2.1	0.2
Oct.	240.1	81.5	152.0	68.0	84.0	24.0	60.1	2.8	3.7	26.1	2.1	0.2
Nov.	237.2	83.9	146.8	63.7	83.1	21.3	61.8	2.8	3.7	25.6	2.1	–
Dec.	229.5	80.1	143.0	59.6	83.5	20.9	62.6	2.7	3.7	25.4	2.1	–
2021 Jan.	224.1	77.5	140.3	57.8	82.5	20.8	61.7	2.7	3.7	25.3	2.1	–
Feb.	224.4	80.7	137.3	53.6	83.8	22.4	61.3	2.7	3.6	25.3	2.1	–
Mar.	214.4	76.8	131.4	51.2	80.2	19.9	60.3	2.6	3.5	25.3	2.0	–
Apr.	213.7	80.5	127.0	47.8	79.3	19.8	59.5	2.6	3.5	25.4	2.0	–
May	218.4	88.4	123.8	45.8	78.0	19.8	58.2	2.6	3.5	25.3	2.0	–
												Changes*
2019	+ 17.1	+ 11.8	+ 5.8	+ 7.8	– 2.0	– 2.6	+ 0.6	– 0.4	– 0.1	– 0.6	– 0.0	+ 0.2
2020	– 6.9	+ 5.7	– 11.6	– 16.5	+ 4.8	– 5.3	+ 10.1	– 0.6	– 0.4	+ 0.7	– 0.1	– 0.2
2020 June	– 10.7	– 5.7	– 4.8	+ 1.5	– 6.3	– 3.4	– 2.9	– 0.2	– 0.0	– 0.1	– 0.0	–
July	+ 5.1	+ 1.3	+ 3.9	– 1.6	+ 5.5	+ 1.8	+ 3.7	– 0.1	– 0.0	+ 0.1	+ 0.0	–
Aug.	+ 11.1	+ 2.8	+ 8.3	+ 2.7	+ 5.6	– 0.9	+ 6.5	+ 0.0	– 0.0	+ 0.1	– 0.0	–
Sep.	– 0.8	– 2.1	+ 1.4	– 3.7	+ 5.1	+ 2.1	+ 3.0	– 0.1	– 0.1	+ 0.1	– 0.0	–
Oct.	+ 3.7	+ 4.2	– 0.4	– 4.5	+ 4.0	+ 2.4	+ 1.7	– 0.0	– 0.0	+ 0.0	– 0.0	–
Nov.	– 2.7	+ 2.6	– 5.2	– 4.3	– 0.9	– 2.6	+ 1.7	– 0.0	– 0.0	– 0.5	–	– 0.2
Dec.	– 7.7	– 3.8	– 3.8	– 4.1	+ 0.4	– 0.5	+ 0.8	– 0.0	– 0.0	– 0.2	+ 0.0	–
2021 Jan.	– 5.5	– 2.6	– 2.8	– 1.8	– 1.0	– 0.1	– 0.9	– 0.0	– 0.0	– 0.2	– 0.0	–
Feb.	+ 0.3	+ 3.3	– 3.0	– 4.2	+ 1.3	+ 1.6	– 0.4	+ 0.0	– 0.0	+ 0.0	+ 0.0	–
Mar.	– 10.0	– 4.0	– 5.9	– 2.3	– 3.6	– 2.5	– 1.0	– 0.1	– 0.1	+ 0.0	– 0.0	–
Apr.	– 0.7	+ 3.7	– 4.4	– 3.5	– 0.9	– 0.1	– 0.8	– 0.0	– 0.0	+ 0.0	–	–
May	+ 4.7	+ 7.9	– 3.2	– 2.0	– 1.3	+ 0.0	– 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***
2018	3,318.7	2,017.4	693.3	135.4	557.9	28.3	529.6	574.9	33.1	8.6	12.7	0.5
2019	3,423.9	2,161.6	661.4	126.7	534.7	26.6	508.0	571.8	29.1	7.8	12.6	0.0
2020	3,655.7	2,432.9	640.3	129.3	511.0	27.0	483.9	557.9	24.6	9.0	12.3	0.1
2020 June	3,545.0	2,309.9	649.1	131.7	517.4	25.8	491.6	559.7	26.3	7.5	12.3	0.1
July	3,577.0	2,337.3	655.6	142.1	513.5	26.3	487.2	558.1	26.0	7.9	12.2	0.1
Aug.	3,583.2	2,348.2	651.6	138.8	512.7	26.4	486.3	557.8	25.7	8.0	12.3	0.3
Sep.	3,597.6	2,365.4	649.4	137.7	511.7	26.6	485.1	557.3	25.5	8.2	12.2	0.2
Oct.	3,634.0	2,399.9	652.1	139.7	512.4	26.7	485.7	556.9	25.1	8.5	12.2	0.5
Nov.	3,657.1	2,431.4	644.1	132.7	511.4	26.7	484.7	556.8	24.8	8.8	12.2	0.7
Dec.	3,655.7	2,432.9	640.3	129.3	511.0	27.0	483.9	557.9	24.6	9.0	12.3	0.1
2021 Jan.	3,680.4	2,464.5	632.8	123.8	509.0	26.6	482.5	558.9	24.2	9.0	12.3	0.5
Feb.	3,689.2	2,476.7	628.8	121.1	507.7	26.6	481.1	559.9	23.9	9.0	12.3	0.5
Mar.	3,711.4	2,498.4	629.8	124.1	505.7	27.0	478.7	559.7	23.5	9.1	12.3	0.9
Apr.	3,721.9	2,514.1	624.5	121.1	503.4	27.1	476.4	560.1	23.2	9.0	12.3	1.0
May	3,737.9	2,532.1	622.4	119.9	502.5	27.5	475.0	560.6	22.8	9.2	12.3	0.7
												Changes*
2019	+ 105.4	+ 144.0	– 31.5	– 8.6	– 22.9	– 1.5	– 21.4	– 3.1	– 4.0	– 0.8	+ 1.0	– 0.4
2020	+ 228.5	+ 268.0	– 21.1	+ 1.5	– 22.6	+ 0.5	– 23.0	– 13.9	– 4.6	+ 1.2	– 0.2	+ 0.1
2020 June	+ 1.7	+ 14.5	– 11.6	– 8.9	– 2.6	+ 0.6	– 3.3	– 0.9	– 0.4	+ 0.2	– 0.1	– 0.1
July	+ 32.0	+ 27.4	+ 6.5	+ 10.4	– 3.9	+ 0.5	– 4.4	– 1.6	– 0.4	+ 0.3	– 0.0	– 0.0
Aug.	+ 6.3	+ 10.8	– 4.0	– 3.3	– 0.7	+ 0.2	– 0.9	– 0.2	– 0.3	+ 0.1	+ 0.1	+ 0.2
Sep.	+ 14.2	+ 17.2	– 2.2	– 1.2	– 1.1	+ 0.2	– 1.2	– 0.4	– 0.3	+ 0.2	– 0.1	– 0.1
Oct.	+ 36.3	+ 34.4	+ 2.6	+ 1.0	+ 1.7	+ 0.2	+ 1.5	– 0.4	– 0.4	+ 0.3	+ 0.0	+ 0.3
Nov.	+ 23.1	+ 31.5	– 8.0	– 6.9	– 1.0	+ 0.0	– 1.1	– 0.1	– 0.3	+ 0.3	– 0.0	+ 0.2
Dec.	– 1.5	+ 1.5	– 3.8	– 3.4	– 0.4	+ 0.3	– 0.7	+ 1.0	– 0.2	+ 0.2	+ 0.1	– 0.6
2021 Jan.	+ 24.6	+ 31.5	– 7.6	– 5.6	– 2.0	– 0.5	– 1.5	+ 1.1	– 0.4	+ 0.1	– 0.1	+ 0.4
Feb.	+ 8.8	+ 12.1	– 4.0	– 2.6	– 1.4	+ 0.0	– 1.4	+ 1.0	– 0.3	– 0.0	– 0.0	– 0.0
Mar.	+ 22.2	+ 21.7	+ 1.0	+ 3.0	– 2.0	+ 0.4	– 2.4	– 0.2	– 0.3	+ 0.0	+ 0.1	+ 0.4
Apr.	+ 10.5	+ 15.8	– 5.4	– 3.2	– 2.2	+ 0.1	– 2.3	+ 0.4	– 0.3	– 0.1	+ 0.0	+ 0.1
May	+ 16.0	+ 18.1	– 2.1	– 1.1	– 0.9	+ 0.4	– 1.4	+ 0.4	– 0.4	+ 0.2	– 0.0	– 0.3
of which: Domestic enterprises												**End of year or month***
2018	1,035.4	584.0	432.9	86.0	346.9	17.2	329.7	7.0	11.4	2.8	10.3	0.5
2019	1,031.5	614.4	399.7	81.1	318.6	15.5	303.1	6.7	10.7	2.4	10.1	0.0
2020	1,116.1	719.1	381.7	89.2	292.5	15.0	277.5	5.8	9.4	2.3	9.7	0.1
2020 June	1,090.9	683.7	391.2	90.0	301.2	14.5	286.6	6.2	9.9	2.4	9.8	0.1
July	1,108.0	694.4	397.6	100.6	297.1	14.5	282.6	6.1	9.8	2.4	9.8	0.1
Aug.	1,108.0	698.2	393.8	97.5	296.3	14.6	281.6	6.1	9.9	2.3	9.8	0.3
Sep.	1,114.5	707.3	391.4	96.5	294.9	14.7	280.2	6.0	9.8	2.3	9.7	0.2
Oct.	1,129.9	720.0	394.2	98.6	295.6	14.7	280.9	6.0	9.6	2.3	9.7	0.5
Nov.	1,132.1	729.2	387.4	92.7	294.8	14.8	279.9	5.9	9.5	2.3	9.6	0.7
Dec.	1,116.1	719.1	381.7	89.2	292.5	15.0	277.5	5.8	9.4	2.3	9.7	0.1
2021 Jan.	1,122.7	732.9	374.7	84.2	290.5	14.8	275.7	5.8	9.3	2.3	9.6	0.5
Feb.	1,109.4	723.5	370.9	82.0	288.9	14.9	274.0	5.8	9.1	2.3	9.6	0.5
Mar.	1,134.9	748.2	371.8	85.1	286.7	15.2	271.5	5.8	9.0	2.2	9.6	0.9
Apr.	1,124.8	742.4	367.7	83.4	284.3	15.2	269.2	5.8	8.9	2.2	9.6	1.0
May	1,128.0	746.8	366.7	83.4	283.2	15.7	267.6	5.8	8.7	2.2	9.6	0.7
												Changes*
2019	– 3.4	+ 30.4	– 32.8	– 4.8	– 28.0	– 1.6	– 26.4	– 0.3	– 0.7	– 0.4	+ 0.9	– 0.4
2020	+ 81.0	+ 101.2	– 18.0	+ 7.0	– 25.0	– 0.4	– 24.6	– 0.8	– 1.3	– 0.0	– 0.5	+ 0.1
2020 June	– 4.8	+ 7.5	– 12.1	– 9.2	– 2.9	– 0.0	– 2.9	– 0.0	– 0.2	+ 0.0	– 0.1	– 0.1
July	+ 17.0	+ 10.7	+ 6.4	+ 10.5	– 4.1	– 0.0	– 4.1	– 0.0	– 0.1	– 0.0	– 0.1	– 0.0
Aug.	– 1.7	+ 2.1	– 3.9	– 3.0	– 0.8	+ 0.1	– 0.9	– 0.0	+ 0.0	– 0.1	+ 0.1	+ 0.2
Sep.	+ 7.7	+ 10.4	– 2.5	– 1.0	– 1.5	+ 0.1	– 1.5	– 0.1	– 0.1	+ 0.0	– 0.1	– 0.1
Oct.	+ 15.2	+ 12.6	+ 2.8	+ 1.1	+ 1.7	+ 0.1	+ 1.6	– 0.0	– 0.2	– 0.0	+ 0.0	+ 0.3
Nov.	+ 2.2	+ 9.2	– 6.8	– 6.0	– 0.8	+ 0.1	– 1.0	– 0.1	– 0.1	– 0.1	– 0.1	+ 0.2
Dec.	– 15.9	– 10.1	– 5.7	– 3.4	– 2.3	+ 0.2	– 2.5	– 0.1	– 0.0	+ 0.0	+ 0.1	– 0.6
2021 Jan.	+ 6.5	+ 13.8	– 7.0	– 5.0	– 2.1	– 0.2	– 1.9	– 0.0	– 0.1	+ 0.0	– 0.1	+ 0.4
Feb.	– 13.4	– 9.4	– 3.8	– 2.2	– 1.5	+ 0.1	– 1.6	+ 0.0	– 0.2	– 0.1	– 0.0	– 0.0
Mar.	+ 25.6	+ 24.8	+ 0.9	+ 3.1	– 2.2	+ 0.3	– 2.5	+ 0.0	– 0.1	– 0.0	+ 0.0	+ 0.4
Apr.	– 10.0	– 5.7	– 4.2	– 1.8	– 2.4	– 0.0	– 2.4	– 0.0	– 0.1	– 0.0	– 0.0	+ 0.1
May	+ 3.2	+ 4.4	– 1.1	+ 0.0	– 1.1	+ 0.5	– 1.6	+ 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.

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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: Total	Sight deposits, by creditor group, Domestic households: Total	Sight deposits, Domestic households: Self-employed persons	Sight deposits, Domestic households: Employees	Sight deposits, Domestic households: Other individuals	Sight deposits: Domestic non-profit institutions	Time deposits 1,2: Total	Time deposits, by creditor group, Domestic households: Total	Time deposits, Domestic households: Self-employed persons	Time deposits, Domestic households: Employees	Time deposits, Domestic households: Other individuals
	End of year or month*											
2018	2,283.4	1,433.5	1,396.1	248.4	991.3	156.4	37.4	260.4	246.7	21.3	188.6	36.7
2019	2,392.4	1,547.2	1,507.9	266.3	1,081.6	160.1	39.3	261.7	248.3	20.8	190.2	37.3
2020	2,539.5	1,713.8	1,672.7	291.1	1,215.4	166.2	41.1	258.6	245.1	19.3	190.5	35.2
2020 Dec.	2,539.5	1,713.8	1,672.7	291.1	1,215.4	166.2	41.1	258.6	245.1	19.3	190.5	35.2
2021 Jan.	2,557.7	1,731.6	1,690.6	295.1	1,228.7	166.8	41.0	258.1	244.8	19.2	190.4	35.2
Feb.	2,579.9	1,753.2	1,711.1	297.6	1,245.8	167.7	42.1	257.8	244.6	19.0	190.4	35.2
Mar.	2,576.5	1,750.1	1,707.1	294.1	1,246.0	166.9	43.1	258.0	244.8	19.2	190.6	35.1
Apr.	2,597.1	1,771.6	1,729.4	299.9	1,261.2	168.3	42.2	256.8	244.0	19.0	190.1	34.9
May	2,610.0	1,785.3	1,742.1	300.8	1,272.0	169.3	43.2	255.8	242.8	18.9	189.3	34.7
	Changes*											
2019	+ 108.8	+ 113.6	+ 111.8	+ 18.5	+ 88.7	+ 4.6	+ 1.8	+ 1.2	+ 1.7	– 0.6	+ 1.6	+ 0.7
2020	+ 147.5	+ 166.9	+ 165.0	+ 26.0	+ 131.5	+ 7.5	+ 1.8	– 3.1	– 3.2	– 1.5	– 1.6	– 0.2
2020 Dec.	+ 14.5	+ 11.6	+ 11.4	+ 1.0	+ 9.7	+ 0.7	+ 0.3	+ 1.9	+ 1.4	– 0.0	+ 1.1	+ 0.3
2021 Jan.	+ 18.1	+ 17.8	+ 17.9	+ 4.0	+ 13.3	+ 0.5	– 0.1	– 0.5	– 0.3	– 0.2	– 0.1	+ 0.0
Feb.	+ 22.1	+ 21.6	+ 20.5	+ 2.3	+ 17.3	+ 0.9	+ 1.1	– 0.3	– 0.2	– 0.1	– 0.0	+ 0.0
Mar.	– 3.4	– 3.1	– 4.1	– 3.5	+ 0.3	– 0.8	+ 0.9	+ 0.1	+ 0.2	+ 0.2	+ 0.2	– 0.1
Apr.	+ 20.6	+ 21.5	+ 22.3	+ 5.8	+ 15.2	+ 1.3	– 0.8	– 1.2	– 0.8	– 0.1	– 0.5	– 0.2
May	+ 12.8	+ 13.6	+ 12.7	+ 1.0	+ 10.7	+ 1.0	+ 1.0	– 1.0	– 1.2	– 0.2	– 0.8	– 0.2

* 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** 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: Total	Federal Government: Sight deposits	Federal Government: Time deposits for up to and including 1 year	Federal Government: Time deposits for more than 1 year	Federal Government: Savings deposits and bank savings bonds 2	Federal Government: Memo item: Fiduciary loans	State governments: Total	State governments: Sight deposits	State governments: Time deposits for up to and including 1 year	State governments: Time deposits for more than 1 year	State governments: Savings deposits and bank savings bonds 2	State governments: Memo item: Fiduciary loans
	End of year or month*												
2018	218.9	10.5	4.7	1.7	4.1	0.1	12.2	39.0	13.4	11.5	13.0	1.2	13.0
2019	237.1	11.2	5.4	1.5	4.2	0.1	11.6	53.8	21.1	17.1	14.5	1.0	13.1
2020	229.5	48.6	4.8	7.2	36.5	0.0	11.3	46.5	21.2	11.4	13.2	0.7	14.1
2020 Dec.	229.5	48.6	4.8	7.2	36.5	0.0	11.3	46.5	21.2	11.4	13.2	0.7	14.1
2021 Jan.	224.1	48.3	5.1	6.7	36.5	0.0	11.4	48.4	22.4	13.1	12.2	0.7	13.9
Feb.	224.4	48.2	5.0	6.7	36.4	0.0	11.4	46.1	22.0	11.3	12.1	0.7	13.9
Mar.	214.4	48.9	5.8	6.7	36.4	0.0	11.4	43.1	19.4	11.2	11.9	0.6	13.9
Apr.	213.7	48.6	6.0	6.6	35.9	0.0	11.5	43.7	20.6	10.6	11.9	0.6	13.9
May	218.4	46.6	6.1	5.1	35.3	0.0	11.5	45.3	22.3	10.4	12.0	0.6	13.8
	Changes*												
2019	+ 17.1	+ 1.4	+ 0.7	+ 0.2	+ 0.4	+ 0.0	– 0.6	+ 13.8	+ 7.7	+ 5.2	+ 1.1	– 0.2	+ 0.0
2020	– 6.9	+ 37.3	– 0.6	+ 5.7	+ 32.2	– 0.0	– 0.3	– 7.0	+ 0.2	– 5.7	– 1.3	– 0.2	+ 1.0
2020 Dec.	– 7.7	+ 1.0	– 1.3	+ 0.3	+ 2.0	+ 0.0	– 0.2	– 5.9	– 3.6	– 2.1	– 0.2	– 0.0	+ 0.0
2021 Jan.	– 5.5	– 0.2	+ 0.3	– 0.6	– 0.0	+ 0.0	+ 0.1	+ 2.0	+ 1.3	+ 1.7	– 0.9	– 0.0	– 0.2
Feb.	+ 0.3	– 0.2	– 0.1	+ 0.1	– 0.1	–	– 0.0	– 2.4	– 0.5	– 1.7	– 0.2	– 0.0	+ 0.0
Mar.	– 10.0	+ 0.8	+ 0.8	– 0.0	– 0.0	– 0.0	+ 0.1	– 2.9	– 2.6	– 0.1	– 0.2	– 0.0	– 0.0
Apr.	– 0.7	– 0.4	+ 0.2	– 0.1	– 0.5	– 0.0	+ 0.1	+ 0.6	+ 1.2	– 0.6	– 0.0	– 0.0	– 0.0
May	+ 4.7	– 1.9	+ 0.1	– 1.5	– 0.6	–	+ 0.0	+ 1.6	+ 1.7	– 0.2	+ 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

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	by maturity				Savings deposits 3				Memo item:			
		more than 1 year 2	of which:									
Domestic non-profit institu-tions	up to and including 1 year	Total	up to and including 2 years	more than 2 years	Total	Domestic households	Domestic non-profit institu-tions	Bank savings bonds 4	Fiduciary loans	Subordinated liabilities (excluding negotiable debt securities) 5	Liabilities arising from repos	Period
End of year or month*												
13.7	49.4	211.0	11.1	199.9	567.9	560.6	7.2	21.7	5.8	2.4	–	2018
13.3	45.6	216.1	11.2	204.9	565.1	558.1	7.0	18.4	5.4	2.4	–	2019
13.5	40.1	218.5	12.0	206.5	552.0	545.7	6.3	15.1	6.7	2.7	–	2020
13.5	40.1	218.5	12.0	206.5	552.0	545.7	6.3	15.1	6.7	2.7	–	2020 Dec.
13.3	39.5	218.6	11.8	206.8	553.1	546.9	6.3	14.9	6.7	2.7	–	2021 Jan.
13.2	39.1	218.8	11.7	207.0	554.1	547.8	6.3	14.7	6.8	2.7	–	Feb.
13.2	39.0	219.0	11.8	207.2	553.8	547.6	6.3	14.6	6.8	2.7	–	Mar.
12.8	37.7	219.1	11.9	207.2	554.3	548.0	6.3	14.4	6.8	2.7	–	Apr.
13.0	36.5	219.3	11.8	207.5	554.8	548.4	6.3	14.1	7.0	2.7	–	May
Changes*												
– 0.4	– 3.8	+ 5.1	+ 0.1	+ 5.0	– 2.8	– 2.5	– 0.3	– 3.3	– 0.4	+ 0.0	–	2019
+ 0.2	– 5.5	+ 2.4	+ 0.9	+ 1.6	– 13.0	– 12.3	– 0.7	– 3.3	+ 1.3	+ 0.2	–	2020
+ 0.5	+ 0.1	+ 1.8	+ 0.1	+ 1.7	+ 1.1	+ 1.2	– 0.1	– 0.2	+ 0.2	+ 0.0	–	2020 Dec.
– 0.2	– 0.6	+ 0.1	– 0.3	+ 0.3	+ 1.1	+ 1.2	– 0.0	– 0.2	+ 0.1	+ 0.0	–	2021 Jan.
– 0.1	– 0.4	+ 0.2	– 0.0	+ 0.2	+ 0.9	+ 0.9	– 0.0	– 0.2	+ 0.0	+ 0.0	–	Feb.
– 0.0	– 0.0	+ 0.2	+ 0.1	+ 0.1	– 0.2	– 0.3	+ 0.0	– 0.2	+ 0.1	+ 0.0	–	Mar.
– 0.3	– 1.3	+ 0.1	+ 0.1	+ 0.0	+ 0.5	+ 0.5	+ 0.0	– 0.2	– 0.0	+ 0.0	–	Apr.
+ 0.1	– 1.2	+ 0.2	– 0.1	+ 0.3	+ 0.4	+ 0.4	+ 0.0	– 0.2	+ 0.2	+ 0.0	–	May

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)						Social security funds						
		Time deposits 3						Time deposits				
Total	Sight deposits	for up to and including 1 year	for more than 1 year	Savings deposits and bank savings bonds 2,4	Memo item: Fiduciary loans	Total	Sight deposits	for up to and including 1 year	for more than 1 year	Savings deposits and bank savings bonds 2	Memo item: Fiduciary loans	Period
End of year or month*												
65.4	35.1	9.8	14.9	5.7	0.0	103.9	9.5	45.0	48.4	1.0	–	2018
65.3	37.4	8.6	14.0	5.4	0.0	106.8	10.8	48.8	46.2	1.1	–	2019
68.5	43.2	8.0	12.4	4.9	0.0	66.0	10.9	32.9	21.4	0.8	–	2020
68.5	43.2	8.0	12.4	4.9	0.0	66.0	10.9	32.9	21.4	0.8	–	2020 Dec.
59.9	35.6	6.8	12.6	4.9	0.0	67.5	14.3	31.3	21.2	0.8	–	2021 Jan.
62.1	38.1	6.3	12.8	4.9	0.0	68.1	15.7	29.2	22.5	0.8	–	Feb.
60.1	37.1	5.7	12.5	4.7	0.0	62.3	14.5	27.6	19.4	0.8	–	Mar.
61.3	37.6	6.5	12.5	4.7	0.0	60.2	16.3	24.1	18.9	0.8	–	Apr.
65.1	41.7	6.5	12.2	4.7	0.0	61.4	18.3	23.8	18.4	0.8	–	May
Changes*												
– 0.8	+ 2.1	– 1.4	– 1.2	– 0.3	+ 0.0	+ 2.8	+ 1.3	+ 3.7	– 2.2	+ 0.1	–	2019
+ 3.5	+ 5.9	– 0.6	– 1.3	– 0.5	– 0.0	– 40.8	+ 0.2	– 15.9	– 24.8	– 0.3	–	2020
+ 6.3	+ 6.8	– 0.4	– 0.1	– 0.0	–	– 9.1	– 5.7	– 2.0	– 1.4	+ 0.0	–	2020 Dec.
– 8.6	– 7.5	– 1.2	+ 0.1	– 0.0	–	+ 1.5	+ 3.3	– 1.7	– 0.2	– 0.0	–	2021 Jan.
+ 2.2	+ 2.5	– 0.5	+ 0.2	– 0.0	–	+ 0.7	+ 1.4	– 2.1	+ 1.3	+ 0.0	–	Feb.
– 2.0	– 1.0	– 0.6	– 0.3	– 0.1	–	– 5.9	– 1.1	– 1.7	– 3.1	– 0.0	–	Mar.
+ 1.2	+ 0.5	+ 0.7	– 0.0	– 0.0	–	– 2.1	+ 1.8	– 3.4	– 0.5	+ 0.0	–	Apr.
+ 3.8	+ 4.1	+ 0.0	– 0.3	– 0.0	–	+ 1.2	+ 2.0	– 0.3	– 0.5	+ 0.0	–	May

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).

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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*													
2018	585.6	578.6	541.1	333.4	37.5	27.2	7.0	6.2	2.3	41.2	37.3	27.9	3.9
2019	581.8	575.2	540.5	313.2	34.7	24.7	6.6	5.9	2.0	35.9	33.2	25.1	2.6
2020	566.8	560.6	533.3	288.0	27.3	18.0	6.3	5.7	1.8	30.2	28.3	22.1	1.9
2021 Jan.	567.9	561.6	534.9	279.1	26.8	17.7	6.3	5.7	0.1	29.7	27.9	21.8	1.9
Feb.	568.8	562.6	536.2	278.1	26.4	17.4	6.2	5.7	0.1	28.9	27.5	21.6	1.4
Mar.	568.5	562.3	536.2	277.1	26.1	17.1	6.2	5.6	0.1	28.0	27.1	21.3	0.9
Apr.	568.9	562.8	536.9	275.6	25.8	16.8	6.2	5.6	0.1	27.6	26.8	21.1	0.8
May	569.4	563.2	537.5	276.4	25.7	16.5	6.1	5.6	0.1	26.8	26.3	20.8	0.5
Changes*													
2019	− 3.9	− 3.5	− 0.6	− 21.3	− 2.8	− 2.5	− 0.4	− 0.3	.	− 5.3	− 4.1	− 2.8	− 1.2
2020	− 14.8	− 14.5	− 7.2	− 24.6	− 7.3	− 6.7	− 0.3	− 0.2	.	− 5.7	− 4.9	− 3.0	− 0.7
2021 Jan.	+ 1.0	+ 1.1	+ 1.6	− 8.6	− 0.6	− 0.3	− 0.0	− 0.0	.	− 0.4	− 0.4	− 0.3	− 0.0
Feb.	+ 0.9	+ 1.0	+ 1.3	− 1.0	− 0.3	− 0.3	− 0.1	− 0.1	.	− 0.9	− 0.4	− 0.2	− 0.5
Mar.	− 0.3	− 0.3	+ 0.1	− 1.0	− 0.3	− 0.3	− 0.0	− 0.0	.	− 0.8	− 0.4	− 0.3	− 0.4
Apr.	+ 0.4	+ 0.4	+ 0.7	− 1.5	− 0.3	− 0.3	− 0.0	− 0.0	.	− 0.4	− 0.3	− 0.2	− 0.1
May	+ 0.4	+ 0.5	+ 0.6	+ 0.8	− 0.1	− 0.2	− 0.0	− 0.0	.	− 0.8	− 0.5	− 0.3	− 0.4

* 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*														
2018	1,099.7	139.4	27.5	355.9	88.3	106.2	3.1	22.0	6.1	971.5	0.6	0.1	30.6	0.4
2019	1,140.7	123.5	28.6	367.7	96.7	117.7	2.6	23.6	4.2	999.4	0.9	0.7	31.5	0.4
2020	1,119.0	117.1	12.7	313.6	89.4	94.3	1.5	23.8	3.1	1,000.9	1.1	0.9	34.8	0.4
2021 Jan.	1,125.2	114.9	12.4	323.8	92.1	97.2	1.6	23.6	3.3	1,004.3	1.1	0.9	34.7	0.4
Feb.	1,129.9	113.1	11.9	321.9	88.4	93.2	1.7	22.7	3.6	1,013.9	1.1	0.9	34.7	0.4
Mar.	1,161.9	114.8	11.9	342.4	100.9	105.6	1.7	21.1	3.5	1,035.3	1.2	0.9	33.6	0.3
Apr.	1,150.6	114.7	11.6	324.2	88.1	92.8	1.9	20.4	3.7	1,037.4	1.5	1.0	33.4	0.2
May	1,143.7	112.1	11.3	317.4	86.6	91.5	2.0	20.9	3.8	1,031.3	1.6	0.9	32.9	0.1
Changes*														
2019	+ 40.6	− 15.9	+ 1.1	+ 11.8	+ 8.4	+ 11.5	− 0.5	+ 1.6	− 1.9	+ 27.4	+ 0.3	+ 0.6	+ 0.8	− 0.3
2020	− 20.5	− 5.2	− 0.8	− 54.1	− 22.3	− 22.2	− 1.1	+ 0.2	− 1.1	+ 1.5	+ 0.3	+ 0.2	+ 2.1	− 0.0
2021 Jan.	+ 6.2	− 2.2	− 0.3	+ 10.2	+ 2.7	+ 3.0	+ 0.1	− 0.2	+ 0.1	+ 3.4	+ 0.0	+ 0.0	− 0.0	–
Feb.	+ 4.7	− 1.8	− 0.5	− 1.9	− 3.6	− 4.0	+ 0.2	− 0.9	+ 0.3	+ 9.6	− 0.0	− 0.0	− 0.0	–
Mar.	+ 32.0	+ 1.7	− 0.0	+ 20.5	+ 12.4	+ 12.3	− 0.0	− 1.6	− 0.1	+ 21.3	+ 0.1	+ 0.1	− 1.1	− 0.1
Apr.	− 11.4	− 0.0	− 0.3	− 18.1	− 12.8	− 12.8	+ 0.1	− 0.6	+ 0.2	+ 2.1	+ 0.3	+ 0.0	− 0.2	− 0.1
May	− 6.9	− 2.6	− 0.3	− 6.8	− 1.5	− 1.3	+ 0.1	+ 0.5	+ 0.1	− 6.0	+ 0.1	− 0.0	− 0.5	− 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 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).

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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): Credit balances and loans (excluding building loans) 1	Lending to banks (MFIs): Building loans 2	Lending to banks (MFIs): Bank debt securities 3	Lending to non-banks (non-MFIs): Building loans: Loans under savings and loan contracts	Lending to non-banks (non-MFIs): Building loans: Interim and bridging loans	Lending to non-banks (non-MFIs): Building loans: Other building loans	Lending to non-banks (non-MFIs): Securities (including Treasury bills and Treasury discount paper) 4	Deposits of banks (MFIs) 5: Deposits under savings and loan contracts	Deposits of banks (MFIs) 5: Sight and time deposits	Deposits of non-banks (non-MFIs): Deposits under savings and loan contracts	Deposits of non-banks (non-MFIs): Sight and time deposits 6	Bearer debt securities outstanding	Capital (including published reserves) 7	Memo item: New contracts entered into in year or month 8
All building and loan associations																
2019	19	237.9	34.0	0.0	16.2	11.4	117.6	28.0	25.9	2.9	21.0	179.7	9.8	1.8	12.0	88.7
2020	18	244.9	31.9	0.0	16.1	10.8	125.1	31.7	25.5	2.9	26.7	181.4	8.4	2.8	12.3	76.5
2021 Mar.	18	246.0	30.9	0.0	15.9	10.5	126.5	33.0	25.5	2.9	25.9	182.9	8.7	2.8	12.3	6.5
Apr.	18	245.9	30.1	0.0	15.8	10.4	126.9	33.4	25.5	2.9	25.3	182.9	8.6	3.3	12.3	6.3
May	18	246.9	30.7	0.0	15.7	10.4	127.1	33.8	25.5	2.9	26.0	183.2	8.7	3.3	12.3	6.9
Private building and loan associations																
2021 Mar.	10	171.3	15.5	–	7.0	7.7	98.9	28.1	11.3	1.7	23.7	118.7	8.4	2.8	8.4	4.2
Apr.	10	171.1	14.7	–	6.9	7.6	99.2	28.5	11.4	1.7	23.2	118.6	8.4	3.3	8.5	4.1
May	10	172.0	15.3	–	6.9	7.6	99.3	28.8	11.3	1.7	23.7	118.9	8.4	3.3	8.4	4.6
Public building and loan associations																
2021 Mar.	8	74.7	15.4	0.0	8.9	2.8	27.6	4.9	14.1	1.2	2.2	64.2	0.3	–	3.9	2.4
Apr.	8	74.8	15.4	0.0	8.8	2.8	27.7	5.0	14.1	1.2	2.1	64.3	0.3	–	3.9	2.1
May	8	75.0	15.4	0.0	8.9	2.7	27.8	5.0	14.2	1.2	2.3	64.2	0.3	–	3.9	2.3

Trends in building and loan association business

€ billion

Period	Changes in deposits under savings and loan contracts: Amounts paid into savings and loan accounts 9	Changes in deposits under savings and loan contracts: Interest credited on deposits under savings and loan contracts	Changes in deposits under savings and loan contracts: Repayments of deposits under cancelled savings and loan contracts	Capital promised: Total	Capital promised: of which: Net allocations 11	Capital disbursed: Total	Capital disbursed: Allocations: Deposits under savings and loan contracts: Total	Capital disbursed: Allocations: Deposits under savings and loan contracts: of which: Applied to settlement of interim and bridging loans	Capital disbursed: Allocations: Loans under savings and loan contracts 9: Total	Capital disbursed: Allocations: Loans under savings and loan contracts 9: of which: Applied to settlement of interim and bridging loans	Capital disbursed: Newly granted interim and bridging loans and other building loans	Disbursement commitments outstanding at end of period: Total	Disbursement commitments outstanding at end of period: of which: Under allocated contracts	Interest and repayments received on building loans 10: Total	Interest and repayments received on building loans 10: of which: Repayments during quarter	Memo item: Housing bonuses received 12
All building and loan associations																
2019	27.3	2.1	7.5	49.2	25.8	42.9	16.4	4.2	4.6	3.6	21.9	18.1	6.5	7.2	5.4	0.2
2020	26.6	2.1	8.2	53.8	29.0	48.0	18.8	4.2	4.4	3.5	24.8	18.3	6.3	6.7	5.2	0.2
2021 Mar.	2.3	0.0	0.7	5.1	2.4	4.2	1.6	0.3	0.3	0.3	2.3	19.3	6.5	0.5	1.3	0.0
Apr.	2.2	0.0	0.7	4.4	2.3	3.9	1.6	0.3	0.3	0.3	2.0	19.5	6.5	0.5		0.0
May	2.6	0.0	0.8	4.6	2.6	4.0	1.7	0.4	0.4	0.3	2.0	19.7	6.6	0.5		0.0
Private building and loan associations																
2021 Mar.	1.5	0.0	0.3	3.8	1.6	3.3	1.2	0.2	0.2	0.2	1.9	14.6	3.6	0.4	0.9	0.0
Apr.	1.4	0.0	0.4	3.2	1.5	3.0	1.2	0.2	0.2	0.2	1.6	14.7	3.5	0.4		0.0
May	1.7	0.0	0.3	3.1	1.6	2.9	1.1	0.3	0.3	0.2	1.6	14.7	3.5	0.4		0.0
Public building and loan associations																
2021 Mar.	0.8	0.0	0.4	1.3	0.7	0.9	0.4	0.1	0.1	0.1	0.4	4.7	3.0	0.1	0.3	0.0
Apr.	0.8	0.0	0.3	1.2	0.7	0.9	0.4	0.1	0.1	0.1	0.4	4.8	3.0	0.1		0.0
May	1.0	0.0	0.5	1.5	1.0	1.1	0.6	0.1	0.1	0.1	0.4	5.0	3.1	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.

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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 *
2018	49	183	1,401.2	403.8	392.8	192.1	200.7	11.0	516.8	427.7	20.0	407.7	89.1	480.5	309.0
2019	52	198	1,453.0	407.3	389.2	216.0	173.2	18.1	534.3	436.1	19.7	416.4	98.2	511.5	361.7
2020	50	206	1,552.2	376.7	364.0	213.2	150.8	12.7	504.8	409.6	14.3	395.3	95.2	670.7	523.6
2020 July	51	206	1,774.6	438.1	424.1	264.7	159.4	14.0	546.4	452.9	19.7	433.3	93.5	790.1	625.7
Aug.	51	206	1,684.1	419.5	405.5	250.8	154.8	14.0	535.1	437.8	19.2	418.6	97.2	729.5	563.8
Sep.	51	206	1,672.4	407.7	393.3	242.2	151.1	14.4	544.2	447.5	18.9	428.7	96.7	720.5	543.7
Oct.	51	207	1,638.9	409.7	395.6	243.0	152.6	14.1	537.6	438.4	18.2	420.2	99.2	691.5	524.4
Nov.	51	208	1,622.5	411.6	398.0	236.5	161.4	13.6	523.7	427.3	14.5	412.8	96.5	687.2	519.5
Dec.	50	206	1,552.2	376.7	364.0	213.2	150.8	12.7	504.8	409.6	14.3	395.3	95.2	670.7	523.6
2021 Jan.	49	205	1,524.5	414.2	401.5	247.6	153.8	12.7	502.1	408.7	13.9	394.8	93.4	608.3	473.6
Feb.	49	203	1,487.0	429.1	416.7	258.4	158.3	12.4	492.2	402.6	13.6	389.1	89.6	565.6	431.8
Mar.	49	203	1,492.8	417.4	404.9	238.9	166.0	12.5	492.9	403.9	13.3	390.6	89.0	582.5	430.8
Apr.	49	202	1,478.2	432.8	420.7	266.5	154.2	12.1	488.7	401.7	13.3	388.3	87.0	556.7	413.3
															Changes *
2019	+ 3	+ 15	+ 51.5	− 4.7	− 7.7	+ 23.9	− 31.6	+ 2.9	+ 12.6	+ 0.9	− 0.3	+ 1.2	+ 11.7	+ 30.6	+ 49.6
2020	− 2	+ 9	+ 104.2	− 20.3	− 15.5	− 2.8	− 12.7	− 4.8	+ 0.2	− 1.0	− 5.4	+ 4.4	+ 1.2	+ 164.2	+ 179.6
2020 Aug.	–	–	− 90.2	− 17.9	− 17.9	− 13.9	− 4.0	− 0.1	− 9.5	− 13.5	− 0.4	− 13.1	+ 4.1	− 60.2	− 60.6
Sep.	–	–	− 12.5	− 13.1	− 13.5	− 8.6	− 4.9	+ 0.4	+ 5.2	+ 6.5	− 0.4	+ 6.9	− 1.2	− 9.8	− 22.9
Oct.	–	+ 1	− 33.6	+ 1.7	+ 2.0	+ 0.8	+ 1.2	− 0.3	− 7.6	− 10.0	− 0.7	− 9.3	+ 2.4	− 29.1	− 19.6
Nov.	–	+ 1	− 15.3	+ 3.6	+ 4.1	− 6.4	+ 10.5	− 0.5	− 8.3	− 6.5	− 3.7	− 2.8	− 1.9	− 3.3	− 1.7
Dec.	− 1	− 2	− 69.3	− 33.0	− 32.2	− 23.4	− 8.9	− 0.8	− 13.2	− 12.9	− 0.2	− 12.7	− 0.3	− 15.6	+ 7.3
2021 Jan.	− 1	− 1	− 26.5	+ 37.7	+ 37.9	+ 35.7	+ 2.2	− 0.1	− 5.8	− 3.4	− 0.3	− 3.1	− 2.3	− 62.7	− 51.7
Feb.	–	− 2	− 37.6	+ 14.7	+ 15.0	+ 10.8	+ 4.2	− 0.3	− 10.7	− 6.8	− 0.4	− 6.4	− 3.9	− 42.7	− 42.1
Mar.	–	–	+ 4.5	− 14.7	− 14.6	− 19.5	+ 4.9	− 0.1	− 7.5	− 5.7	− 0.3	− 5.5	− 1.8	+ 15.6	− 4.7
Apr.	–	− 1	− 13.3	+ 18.2	+ 18.4	+ 27.6	− 9.2	− 0.2	+ 3.2	+ 4.0	+ 0.0	+ 4.0	− 0.9	− 24.5	− 14.4
Foreign subsidiaries															End of year or month *
2018	17	43	237.2	51.2	45.4	20.1	25.3	5.8	136.4	111.7	13.8	97.8	24.7	49.6	0.0
2019	15	41	235.2	52.5	46.7	18.3	28.4	5.7	139.0	116.1	14.4	101.7	22.9	43.7	0.0
2020	12	36	229.5	44.8	39.9	17.4	22.5	4.9	139.7	114.4	13.1	101.4	25.3	44.9	0.0
2020 July	13	37	238.4	46.0	40.3	19.9	20.4	5.7	141.2	115.8	14.8	101.1	25.4	51.2	0.0
Aug.	12	36	237.6	46.8	41.2	19.6	21.6	5.6	140.9	115.9	14.6	101.3	25.0	49.8	0.0
Sep.	12	36	237.1	49.5	44.2	18.8	25.4	5.3	142.6	117.2	14.2	103.0	25.4	45.1	0.0
Oct.	12	36	235.7	44.4	39.2	18.4	20.8	5.2	142.5	116.9	14.2	102.7	25.6	48.9	0.0
Nov.	12	36	234.8	43.2	38.2	17.0	21.1	5.1	142.2	116.4	13.9	102.5	25.8	49.3	0.0
Dec.	12	36	229.5	44.8	39.9	17.4	22.5	4.9	139.7	114.4	13.1	101.4	25.3	44.9	0.0
2021 Jan.	12	36	228.9	43.9	39.1	16.9	22.2	4.8	139.0	114.0	12.6	101.4	25.0	46.1	0.0
Feb.	12	36	231.6	42.2	37.2	19.0	18.3	5.0	137.9	113.4	12.7	100.7	24.5	51.5	0.0
Mar.	12	36	228.7	43.3	38.4	19.0	19.4	4.9	137.7	113.1	12.7	100.4	24.5	47.7	0.0
Apr.	12	36	230.8	42.7	37.4	19.0	18.4	5.3	136.5	112.7	12.6	100.1	23.8	51.6	0.0
															Changes *
2019	− 2	− 2	− 7.2	+ 0.4	+ 0.5	− 1.8	+ 2.3	− 0.2	+ 1.6	+ 3.5	+ 0.5	+ 3.0	− 1.9	− 9.1	± 0.0
2020	− 3	− 5	− 0.8	− 5.3	− 5.0	− 1.0	− 4.0	− 0.3	+ 3.3	+ 0.8	− 1.3	+ 2.1	+ 2.4	+ 1.2	± 0.0
2020 Aug.	− 1	− 1	− 0.5	+ 1.0	+ 1.0	− 0.3	+ 1.4	− 0.0	− 0.1	+ 0.2	− 0.2	+ 0.4	− 0.3	− 1.4	± 0.0
Sep.	–	–	− 1.3	+ 2.2	+ 2.6	− 0.9	+ 3.5	− 0.4	+ 1.3	+ 0.9	− 0.4	+ 1.3	+ 0.4	− 4.8	± 0.0
Oct.	–	–	− 1.6	− 5.2	− 5.0	− 0.4	− 4.7	− 0.1	− 0.2	− 0.4	+ 0.0	− 0.4	+ 0.1	+ 3.8	± 0.0
Nov.	–	–	+ 0.3	− 0.5	− 0.6	− 1.4	+ 0.8	+ 0.1	+ 0.4	+ 0.2	− 0.3	+ 0.5	+ 0.3	+ 0.4	± 0.0
Dec.	–	–	− 4.1	+ 2.2	+ 2.2	+ 0.4	+ 1.8	− 0.0	− 1.9	− 1.4	− 0.8	− 0.6	− 0.5	− 4.4	± 0.0
2021 Jan.	–	–	− 1.2	− 1.2	− 1.1	− 0.5	− 0.6	− 0.2	− 1.1	− 0.8	− 0.4	− 0.3	− 0.3	+ 1.1	± 0.0
Feb.	–	–	+ 2.7	− 1.6	− 1.8	+ 2.1	− 3.9	+ 0.2	− 1.1	− 0.6	+ 0.1	− 0.7	− 0.5	+ 5.4	± 0.0
Mar.	–	–	− 4.5	+ 0.3	+ 0.5	+ 0.0	+ 0.5	− 0.2	− 1.1	− 1.1	+ 0.0	− 1.1	+ 0.0	− 3.8	± 0.0
Apr.	–	–	+ 3.5	+ 0.0	− 0.5	− 0.0	− 0.5	+ 0.5	− 0.4	+ 0.3	− 0.1	+ 0.5	− 0.7	+ 3.9	± 0.0

* In this table "foreign" also includes the country of domicile of the foreign branches and foreign subsidiaries. Statistical breaks 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 country of

IV. Banks

Deposits: Total	Deposits of banks (MFIs): Total	of banks: German banks	of banks: Foreign banks	Deposits of non-banks (non-MFIs): Total	German non-banks 4: Total	German non-banks 4: Shortterm	German non-banks 4: Medium and longterm	Foreign non-banks	Money market paper and debt securities outstanding 5	Working capital and own funds	Other liabilities 6,7: Total	of which: Derivative financial instruments in the trading portfolio	Period
End of year or month *												**Foreign branches**	
897.1	607.2	428.8	178.4	290.0	11.4	9.7	1.8	278.5	91.2	54.0	358.9	302.6	2018
894.1	613.6	453.2	160.4	280.5	12.7	10.1	2.7	267.8	94.6	53.4	410.9	361.1	2019
872.2	588.5	431.8	156.7	283.7	11.7	10.2	1.5	272.0	61.5	49.9	568.6	523.1	2020
959.1	661.2	468.6	192.6	297.9	17.3	15.6	1.8	280.6	80.2	53.5	681.8	624.2	2020 July
943.2	655.1	460.9	194.2	288.1	14.4	12.7	1.7	273.7	74.9	52.4	613.6	563.1	Aug.
945.7	650.5	473.7	176.8	295.2	15.4	13.8	1.7	279.8	76.8	52.6	597.4	544.0	Sep.
932.4	632.6	451.1	181.5	299.9	14.0	12.3	1.7	285.9	76.7	50.9	578.9	523.9	Oct.
926.8	625.3	444.3	181.0	301.5	12.3	10.9	1.5	289.1	74.8	50.5	570.4	518.9	Nov.
872.2	588.5	431.8	156.7	283.7	11.7	10.2	1.5	272.0	61.5	49.9	568.6	523.1	Dec.
898.0	596.5	421.1	175.5	301.5	10.4	8.9	1.5	291.1	71.0	50.2	505.3	472.3	2021 Jan.
906.9	600.1	421.4	178.6	306.8	9.9	8.4	1.5	296.9	68.0	50.1	462.1	430.8	Feb.
907.4	606.9	435.0	172.0	300.4	9.5	8.0	1.5	290.9	72.1	50.7	462.7	429.7	Mar.
911.4	612.3	438.3	174.0	299.1	9.0	7.5	1.5	290.1	73.1	50.3	443.4	412.2	Apr.
Changes *													
− 7.2	+ 2.4	+ 24.4	− 22.0	− 9.6	+ 1.3	+ 0.4	+ 0.9	− 10.9	+ 3.0	− 0.6	+ 52.0	+ 58.5	2019
− 9.2	− 13.3	− 21.4	+ 8.1	+ 4.1	− 1.0	+ 0.3	− 1.4	+ 5.1	− 28.1	− 3.5	+ 157.6	+ 162.0	2020
− 15.0	− 5.1	− 7.7	+ 2.5	− 9.8	− 2.9	− 2.9	− 0.0	− 6.9	− 5.0	− 1.1	− 68.2	− 61.1	2020 Aug.
+ 0.4	− 6.7	+ 12.8	− 19.5	+ 7.1	+ 1.0	+ 1.1	− 0.1	+ 6.0	+ 1.1	+ 0.1	− 16.2	− 19.1	Sep.
− 13.6	− 18.3	− 22.6	+ 4.4	+ 4.6	− 1.4	− 1.5	+ 0.0	+ 6.1	− 0.2	− 1.7	− 18.5	− 20.1	Oct.
− 3.2	− 4.9	− 6.7	+ 1.8	+ 1.7	− 1.7	− 1.4	− 0.2	+ 3.4	− 0.9	− 0.3	− 8.4	− 5.0	Nov.
− 52.1	− 34.5	− 12.5	− 21.9	− 17.6	− 0.6	− 0.7	+ 0.0	− 17.0	− 12.3	− 0.7	− 1.9	+ 4.1	Dec.
+ 26.1	+ 7.7	− 10.6	+ 18.3	+ 18.4	− 1.3	− 1.3	− 0.0	+ 19.7	+ 9.2	+ 0.3	− 63.3	− 50.8	2021 Jan.
+ 8.9	+ 3.6	+ 0.7	+ 2.9	+ 5.3	− 0.5	− 0.5	− 0.0	+ 5.8	− 3.1	− 0.1	− 43.5	− 41.5	Feb.
− 2.5	+ 4.2	+ 14.4	− 10.2	− 6.7	− 0.4	− 0.4	+ 0.0	− 6.3	+ 2.8	+ 0.6	− 0.3	− 1.1	Mar.
+ 6.2	+ 7.3	+ 2.2	+ 5.1	− 1.1	− 0.6	− 0.5	− 0.0	− 0.5	+ 2.3	− 0.4	− 18.1	− 17.5	Apr.
End of year or month *												**Foreign subsidiaries**	
171.5	71.6	36.1	35.5	100.0	9.1	6.4	2.7	90.8	14.3	22.4	29.0	0.0	2018
165.7	68.7	36.6	32.1	97.0	6.6	3.9	2.7	90.4	16.0	22.1	31.4	0.0	2019
163.4	59.6	34.1	25.5	103.8	6.7	4.2	2.5	97.1	16.6	20.3	29.2	0.0	2020
171.1	67.2	38.9	28.3	103.9	7.3	4.8	2.5	96.6	16.6	20.7	30.1	0.0	2020 July
171.1	66.1	38.1	28.0	105.0	7.1	4.6	2.5	97.9	16.5	20.6	29.4	0.0	Aug.
170.3	66.5	37.1	29.4	103.7	6.7	4.2	2.5	97.0	16.8	20.5	29.5	0.0	Sep.
167.9	63.5	35.3	28.3	104.4	7.4	4.9	2.5	96.9	17.7	20.5	29.6	0.0	Oct.
168.4	62.8	33.8	29.0	105.6	7.2	4.8	2.5	98.3	16.5	20.7	29.2	0.0	Nov.
163.4	59.6	34.1	25.5	103.8	6.7	4.2	2.5	97.1	16.6	20.3	29.2	0.0	Dec.
163.1	58.1	32.7	25.4	105.0	6.7	4.3	2.5	98.3	16.8	20.4	28.6	0.0	2021 Jan.
166.8	60.2	34.8	25.4	106.5	6.4	3.9	2.5	100.1	16.6	20.3	27.9	0.0	Feb.
164.5	59.2	34.3	25.0	105.2	6.4	4.0	2.5	98.8	16.9	20.4	27.0	0.0	Mar.
166.1	59.0	33.4	25.7	107.0	6.4	4.0	2.5	100.6	17.3	20.4	27.0	0.0	Apr.
Changes *													
− 6.7	− 3.2	+ 0.5	− 3.8	− 3.5	− 2.5	− 2.5	+ 0.0	− 1.0	+ 1.7	− 0.4	− 1.8	± 0.0	2019
+ 1.4	− 7.3	− 2.5	− 4.8	+ 8.7	+ 0.0	+ 0.3	− 0.3	+ 8.7	+ 0.6	− 1.8	− 1.0	± 0.0	2020
+ 0.2	− 1.0	− 0.8	− 0.2	+ 1.3	− 0.2	− 0.2	− 0.0	+ 1.5	− 0.1	− 0.1	− 0.6	± 0.0	2020 Aug.
− 1.5	+ 0.2	− 1.0	+ 1.1	− 1.7	− 0.3	− 0.3	− 0.0	− 1.3	+ 0.3	− 0.1	− 0.1	± 0.0	Sep.
− 2.5	− 3.0	− 1.9	− 1.2	+ 0.6	+ 0.7	+ 0.7	− 0.0	− 0.1	+ 0.9	− 0.0	− 0.1	± 0.0	Oct.
+ 1.4	− 0.4	− 1.5	+ 1.1	+ 1.7	− 0.2	− 0.2	− 0.0	+ 1.9	− 1.2	+ 0.2	− 0.0	± 0.0	Nov.
− 4.1	− 2.8	+ 0.3	− 3.1	− 1.3	− 0.5	− 0.5	− 0.0	− 0.7	+ 0.1	− 0.4	+ 0.3	± 0.0	Dec.
− 0.8	− 1.8	− 1.4	− 0.3	+ 1.0	+ 0.0	+ 0.0	+ 0.0	+ 0.9	+ 0.2	+ 0.1	− 0.7	± 0.0	2021 Jan.
+ 3.6	+ 2.1	+ 2.2	− 0.0	+ 1.5	− 0.3	− 0.3	− 0.0	+ 1.8	− 0.3	− 0.0	− 0.7	± 0.0	Feb.
− 3.5	− 1.5	− 0.6	− 1.0	− 1.9	+ 0.0	+ 0.0	− 0.0	− 2.0	+ 0.3	+ 0.0	− 1.4	± 0.0	Mar.
+ 2.6	+ 0.3	− 0.9	+ 1.2	+ 2.3	− 0.0	− 0.0	− 0.0	+ 2.3	+ 0.4	+ 0.0	+ 0.5	± 0.0	Apr.

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
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	12,775.2	127.8	127.4	1,332.1	1,204.8	0.0
2019	13,485.4	134.9	134.5	1,623.7	1,489.3	0.0
2020	14,590.4	145.9	145.5	3,029.4	2,883.9	0.0
2021 Apr.	14,810.5	148.1	147.7	3,591.7	3,443.9	0.0
May	.	.	.	.	.	.
June p	15,057.2	150.6	150.2	…	…	…

2. Reserve maintenance in Germany

€ billion

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
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	3,563,306	27.9	35,633	35,479	453,686	418,206	1
2019	3,728,027	27.6	37,280	37,131	486,477	449,346	0
2020	4,020,792	27.6	40,208	40,062	878,013	837,951	1
2021 Apr.	4,100,141	27.7	41,001	40,856	1,046,711	1,005,854	0
May	.	.	.	.	.	.	.
June p	4,144,805	27.5	41,448	41,303	…	…	…

a) Required reserves of individual categories of banks

€ billion

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
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	7,384	4,910	3,094	11,715	6,624	95	1,658
2019	7,684	5,494	2,765	12,273	7,028	109	1,778
2020	8,151	6,371	3,019	12,912	7,547	111	2,028
2021 Apr.	8,636	6,474	3,005	13,076	7,722	119	1,850
May	.	.	.	.	.	.	.
June	8,793	6,431	3,065	13,261	7,820	109	1,825

b) Reserve base by subcategories of liabilities

€ billion

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
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	2,458,423	1,162	414,463	576,627	112,621
2019	2,627,478	1,272	410,338	577,760	111,183
2020	2,923,462	1,607	436,696	560,770	105,880
2021 Apr.	2,964,359	9,211	466,345	563,974	98,817
May	.	.	.	.	.
June	2,995,123	7,712	480,960	564,183	96,831

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 / basic rates of interest

% per annum

ECB interest rates										Basic rates of interest			
		Main refinancing operations					Main refinancing operations						
Applicable from	Deposit facility	Fixed rate	Minimum bid rate	Marginal lending facility	Applicable from	Deposit facility	Fixed rate	Minimum bid rate	Marginal lending facility	Applicable from	Basic rate of interest as per Civil Code 1	Applicable from	Basic rate of interest as per Civil Code 1
2005 Dec. 6	1.25	–	2.25	3.25	2011 Apr. 13	0.50	1.25	–	2.00	2002 Jan. 1	2.57	2009 Jan. 1	1.62
					July 13	0.75	1.50	–	2.25	July 1	2.47	July 1	0.12
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	2003 Jan. 1	1.97	2011 July 1	0.37
Aug. 9	2.00	–	3.00	4.00						July 1	1.22		
Oct. 11	2.25	–	3.25	4.25	2012 July 11	0.00	0.75	–	1.50			2012 Jan. 1	0.12
Dec. 13	2.50	–	3.50	4.50						2004 Jan. 1	1.14		
					2013 May 8	0.00	0.50	–	1.00	July 1	1.13	2013 Jan. 1	− 0.13
2007 Mar. 14	2.75	–	3.75	4.75	Nov. 13	0.00	0.25	–	0.75			July 1	− 0.38
June 13	3.00	–	4.00	5.00						2005 Jan. 1	1.21		
					2014 June 11	-0.10	0.15	–	0.40	July 1	1.17	2014 Jan. 1	− 0.63
2008 July 9	3.25	–	4.25	5.25	Sep. 10	-0.20	0.05	–	0.30			July 1	− 0.73
Oct. 8	2.75	–	3.75	4.75						2006 Jan. 1	1.37		
Oct. 9	3.25	3.75	–	4.25	2015 Dec. 9	-0.30	0.05	–	0.30	July 1	1.95	2015 Jan. 1	− 0.83
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	2007 Jan. 1	2.70	2016 July 1	− 0.88
										July 1	3.19		
2009 Jan. 21	1.00	2.00	–	3.00	2019 Sep. 18	-0.50	0.00	–	0.25				
Mar. 11	0.50	1.50	–	2.50						2008 Jan. 1	3.32		
Apr. 8	0.25	1.25	–	2.25						July 1	3.19		
May 13	0.25	1.00	–	1.75									

1 Pursuant to Section 247 of the Civil Code.

2. Eurosystem monetary policy operations allotted through tenders *

Date of Settlement	Bid amount	Allotment amount	Fixed rate tenders	Variable rate tenders			Running for … days
			Fixed rate	Minimum bid rate	Marginal rate 1	Weighted average rate	
	€ million		% per annum				
Main refinancing operations							
2021 June 16	124	124	0.00	-	-	-	7
June 23	91	91	0.00	-	-	-	7
June 30	85	85	0.00	-	-	-	7
July 7	72	72	0.00	-	-	-	7
July 14	42	42	0.00	-	-	-	7
Long-term refinancing operations							
2021 May 27	40	40	2 …	-	-	-	91
June 24	109,829	109,829	2 …	-	-	-	1,098
June 24	520	520	2 …	-	-	-	371
July 1	3	3	2 …	-	-	-	91

* 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: a) the average minimum bid rate of the main refinancing operations over the life of this operation including a spread or b) the average deposit facility rate over the life of this operation.

3. Money market rates, by month *

% per annum

Monthly average	€STR 1	EONIA 1	EURIBOR 2				
			One-week funds	One-month funds	Three-month funds	Six-month funds	Twelve-month funds
2020 Dec.	− 0.557	− 0.47	− 0.56	− 0.56	− 0.54	− 0.52	− 0.50
2021 Jan.	− 0.563	− 0.48	− 0.57	− 0.56	− 0.55	− 0.53	− 0.50
Feb.	− 0.564	− 0.48	− 0.57	− 0.55	− 0.54	− 0.52	− 0.50
Mar.	− 0.564	− 0.48	− 0.56	− 0.55	− 0.54	− 0.52	− 0.49
Apr.	− 0.566	− 0.48	− 0.56	− 0.56	− 0.54	− 0.52	− 0.48
May	− 0.565	− 0.48	− 0.57	− 0.56	− 0.54	− 0.51	− 0.48
June	− 0.565	− 0.48	− 0.57	− 0.55	− 0.54	− 0.51	− 0.48

* 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 from January 4th 1999 until September 30th 2019 based on real turnover according to the act/360 method. Since October 1st 2019 calculated as Euro Short-Term Rate (€STR) + 8.5 basis points spread. **2** Euro interbank offered rate: unweighted average rate calculated by Reuters since 30 December 1998 according to the act/360 method. Administrator for EONIA and EURIBOR: European Money Markets Institute (EMMI)

VI. Interest rates

4. 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
2020 May	0.24	53,093	1.08	219,267	− 0.08	80,523	0.83	24,937
June	0.25	53,752	1.07	218,668	− 0.05	77,282	0.85	24,172
July	0.26	53,945	1.06	218,177	− 0.08	86,703	0.90	22,652
Aug.	0.26	53,971	1.03	218,020	− 0.08	82,164	0.89	22,508
Sep.	0.26	54,068	1.02	218,212	− 0.10	82,957	0.92	23,504
Oct.	0.26	53,982	1.01	218,002	− 0.11	84,498	0.89	22,350
Nov.	0.26	52,719	1.00	217,758	− 0.11	80,549	0.85	22,254
Dec.	0.25	53,079	1.00	219,376	− 0.17	79,340	0.84	22,256
2021 Jan.	0.25	51,896	0.99	220,299	− 0.16	74,531	0.85	21,979
Feb.	0.26	51,369	0.98	220,419	− 0.16	72,894	0.85	22,242
Mar.	0.25	51,417	0.98	220,406	− 0.18	77,326	0.83	21,860
Apr.	0.25	50,078	0.97	220,310	− 0.19	74,026	0.84	21,529
May	0.24	48,897	0.96	220,455	− 0.21	73,930	0.84	21,605

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
2020 May	1.97	4,752	1.66	26,603	2.10	1,299,073	7.03	44,605	3.41	86,303	3.57	320,868
June	1.98	4,628	1.65	26,702	2.09	1,303,405	7.05	46,438	3.41	86,046	3.57	319,461
July	1.99	4,720	1.65	26,707	2.06	1,312,369	7.02	45,560	3.41	86,188	3.55	321,139
Aug.	1.98	4,727	1.64	26,690	2.05	1,315,489	6.98	45,609	3.40	86,216	3.53	321,757
Sep.	1.95	4,705	1.62	26,940	2.03	1,329,087	6.96	46,438	3.39	86,231	3.50	322,100
Oct.	1.92	4,792	1.62	26,962	2.00	1,337,259	6.86	45,325	3.38	85,849	3.48	323,886
Nov.	1.92	4,616	1.60	27,072	1.99	1,345,468	6.83	44,787	3.38	85,328	3.46	324,149
Dec.	1.92	4,557	1.60	27,024	1.97	1,353,793	6.80	45,013	3.37	85,416	3.45	323,181
2021 Jan.	1.90	4,663	1.59	26,903	1.95	1,357,733	6.90	43,164	3.36	84,363	3.42	323,164
Feb.	1.89	4,642	1.57	26,790	1.93	1,363,884	6.76	43,200	3.36	83,522	3.41	323,393
Mar.	1.89	4,545	1.56	26,788	1.91	1,373,003	6.72	44,263	3.34	83,114	3.40	322,618
Apr.	1.86	4,496	1.56	26,870	1.88	1,381,533	6.65	43,462	3.34	82,596	3.38	323,494
May	1.93	4,581	1.55	26,757	1.87	1,389,853	6.63	43,697	3.33	82,122	3.36	323,997

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
2020 May	1.95	181,594	1.62	182,819	1.82	761,686
June	2.02	172,708	1.66	184,793	1.81	766,896
July	1.96	169,944	1.66	186,433	1.80	769,953
Aug.	1.98	165,184	1.66	187,678	1.79	779,570
Sep.	2.07	160,014	1.68	186,700	1.77	774,045
Oct.	2.04	157,761	1.68	187,240	1.76	779,595
Nov.	2.06	154,555	1.69	187,341	1.75	784,308
Dec.	2.03	150,278	1.71	186,798	1.73	787,188
2021 Jan.	2.06	149,911	1.71	186,599	1.71	790,534
Feb.	2.02	152,425	1.71	189,130	1.70	793,839
Mar.	1.78	163,745	1.67	194,734	1.69	794,245
Apr.	1.96	151,270	1.67	195,027	1.68	798,088
May	1.93	153,129	1.65	194,710	1.68	802,197

***** 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

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

	Households' deposits											
			with an agreed maturity of						redeemable at notice [8] of			
	Overnight		up to 1 year		over 1 year and up to 2 years		over 2 years		up to 3 months		over 3 months	
Reporting period	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
2020 May	0.00	1,619,447	0.19	3,300	0.59	1,117	0.60	629	0.11	532,140	0.17	30,662
June	0.00	1,626,420	0.17	3,283	0.78	1,455	0.69	854	0.11	532,292	0.18	29,671
July	0.00	1,643,393	0.15	3,296	0.60	1,161	0.74	750	0.10	531,191	0.18	29,168
Aug.	0.00	1,650,273	0.16	2,643	0.59	563	0.64	555	0.10	531,277	0.18	28,764
Sep.	0.00	1,658,764	0.10	3,027	0.51	501	0.61	590	0.10	531,223	0.18	28,417
Oct.	0.00	1,680,565	0.10	3,014	0.44	509	0.60	805	0.10	531,245	0.18	28,001
Nov.	0.00	1,703,473	0.11	2,483	0.49	404	0.61	747	0.10	531,537	0.18	27,578
Dec.	0.00	1,715,292	− 0.01	3,214	0.40	394	0.59	794	0.10	532,793	0.18	27,312
2021 Jan.	0.00	1,732,961	0.03	3,036	0.38	357	0.55	734	0.10	534,458	0.17	26,749
Feb.	− 0.00	1,754,413	0.07	2,793	0.36	385	0.50	741	0.09	535,684	0.17	26,435
Mar.	− 0.00	1,750,971	0.06	3,073	0.32	342	0.41	834	0.09	535,778	0.17	26,115
Apr.	− 0.00	1,772,803	0.06	2,465	0.28	379	0.32	591	0.09	536,476	0.17	25,840
May	− 0.01	1,786,468	0.01	2,399	0.37	307	0.32	529	0.09	537,062	0.16	25,715

	Non-financial corporations' deposits							
			with an agreed maturity of					
	Overnight		up to 1 year		over 1 year and up to 2 years		over 2 years	
Reporting period	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
2020 May	− 0.08	501,848	− 0.24	37,552	0.55	707	0.30	259
June	− 0.08	508,658	− 0.33	31,980	0.37	633	0.38	313
July	− 0.08	520,954	− 0.33	40,301	0.36	592	0.26	208
Aug.	− 0.08	528,905	− 0.34	35,771	− 0.02	170	0.20	164
Sep.	− 0.08	532,597	− 0.36	37,956	− 0.01	112	0.43	275
Oct.	− 0.09	548,227	− 0.36	38,781	0.10	237	0.33	548
Nov.	− 0.09	549,032	− 0.37	30,418	0.03	220	0.35	533
Dec.	− 0.09	546,575	− 0.42	34,321	− 0.12	556	0.26	970
2021 Jan.	− 0.10	545,028	− 0.23	35,220	− 0.05	126	0.19	129
Feb.	− 0.10	539,935	− 0.26	32,726	− 0.01	113	0.37	537
Mar.	− 0.11	571,025	− 0.12	54,987	0.07	363	0.24	919
Apr.	− 0.10	559,616	− 0.25	52,411	− 0.10	113	0.23	87
May	− 0.11	564,467	− 0.34	53,796	− 0.04	194	0.37	231

	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	
Reporting period	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
2020 May	5.93	5.80	7,945	6.23	1,620	7.79	494	4.49	2,843	6.39	4,608
June	5.87	5.72	8,758	6.41	1,841	8.62	401	4.39	3,258	6.34	5,099
July	5.74	5.63	9,986	6.52	2,114	8.75	439	4.26	3,744	6.29	5,804
Aug.	5.74	5.62	8,340	6.43	1,738	8.79	391	4.33	3,050	6.18	4,899
Sep.	5.56	5.52	8,638	6.42	1,726	8.53	417	4.12	3,286	6.19	4,936
Oct.	5.73	5.62	8,265	6.36	1,739	8.39	436	4.32	2,905	6.14	4,924
Nov.	5.71	5.62	7,778	6.24	1,560	8.90	566	4.26	2,797	6.06	4,416
Dec.	5.53	5.48	6,652	6.08	1,193	8.08	551	4.24	2,544	5.97	3,556
2021 Jan.	5.88	5.85	6,836	6.43	1,655	7.99	439	4.45	1,973	6.26	4,423
Feb.	5.65	5.65	7,077	6.34	1,630	7.76	379	4.33	2,194	6.11	4,503
Mar.	5.35	5.27	9,298	6.17	1,786	6.23	384	4.05	3,296	5.92	5,619
Apr.	5.51	5.38	7,926	6.17	1,482	6.76	325	4.25	2,731	5.92	4,871
May	5.49	5.37	7,575	6.21	1,401	7.00	301	4.24	2,607	5.90	4,667

For footnotes * and 1 to 6, see p. 44•. For footnote x see p. 47•. **+** 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

4. 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									
2020 May	1.80	6,580	1.96	2,043	1.98	2,118	2.07	833	1.63	3,629
June	1.83	6,513	1.95	2,438	1.82	2,252	2.43	1,070	1.63	3,191
July	1.78	5,293	1.61	1,536	1.84	2,241	2.32	774	1.53	2,278
Aug.	1.88	4,210	1.60	1,055	1.94	1,710	2.55	773	1.51	1,727
Sep.	1.83	4,517	1.60	1,170	1.98	1,997	2.37	612	1.51	1,908
Oct.	1.80	4,279	1.60	1,214	1.95	1,832	2.47	578	1.44	1,869
Nov.	1.84	4,026	1.61	930	1.96	1,731	2.44	585	1.51	1,710
Dec.	1.77	5,473	1.56	1,254	1.81	2,404	2.30	772	1.54	2,297
2021 Jan.	1.79	4,530	1.66	1,532	1.93	1,958	2.17	572	1.55	2,000
Feb.	1.71	4,265	1.69	1,000	1.74	1,680	2.08	578	1.58	2,007
Mar.	1.68	5,715	1.59	1,331	1.69	2,358	2.20	691	1.53	2,666
Apr.	1.65	4,662	1.52	1,263	1.58	1,956	2.08	724	1.55	1,982
May	1.74	3,876	1.51	909	1.79	1,589	2.32	548	1.51	1,739
	of which: Loans to sole proprietors									
2020 May	1.81	5,056	.	.	2.03	1,460	2.14	633	1.64	2,963
June	1.86	4,702	.	.	1.83	1,501	2.46	806	1.68	2,395
July	1.81	3,472	.	.	1.87	1,355	2.30	600	1.57	1,517
Aug.	1.76	2,755	.	.	1.70	1,135	2.47	462	1.55	1,158
Sep.	1.85	3,019	.	.	1.89	1,357	2.53	431	1.55	1,231
Oct.	1.78	2,888	.	.	1.81	1,226	2.50	451	1.47	1,211
Nov.	1.83	2,743	.	.	1.85	1,118	2.53	438	1.55	1,187
Dec.	1.85	3,793	.	.	1.87	1,629	2.47	523	1.63	1,641
2021 Jan.	1.77	3,041	.	.	1.76	1,281	2.34	402	1.62	1,358
Feb.	1.86	2,843	.	.	1.89	1,058	2.40	390	1.70	1,395
Mar.	1.78	3,846	.	.	1.83	1,507	2.26	535	1.60	1,804
Apr.	1.73	3,212	.	.	1.65	1,316	2.17	555	1.62	1,341
May	1.85	2,624	.	.	1.93	1,052	2.29	451	1.59	1,121

Erhebungs-zeitraum	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 year 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												
2020 May	1.37	1.33	22,361	1.65	5,153	1.93	3,000	1.47	1,643	1.12	6,872	1.27	10,845
June	1.38	1.34	22,793	1.63	5,171	1.94	2,235	1.59	1,947	1.17	7,983	1.28	10,628
July	1.32	1.27	24,349	1.44	4,233	1.81	2,518	1.39	1,847	1.12	8,036	1.24	11,949
Aug.	1.28	1.23	21,280	1.41	3,135	1.80	2,209	1.44	1,500	1.07	7,032	1.20	10,539
Sep.	1.26	1.21	21,782	1.35	3,121	1.77	2,213	1.35	1,542	1.07	6,957	1.17	11,070
Oct.	1.24	1.19	23,217	1.24	3,834	1.75	2,362	1.32	1,554	1.03	7,579	1.17	11,722
Nov.	1.22	1.17	23,185	1.28	3,113	1.72	2,372	1.28	1,708	1.03	7,413	1.14	11,692
Dec.	1.21	1.16	22,148	1.29	3,033	1.75	2,195	1.31	1,698	1.02	7,733	1.11	10,522
2021 Jan.	1.23	1.19	21,721	1.32	3,866	1.79	2,124	1.34	1,615	1.03	7,316	1.15	10,666
Feb.	1.22	1.17	22,145	1.30	3,246	1.73	2,098	1.28	1,563	1.04	7,547	1.14	10,938
Mar.	1.22	1.18	28,589	1.26	4,248	1.75	2,684	1.25	1,958	1.02	10,006	1.17	13,941
Apr.	1.27	1.23	24,541	1.30	3,804	1.79	2,343	1.28	1,725	1.06	8,741	1.23	11,732
May	1.31	1.27	22,786	1.35	3,379	1.83	2,064	1.30	1,568	1.09	8,416	1.29	10,738
	of which: Collateralised loans 11												
2020 May	.	1.24	10,084	.	.	1.86	1,046	1.31	835	1.05	3,065	1.22	5,138
June	.	1.26	10,090	.	.	1.84	803	1.41	935	1.10	3,656	1.25	4,696
July	.	1.22	10,687	.	.	1.76	951	1.23	876	1.05	3,621	1.23	5,239
Aug.	.	1.16	9,074	.	.	1.77	748	1.17	673	0.98	3,137	1.17	4,516
Sep.	.	1.14	9,865	.	.	1.75	795	1.14	753	1.00	3,201	1.14	5,116
Oct.	.	1.14	10,142	.	.	1.73	806	1.12	748	1.00	3,239	1.14	5,349
Nov.	.	1.10	10,137	.	.	1.61	819	1.10	823	0.96	3,182	1.11	5,313
Dec.	.	1.08	9,592	.	.	1.63	796	1.12	781	0.95	3,355	1.07	4,660
2021 Jan.	.	1.13	9,731	.	.	1.71	814	1.11	780	0.97	3,226	1.14	4,911
Feb.	.	1.11	9,659	.	.	1.60	752	1.08	773	0.96	3,228	1.14	4,906
Mar.	.	1.11	12,754	.	.	1.69	929	1.08	884	0.95	4,589	1.14	6,352
Apr.	.	1.15	10,483	.	.	1.71	801	1.10	822	1.00	3,834	1.18	5,026
May	.	1.19	9,797	.	.	1.74	747	1.09	725	1.01	3,738	1.25	4,587

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

VI. Interest rates

4. 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		of which: Extended credit card debt		Revolving loans 12 and overdrafts 13 Credit card debt 14		of which: 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
2020 May	7.60	35,719	7.23	28,731	15.24	4,194	2.66	83,133	2.67	82,928
June	7.63	37,486	7.39	30,074	15.22	4,183	2.86	81,829	2.87	81,584
July	7.54	36,402	7.35	28,738	15.19	4,170	2.84	77,749	2.84	77,478
Aug.	7.51	36,716	7.31	29,015	15.08	4,204	2.77	76,935	2.78	76,674
Sep.	7.51	37,568	7.33	30,004	15.04	4,147	2.84	76,376	2.85	76,092
Oct.	7.42	36,256	7.19	28,750	15.03	4,144	2.75	76,056	2.76	75,773
Nov.	7.41	35,700	7.17	28,273	15.06	4,108	2.74	75,596	2.75	75,326
Dec.	7.32	36,062	7.11	28,411	15.15	4,101	2.70	73,441	2.71	73,178
2021 Jan.	7.51	34,191	7.08	27,635	15.28	4,011	2.77	71,756	2.78	71,526
Feb.	7.40	34,121	7.03	27,298	15.38	3,944	2.76	73,589	2.77	73,354
Mar.	7.41	34,973	7.11	27,993	15.45	3,910	2.77	72,139	2.78	71,866
Apr.	7.37	34,035	7.02	27,152	15.48	3,899	2.84	70,358	2.85	70,106
May	7.28	34,454	7.01	27,148	15.51	3,905	2.79	72,023	2.80	71,766

Reporting period	Loans to non-financial corporations (cont'd)															
	Total		of which: Renegotiated loans 9		Loans up to €1 million 15 with an initial rate fixation of: floating rate or up to 1 year 9		over 1 year and up to 5 years		over 5 years		Loans over €1 million 15 with an initial rate fixation of: 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															
2020 May	1.38	70,416	1.50	19,086	1.83	8,544	2.23	1,466	2.03	3,000	1.20	41,644	1.26	3,723	1.25	9,345
June	1.36	86,295	1.45	30,002	1.93	10,537	2.35	1,714	1.81	2,235	1.18	53,115	1.69	4,895	1.26	12,072
July	1.43	72,399	1.41	23,407	1.94	10,302	2.35	1,419	1.66	2,518	1.29	44,151	1.55	4,770	1.25	9,141
Aug.	1.52	55,855	1.36	16,568	1.78	8,324	2.39	1,235	1.51	2,209	1.46	35,797	1.62	3,186	1.22	5,659
Sep.	1.37	71,553	1.49	21,841	2.00	10,506	2.42	1,308	1.55	2,213	1.22	45,047	1.42	3,107	1.18	10,041
Oct.	1.37	66,721	1.36	20,690	1.99	10,358	2.38	1,354	1.49	2,362	1.17	42,053	1.73	4,238	1.18	7,163
Nov.	1.39	62,811	1.39	18,016	1.96	9,897	2.25	1,343	1.53	2,372	1.25	37,080	1.47	4,017	1.13	8,827
Dec.	1.33	87,725	1.37	26,272	2.01	9,615	2.31	1,615	1.56	2,195	1.23	56,078	1.36	4,945	1.11	13,362
2021 Jan.	1.36	55,365	1.52	17,883	1.99	8,828	2.30	1,183	1.56	2,124	1.22	35,711	1.45	2,185	1.03	5,906
Feb.	1.37	54,516	1.55	14,708	2.00	8,851	2.23	1,084	1.57	2,098	1.22	32,922	1.37	2,679	1.09	7,447
Mar.	1.09	93,353	1.59	21,948	1.90	10,691	2.16	1,432	1.54	2,684	0.89	62,746	1.17	6,173	1.20	10,469
Apr.	1.52	56,777	1.55	18,920	1.90	9,318	2.23	1,385	1.55	2,343	1.46	35,109	1.43	3,022	1.15	6,390
May	1.32	58,626	1.53	16,040	1.89	8,461	2.32	1,181	1.56	2,064	1.20	36,993	1.42	2,491	1.06	7,922
	of which: Collateralised loans 11															
2020 May	1.48	7,873	.	.	2.02	471	1.73	171	1.90	865	1.43	4,286	1.72	336	1.16	1,744
June	1.39	13,750	.	.	1.81	558	2.05	224	1.71	776	1.31	8,391	1.64	1,048	1.28	2,753
July	1.37	10,021	.	.	1.80	504	1.96	133	1.31	478	1.42	5,085	1.59	1,108	1.10	2,713
Aug.	1.47	7,045	.	.	1.85	362	2.14	123	1.26	369	1.52	4,544	1.79	458	1.05	1,189
Sep.	1.37	11,059	.	.	1.72	508	2.08	105	1.22	353	1.41	7,417	1.85	535	1.03	2,141
Oct.	1.23	8,346	.	.	1.73	480	1.74	111	1.14	374	1.26	4,696	1.11	672	1.08	2,013
Nov.	1.54	9,630	.	.	1.86	375	1.67	98	1.20	367	1.64	5,414	2.01	807	1.18	2,569
Dec.	1.33	15,369	.	.	1.68	494	1.68	134	1.16	452	1.41	8,979	1.39	1,222	1.11	4,088
2021 Jan.	1.25	7,702	.	.	1.73	430	1.65	99	1.32	374	1.26	4,614	1.69	574	0.88	1,611
Feb.	1.42	6,642	.	.	1.83	339	1.67	89	1.07	331	1.61	3,930	1.31	383	0.96	1,570
Mar.	1.19	13,787	.	.	1.64	481	1.81	106	1.17	399	1.12	8,540	1.33	825	1.23	3,436
Apr.	1.44	7,883	.	.	1.79	377	1.68	117	1.15	359	1.55	4,450	1.51	967	1.07	1,613
May	1.46	7,099	.	.	1.76	340	1.69	77	1.21	404	1.68	3,830	1.15	439	1.11	2,009

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. **x** Dominated by the business of one or two banks. Therefore, the value cannot be published due to confidentiality.

VII. Insurance corporations and pension funds

1. Assets

€ billion

End of year/quarter	Total	Currency and deposits [1]	Debt securities	Loans [2]	Shares and other equity	Investment fund shares/units	Financial derivatives	Technical reserves [3]	Non-financial assets	Remaining assets
Insurance corporations [4]										
2018 Q3	2,224.8	326.3	401.1	327.9	349.4	677.8	2.0	52.9	35.7	51.6
Q4	2,213.5	318.3	400.5	330.4	349.7	665.8	2.0	55.4	36.8	54.6
2019 Q1	2,343.3	332.1	431.8	329.8	380.9	708.9	2.6	58.7	37.1	61.4
Q2	2,407.6	336.8	449.0	339.3	387.9	735.8	3.6	57.9	37.1	60.3
Q3	2,492.5	333.0	468.5	357.2	398.2	768.3	4.6	58.8	38.0	66.0
Q4	2,473.9	317.6	448.2	355.5	407.3	778.3	3.6	64.9	39.8	58.8
2020 Q1	2,426.9	318.3	452.1	364.0	383.0	738.4	4.5	68.5	38.6	59.6
Q2	2,517.7	317.1	460.6	371.9	409.2	789.0	4.3	68.5	38.7	58.5
Q3	2,547.5	311.1	472.9	373.9	411.0	809.9	4.4	67.1	39.0	58.1
Q4	2,587.9	301.8	479.0	370.6	425.0	841.7	4.7	68.2	38.2	58.7
2021 Q1	2,574.5	292.5	466.7	362.1	437.1	845.0	3.9	71.8	38.4	57.0
Life insurance										
2018 Q3	1,194.1	199.7	201.6	209.0	47.3	493.9	1.0	8.8	19.3	13.4
Q4	1,185.3	194.5	200.1	208.4	50.4	484.7	1.0	11.6	20.3	14.3
2019 Q1	1,239.7	202.9	213.7	206.1	52.8	517.7	1.6	10.4	20.3	14.1
Q2	1,291.9	205.8	227.6	214.2	55.4	538.9	2.4	10.0	20.3	17.4
Q3	1,350.1	205.3	242.5	225.2	57.9	563.6	3.1	10.4	20.9	21.0
Q4	1,325.2	194.9	227.6	217.6	61.1	570.4	2.4	13.7	21.1	16.5
2020 Q1	1,295.8	191.5	231.0	220.6	61.9	538.2	2.2	13.9	20.3	16.3
Q2	1,347.1	192.4	234.4	223.6	64.1	577.3	2.8	13.7	20.3	18.5
Q3	1,369.2	188.4	241.6	225.7	65.7	593.0	3.0	13.6	20.6	17.6
Q4	1,395.9	183.6	242.8	229.9	69.7	617.1	3.3	14.3	20.8	14.5
2021 Q1	1,361.6	170.5	231.7	219.9	74.2	614.8	2.1	14.3	21.0	13.1
Non-life insurance										
2018 Q3	617.9	116.3	116.1	72.8	73.7	168.9	0.2	34.9	9.8	25.1
Q4	616.2	113.8	117.4	73.7	73.8	167.4	0.2	33.5	10.8	25.6
2019 Q1	655.2	119.1	127.5	74.4	76.2	177.1	0.3	38.2	11.0	31.4
Q2	665.6	119.8	131.1	76.1	78.2	182.4	0.4	37.7	11.0	29.1
Q3	682.6	116.9	135.3	79.9	80.6	189.4	0.4	38.8	11.3	30.0
Q4	673.5	111.3	130.4	79.6	83.6	193.3	0.4	36.2	12.2	26.7
2020 Q1	669.4	111.1	131.3	79.8	80.0	186.9	0.3	38.7	12.0	29.3
Q2	685.6	111.9	134.4	82.4	81.1	197.1	0.4	39.5	12.1	26.7
Q3	693.3	109.3	137.6	83.3	82.7	203.2	0.4	38.5	12.1	26.3
Q4	703.5	105.9	139.5	84.5	85.2	210.3	0.5	37.6	12.7	27.3
2021 Q1	715.5	108.0	139.2	83.7	88.2	214.8	0.4	39.8	12.7	28.6
Reinsurance [5]										
2018 Q3	412.7	10.2	83.4	46.0	228.4	15.0	0.8	9.3	6.6	13.1
Q4	412.0	10.1	82.9	48.2	225.5	13.7	0.7	10.3	5.7	14.8
2019 Q1	448.4	10.1	90.6	49.3	251.9	14.0	0.7	10.2	5.8	15.9
Q2	450.1	11.1	90.4	49.0	254.3	14.4	0.8	10.2	5.8	13.9
Q3	459.9	10.8	90.7	52.1	259.6	15.3	1.0	9.6	5.9	15.0
Q4	475.2	11.5	90.2	58.3	262.6	14.5	0.8	15.1	6.6	15.6
2020 Q1	461.7	15.7	89.8	63.7	241.0	13.3	1.9	15.9	6.3	14.1
Q2	485.0	12.9	91.7	65.9	264.0	14.6	1.1	15.2	6.3	13.3
Q3	485.0	13.5	93.7	64.9	262.6	13.7	1.0	15.0	6.3	14.2
Q4	488.5	12.3	96.7	56.3	270.2	14.3	1.0	16.3	4.7	16.9
2021 Q1	497.3	13.9	95.8	58.5	274.7	15.4	1.4	17.7	4.7	15.3
Pension funds [6]										
2018 Q3	666.0	92.1	66.3	30.5	29.6	375.1	–	7.9	42.8	21.8
Q4	672.2	91.5	67.5	30.7	30.6	378.0	–	8.1	43.8	22.1
2019 Q1	689.2	89.4	72.0	30.7	31.5	389.8	–	8.3	44.9	22.6
Q2	703.0	87.4	75.6	31.3	32.1	399.3	–	8.5	45.4	23.5
Q3	718.3	85.3	79.2	31.5	33.1	410.9	–	8.6	45.7	23.9
Q4	726.8	84.9	77.8	31.9	33.4	417.2	–	8.8	47.6	25.1
2020 Q1 [7]	599.1	92.2	57.0	48.5	9.3	361.3	0.1	10.4	17.5	2.7
Q2	623.3	92.2	58.8	49.1	9.7	382.1	0.1	10.4	18.1	2.8
Q3	635.9	90.8	59.6	50.2	10.1	392.8	0.2	11.6	18.2	2.5
Q4	647.7	85.8	59.7	47.4	10.1	412.2	0.2	11.9	17.3	3.2
2021 Q1	646.0	83.0	58.9	46.4	10.6	415.5	0.1	12.4	16.6	2.3

Sources: The calculations for the insurance sectors are based on supervisory data according to Solvency I and II and for pension funds on IORP supervisory data and own data collections as of 2020 Q1. Until 2019 Q4 these are compiled using Solvency I supervisory data, supplemented by voluntary reports and own calculations. **1** Accounts receivable to monetary financial institutions, including registered bonds, borrowers' note loans and registered Pfandbriefe. For pension funds as of 2020 Q1 fair values, previously book values. **2** Including deposits retained on assumed reinsurance as well as registered bonds, borrowers' note loans and registered Pfandbriefe. For pension funds as of 2020 Q1 fair values, previously book values. **3** Including reinsurance recoverables and claims of pension funds on pension managers. **4** Valuation of listed securities at the corresponding consistent price from the ESCB's securities database. **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** Change in data sources.

VII. Insurance corporations and pension funds

2. Liabilities

€ billion

End of year/quarter	Total	Debt securities issued	Loans 1	Shares and other equity	Technical reserves: Total 2	Technical reserves: Life/pension entitlements 3	Technical reserves: Non-life	Financial derivatives	Remaining liabilities	Net worth 4
Insurance corporations										
2018 Q3	2,224.8	27.5	65.1	462.3	1,545.4	1,344.1	201.4	2.0	122.4	–
Q4	2,213.5	29.3	64.6	463.1	1,530.3	1,332.4	197.9	1.6	124.6	–
2019 Q1	2,343.3	31.6	68.2	487.9	1,624.8	1,403.6	221.2	1.5	129.2	–
Q2	2,407.6	31.9	69.4	489.7	1,687.4	1,466.0	221.4	1.8	127.5	–
Q3	2,492.5	31.7	69.3	488.5	1,769.4	1,543.0	226.4	2.2	131.5	–
Q4	2,473.9	31.7	75.8	515.3	1,714.9	1,499.6	215.3	1.9	134.3	–
2020 Q1	2,426.9	31.8	82.4	464.3	1,721.9	1,483.2	238.7	2.4	124.1	–
Q2	2,517.7	33.1	82.2	505.4	1,767.7	1,527.7	240.0	1.9	127.4	–
Q3	2,547.5	34.3	80.0	515.9	1,785.7	1,549.2	236.5	1.7	129.9	–
Q4	2,587.9	36.6	79.7	540.5	1,799.2	1,579.3	219.9	1.6	130.3	–
2021 Q1	2,574.5	34.8	81.4	550.4	1,777.7	1,540.9	236.8	2.5	127.6	–
Life insurance										
2018 Q3	1,194.1	4.1	12.6	121.0	1,013.7	1,013.7	–	0.9	41.9	–
Q4	1,185.3	4.1	15.2	122.7	1,000.7	1,000.7	–	0.5	42.2	–
2019 Q1	1,239.7	4.1	14.4	120.9	1,058.9	1,058.9	–	0.4	41.1	–
Q2	1,291.9	4.1	14.5	121.8	1,108.6	1,108.6	–	0.4	42.4	–
Q3	1,350.1	3.7	15.6	116.0	1,171.9	1,171.9	–	0.6	42.4	–
Q4	1,325.2	3.6	19.1	127.6	1,129.6	1,129.6	–	0.5	44.7	–
2020 Q1	1,295.8	3.6	19.3	114.3	1,117.8	1,117.8	–	0.6	40.3	–
Q2	1,347.1	3.8	19.2	129.8	1,150.3	1,150.3	–	0.5	43.4	–
Q3	1,369.2	3.9	19.5	136.8	1,164.8	1,164.8	–	0.5	43.7	–
Q4	1,395.9	3.9	20.7	142.9	1,185.7	1,185.7	–	0.5	42.3	–
2021 Q1	1,361.6	3.3	19.9	143.2	1,154.2	1,154.2	–	1.0	40.1	–
Non-life insurance										
2018 Q3	617.9	1.1	8.0	141.7	420.7	314.0	106.7	0.0	46.4	–
Q4	616.2	1.0	8.3	140.3	416.6	315.5	101.1	0.0	50.0	–
2019 Q1	655.2	1.1	9.3	144.1	448.5	328.9	119.6	0.0	52.2	–
Q2	665.6	1.1	8.8	147.0	459.4	341.5	117.8	0.1	49.3	–
Q3	682.6	1.2	9.1	149.7	471.9	354.8	117.1	0.1	50.6	–
Q4	673.5	1.2	9.3	153.7	457.2	349.4	107.8	0.1	52.0	–
2020 Q1	669.4	1.3	9.8	142.0	468.2	344.4	123.8	0.1	48.0	–
Q2	685.6	1.3	9.5	149.4	478.2	355.6	122.6	0.1	47.1	–
Q3	693.3	1.2	9.6	152.0	482.3	362.4	119.9	0.1	48.1	–
Q4	703.5	1.3	9.7	158.1	483.1	368.7	114.4	0.0	51.3	–
2021 Q1	715.5	1.2	10.6	161.8	491.2	362.5	128.7	0.1	50.5	–
Reinsurance 5										
2018 Q3	412.7	22.4	44.4	199.7	111.0	16.4	94.7	1.1	34.1	–
Q4	412.0	24.1	41.2	200.1	113.0	16.2	96.8	1.1	32.5	–
2019 Q1	448.4	26.5	44.5	222.9	117.4	15.8	101.6	1.1	36.0	–
Q2	450.1	26.6	46.1	220.8	119.4	15.8	103.6	1.3	35.9	–
Q3	459.9	26.8	44.7	222.8	125.6	16.3	109.3	1.5	38.5	–
Q4	475.2	26.9	47.4	234.0	128.0	20.6	107.5	1.3	37.7	–
2020 Q1	461.7	26.9	53.3	208.1	135.9	21.0	114.9	1.7	35.8	–
Q2	485.0	28.1	53.5	226.2	139.1	21.8	117.4	1.3	36.8	–
Q3	485.0	29.2	50.9	227.0	138.7	22.1	116.6	1.0	38.1	–
Q4	488.5	31.4	49.3	239.6	130.4	24.8	105.6	1.0	36.7	–
2021 Q1	497.3	30.2	50.9	245.5	132.4	24.2	108.1	1.4	37.0	–
Pension funds 6										
2018 Q3	666.0	–	7.7	7.8	595.2	595.2	–	–	2.9	52.4
Q4	672.2	–	7.9	8.0	605.8	605.8	–	–	2.8	47.6
2019 Q1	689.2	–	8.1	8.1	613.9	613.9	–	–	2.9	56.3
Q2	703.0	–	8.1	8.3	619.8	619.8	–	–	2.9	64.0
Q3	718.3	–	8.2	8.4	626.8	626.8	–	–	2.9	72.1
Q4	726.8	–	8.4	8.6	637.5	637.5	–	–	2.9	69.4
2020 Q1 7	599.1	–	1.6	19.4	497.3	496.7	–	0.3	8.1	72.4
Q2	623.3	–	1.6	21.6	506.4	505.8	–	0.3	8.3	85.0
Q3	635.9	–	1.6	22.4	510.0	509.3	–	0.3	8.7	92.9
Q4	647.7	–	1.6	21.8	516.3	515.6	–	0.3	8.9	98.8
2021 Q1	646.0	–	1.6	22.6	510.0	509.4	–	0.4	8.6	102.8

Sources: The calculations for the insurance sectors are based on supervisory data according to Solvency I and II and for pension funds on IORP supervisory data and own data collections as of 2020 Q1. Until 2019 Q4 these are compiled using Solvency I supervisory data, supplemented by voluntary reports and own calculations. **1** Including deposits retained on ceded business as well as registered bonds, borrowers' note loans and registered Pfandbriefe. **2** Including claims of pension funds on pension managers and entitlements to non-pension benefits. **3** Technical reserves "life" taking account of transitional measures. Health insurance is also included in the "non-life insurance" sector. **4** Own funds correspond to the sum of "Net worth" and "Shares and other equity". **5** Not including the reinsurance business conducted by primary insurers, which is included there. **6** Valuation at book values. 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** Change in data sources.

VIII. Capital market

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

€ million

Period	Debt securities: Sales = total purchases	Sales: Domestic debt securities 1: Total	Bank debt securities	Corporate bonds (non-MFIs) 2	Public debt securities	Foreign debt securities 3	Purchases: Residents: Total 4	Credit institutions including building and loan associations 5	Deutsche Bundesbank	Other sectors 6	Non-residents 7
2009	70,208	– 538	– 114,902	22,709	91,655	70,747	90,154	12,973	8,645	68,536	– 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	57,525
2012	51,813	– 21,419	– 98,820	– 8,701	86,103	73,231	– 3,767	– 42,017	– 3,573	41,823	55,581
2013	– 15,971	– 101,616	– 117,187	153	15,415	85,645	16,409	– 25,778	– 12,708	54,895	– 32,379
2014	64,775	– 31,962	– 47,404	– 1,330	16,776	96,737	50,408	– 12,124	– 11,951	74,483	14,366
2015	33,024	– 36,010	– 65,778	26,762	3,006	69,034	116,493	– 66,330	121,164	61,659	– 83,471
2016	71,380	27,429	19,177	18,265	– 10,012	43,951	164,148	– 58,012	187,500	34,660	– 92,768
2017	54,840	11,563	1,096	7,112	3,356	43,277	137,907	– 71,454	161,012	48,349	– 83,067
2018	61,661	16,630	33,251	12,433	– 29,055	45,031	95,902	– 24,417	67,328	52,991	– 34,241
2019	137,356	68,536	29,254	32,505	6,778	68,820	62,915	8,059	2,408	52,448	74,441
2020	436,043	379,893	13,948	87,616	278,328	56,150	276,355	18,955	226,887	30,513	159,688
2020 July	53,590	53,878	– 2,043	19,174	36,746	– 288	24,222	– 15,536	25,721	14,037	29,369
Aug.	66,958	71,370	1,689	19,737	49,943	– 4,411	11,518	– 7,604	18,004	1,118	55,440
Sep.	73,380	70,210	23,528	26,322	20,360	3,170	23,183	1,689	22,121	– 627	50,197
Oct.	– 18,992	– 37,537	– 16,297	– 18,370	– 2,870	18,545	28,450	9,298	24,556	– 5,405	– 47,441
Nov.	20,571	26,232	– 1,002	184	27,050	– 5,661	26,637	1,513	27,659	– 2,535	– 6,066
Dec.	– 36,662	– 38,404	– 11,728	– 11,953	– 14,723	1,742	15,500	– 25,221	18,290	22,431	– 52,162
2021 Jan.	56,680	27,544	4,005	3,591	19,948	29,136	43,753	8,455	13,518	21,780	12,927
Feb.	42,555	19,574	3,411	– 2,569	18,732	22,980	43,479	– 3,738	20,397	26,821	– 925
Mar.	39,158	39,492	21,776	551	17,165	– 334	24,605	6,152	20,708	– 2,255	14,553
Apr.	17,262	12,392	– 2,704	6,063	9,032	4,870	25,929	– 17,641	24,095	19,475	– 8,668
May	33,363	31,566	– 3,637	6,928	28,274	1,797	29,200	– 2,194	25,538	5,856	4,163

€ million

Period	Shares: Sales = total purchases	Sales: Domestic shares 8	Foreign shares 9	Purchases: Residents: Total 10	Credit institutions 5	Other sectors 11	Non-residents 12
2009	35,980	23,962	12,018	30,496	– 8,335	38,831	5,485
2010	37,767	20,049	17,718	36,406	7,340	29,066	1,360
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	44,165	7,668	36,497	34,437	– 5,421	39,858	9,728
2016	30,896	4,409	26,487	31,037	– 5,143	36,180	– 141
2017	51,571	15,570	36,001	49,913	7,031	42,882	1,658
2018	55,729	16,188	39,541	83,036	– 11,184	94,220	– 27,307
2019	47,115	9,076	38,039	33,573	– 1,119	34,692	13,542
2020	101,155	17,771	67,182	133,015	27	132,988	– 31,860
2020 July	9,175	2,144	7,031	26,530	676	25,854	– 17,355
Aug.	9,463	2,900	6,562	8,730	1,020	7,710	732
Sep.	27,422	4,487	6,734	26,795	161	26,634	628
Oct.	5,092	1,057	4,036	5,325	342	4,983	– 233
Nov.	9,988	220	9,769	10,221	1,919	8,302	– 233
Dec.	14,530	2,898	11,633	14,692	2,970	11,722	– 161
2021 Jan.	– 7,264	1,441	– 8,705	– 10,433	863	– 11,296	3,169
Feb.	9,412	2,729	6,683	11,010	1,501	9,509	– 1,598
Mar.	20,639	8,964	11,676	17,986	1,285	16,701	2,653
Apr.	17,279	882	16,397	15,913	1,816	14,097	1,366
May	4,006	1,170	2,836	3,233	– 387	3,620	773

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							
2010	1,375,138	757,754	36,226	33,539	363,828	324,160	53,653	563,730
2011	1,337,772	658,781	31,431	24,295	376,876	226,180	86,614	592,375
2012	1,340,568	702,781	36,593	11,413	446,153	208,623	63,258	574,530
2013	1,433,628	908,107	25,775	12,963	692,611	176,758	66,630	458,892
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	106,675	400,701
2016 3	1,206,483	717,002	29,059	7,621	511,222	169,103	73,371	416,108
2017 3	1,047,822	619,199	30,339	8,933	438,463	141,466	66,290	362,332
2018	1,148,091	703,416	38,658	5,673	534,552	124,530	91,179	353,496
2019	1,285,541	783,977	38,984	9,587	607,900	127,504	94,367	407,197
2020 6	1,737,330	776,665	38,948	17,527	643,029	77,161	183,136	777,529
2020 Sep.	178,482	75,616	3,186	250	65,309	6,872	14,767	88,098
Oct.	128,029	61,836	2,174	265	55,991	3,406	10,079	56,114
Nov.	119,066	61,562	648	300	53,206	7,408	10,625	46,879
Dec.	82,963	49,157	389	250	46,188	2,329	8,119	25,687
2021 Jan.	158,047	75,939	3,011	590	67,225	5,113	11,902	70,206
Feb.	129,424	67,263	3,158	504	52,753	10,847	9,658	52,503
Mar.	181,139	105,661	11,531	9,511	75,893	8,725	11,202	64,277
Apr.	145,418	62,631	4,441	1,000	50,889	6,301	11,673	71,113
May	138,531	58,577	2,131	250	50,439	5,756	15,225	64,729
	of which: Debt securities with maturities of more than four years 4							
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 3	375,859	173,900	24,741	5,841	78,859	64,460	47,818	154,144
2017 3	357,506	170,357	22,395	6,447	94,852	46,663	44,891	142,257
2018	375,906	173,995	30,934	4,460	100,539	38,061	69,150	132,760
2019	396,617	174,390	26,832	6,541	96,673	44,346	69,682	152,544
2020 6	534,753	165,040	28,500	7,427	90,778	38,335	76,856	292,857
2020 Sep.	62,522	18,442	3,036	250	9,713	5,443	7,430	36,649
Oct.	39,312	11,516	1,620	15	7,838	2,042	5,411	22,386
Nov.	34,273	10,829	548	50	4,838	5,394	5,877	17,567
Dec.	10,703	4,447	389	–	2,870	1,188	2,213	4,043
2021 Jan.	51,930	21,586	2,250	40	16,275	3,021	5,919	24,425
Feb.	41,268	18,138	2,658	4	7,789	7,686	3,654	19,477
Mar.	59,203	27,756	6,371	3,161	13,666	4,558	5,800	25,647
Apr.	48,999	12,414	3,051	250	7,001	2,111	7,640	28,945
May	45,002	11,672	2,131	250	6,132	3,159	5,758	27,572
	Net sales 5							
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 3	21,951	10,792	2,176	– 12,979	16,266	5,327	18,177	– 7,020
2017 3	2,669	5,954	6,389	– 4,697	18,788	– 14,525	6,828	– 10,114
2018	2,758	26,648	19,814	– 6,564	18,850	– 5,453	9,738	– 33,630
2019	59,719	28,750	13,098	– 3,728	26,263	– 6,885	30,449	519
2020 6	340,891	26,201	7,861	8,016	21,716	– 11,393	48,466	266,225
2020 Sep.	45,105	19,271	– 1,493	– 45	20,898	– 90	3,350	22,485
Oct.	– 12,771	– 14,240	– 1,656	– 608	– 10,488	– 1,488	– 741	2,210
Nov.	13,940	190	– 1,049	– 907	– 910	3,056	– 234	13,984
Dec.	– 36,561	– 13,347	– 1,598	– 1,303	– 6,493	– 3,953	– 2,526	– 20,688
2021 Jan.	25,583	2,557	1,094	– 922	3,747	– 1,362	4,467	18,559
Feb.	19,957	3,080	– 478	– 190	– 712	4,460	782	16,094
Mar.	61,040	37,126	10,737	8,754	15,784	1,850	2,689	21,225
Apr.	9,029	– 2,148	1,114	968	– 4,362	132	4,506	6,671
May	30,939	– 4,354	1,076	– 907	– 3,822	– 701	6,931	28,362

***** For definitions, see the explanatory notes in Statistical Series - Securities Issues Statistics on pages 43 f. **1** Excluding registered bank debt securities. **2** Including cross-border financing within groups from January 2011. **3** Sectoral reclassification of debt securities. **4** Maximum maturity according to the terms of issue. **5** Gross sales less redemptions. **6** Methodological changes since January 2020. — The figures for the year 2020 have been revised. The figures for the most recent date are provisional. Revisions are not specially marked.

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: Total	Mortgage Pfandbriefe	Public Pfandbriefe	Debt securities issued by special-purpose credit institutions	Other bank debt securities	Corporate bonds (non-MFIs)	Public debt securities
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	3,091,303	1,194,160	161,088	51,439	670,062	[1] 311,572	[1 2] 313,527	1,583,616
2019	[2] 3,149,373	1,222,911	174,188	47,712	696,325	304,686	[2] 342,325	1,584,136
2020 [4]	[2] 3,409,827	[2] 1,173,366	183,261	55,192	687,697	[2] 247,216	[2] 377,012	1,859,448
2020 Sep.	3,455,949	1,209,937	187,644	58,079	713,012	251,202	383,450	1,862,562
Oct.	[2] 3,445,108	[2] 1,195,893	186,057	57,474	703,564	[2] 248,798	382,877	1,866,338
Nov.	3,454,393	1,191,679	184,910	56,543	698,703	251,522	382,493	1,880,221
Dec.	[2] 3,409,827	1,173,366	183,261	55,192	687,697	247,216	[2] 377,012	1,859,448
2021 Jan.	3,436,220	1,179,145	184,416	54,254	694,279	246,197	381,760	1,875,315
Feb.	3,458,054	1,183,338	183,909	54,073	694,713	250,643	383,040	1,891,676
Mar.	3,533,113	1,230,284	194,832	62,865	719,391	253,196	386,356	1,916,474
Apr.	3,531,760	1,219,498	195,766	63,790	707,460	252,482	390,359	1,921,902
May	3,560,144	1,212,666	196,849	62,878	701,763	251,177	397,145	1,950,333
	Breakdown by remaining period to maturity [3]							**Position at end-May 2021**
bis unter 2	1 169 739	415 898	54 393	22 238	273 417	65 850	70 880	682 961
2 bis unter 4	660 211	305 611	52 206	16 897	178 940	57 568	66 179	288 421
4 bis unter 6	488 805	190 381	34 481	10 622	94 220	51 059	64 498	233 926
6 bis unter 8	375 882	129 759	29 956	5 911	66 182	27 711	44 564	201 559
8 bis unter 10	298 910	79 935	13 713	3 723	42 582	19 916	27 083	191 893
10 bis unter 15	168 023	45 652	8 097	2 512	23 229	11 814	34 264	88 108
15 bis unter 20	116 632	20 105	2 884	813	14 419	1 989	13 161	83 367
20 und darüber	281 940	25 325	1 120	162	8 774	15 269	76 516	180 099

* Including debt securities temporarily held in the issuers' portfolios. **1** Sectoral reclassification of debt securities. **2** Adjustments due to the change in the country of residence of the issuers or debt securities. **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** Methodological changes since January 2020. — The figures for the year 2020 have been revised. The figures for the most recent date are provisional. Revisions are not specially marked.

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: cash payments and ex-change of convertible bonds [1]	issue of bonus shares	contribution of claims and other real assets	merger and transfer of assets	change of legal form	reduction of capital and liquidation	Memo item: Share circulation at market values (market capita-lisation) level at end of period under review [2]
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	– 486	– 993	– 3,569	1,091,220
2011	177,167	2,570	6,390	552	462	– 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	180,187	1,357	3,670	716	82	– 1,055	– 1,111	– 946	1,634,155
2019 [3 4]	183,461	1,700	2,411	2,419	542	– 858	– 65	– 2,747	1,950,224
2020 [4]	181,881	– 2,871	1,877	219	178	– 2,051	– 460	– 2,634	1,963,588
2020 Sep.	182,039	– 120	169	10	60	– 3	– 23	– 333	1,870,873
Oct.	182,165	36	82	18	–	– 5	– 9	– 50	1,727,080
Nov.	181,879	– 340	47	–	1	– 219	– 11	– 158	1,884,308
Dec.	181,881	2	181	–	90	– 87	– 64	– 118	1,963,588
2021 Jan.	181,437	– 445	102	260	4	– 74	– 300	– 437	1,961,051
Feb.	182,149	705	331	–	0	– 9	443	– 59	1,994,901
Mar.	182,362	213	411	–	0	– 1	– 34	– 164	2,174,997
Apr.	182,665	106	116	73	1	– 0	– 1	– 84	2,194,286
May	182,152	– 514	205	26	–	– 0	– 92	– 653	2,228,053

* 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-Mit teilungen and Deutsche Börse AG. **3** Methodological changes since October 2019. **4** Changes due to statistical adjustments.

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
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	1.3	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	2.9	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
2019	− 0.1	− 0.2	− 0.3	− 0.3	0.1	0.3	2.5	143.72	111.32	575.80	13,249.01
2020	− 0.2	− 0.4	− 0.5	− 0.5	− 0.0	0.1	1.7	146.15	113.14	586.72	13,718.78
2021 Jan.	− 0.3	− 0.5	− 0.6	− 0.6	− 0.2	− 0.1	0.8	146.06	112.19	582.62	13,432.87
Feb.	− 0.2	− 0.4	− 0.4	− 0.4	− 0.1	0.1	0.9	144.36	109.90	592.88	13,786.29
Mar.	− 0.1	− 0.3	− 0.4	− 0.4	− 0.1	0.1	0.9	144.70	109.88	633.92	15,008.34
Apr.	− 0.1	− 0.2	− 0.3	− 0.3	− 0.1	0.2	0.9	144.29	109.11	638.17	15,135.91
May	− 0.0	− 0.2	− 0.2	− 0.2	− 0.0	0.3	0.9	144.19	108.88	642.41	15,421.13
June	− 0.0	− 0.2	− 0.3	− 0.3	− 0.0	0.2	1.0	144.74	109.42	648.99	15,531.04

1 Bearer debt securities with maximum maturities according to the terms of issue of over 4 years. Structured debt securities, 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. Adjustment of the scope of securities included on 1 May 2020. **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							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
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	1,290	39,474	− 7,576	− 694	47,050	1,984	7,035
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	− 3,437
2013	123,736	91,337	9,184	− 574	5,596	3,376	82,153	32,400	117,028	771	100	116,257	32,300	6,710
2014	140,233	97,711	3,998	− 473	862	1,000	93,713	42,521	144,075	819	− 1,745	143,256	44,266	− 3,840
2015	181,889	146,136	30,420	318	22,345	3,636	115,716	35,753	174,018	7,362	494	166,656	35,259	7,871
2016	156,985	119,369	21,301	− 342	11,131	7,384	98,068	37,615	163,934	2,877	− 3,172	161,057	40,787	− 6,947
2017	153,756	94,921	29,560	− 235	21,970	4,406	65,361	58,834	156,282	4,938	1,048	151,344	57,786	− 2,526
2018	132,060	103,694	15,279	377	4,166	6,168	88,415	28,366	138,424	2,979	− 2,306	135,445	30,672	− 6,364
2019	176,465	122,546	17,032	− 447	5,097	10,580	105,514	53,919	181,388	2,719	− 812	178,669	54,731	− 4,923
2020	180,462	116,028	19,193	− 42	11,343	8,795	96,835	64,435	179,529	336	− 1,656	179,193	66,091	933
2020 Nov.	17,027	7,541	3,796	− 107	3,297	630	3,745	9,486	16,187	− 121	457	16,308	9,029	839
Dec.	49,571	32,118	3,506	− 122	3,094	476	28,613	17,453	48,195	1,712	125	46,483	17,328	1,376
2021 Jan.	19,672	12,231	1,832	− 46	1,159	776	10,399	7,441	19,706	615	257	19,091	7,184	− 34
Feb.	14,398	7,295	2,852	− 27	1,926	946	4,443	7,102	15,065	1,442	395	13,623	6,707	− 667
Mar.	15,995	13,745	4,699	631	3,335	827	9,046	2,250	15,184	552	− 526	14,632	2,776	811
Apr.	20,214	10,938	3,205	− 55	2,782	383	7,733	9,276	18,680	1,314	468	17,366	8,808	1,534
May	12,658	7,912	3,416	− 19	2,585	679	4,496	4,746	12,377	1,460	5	10,917	4,741	281

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

				2019	2020				2021
Item	2018	2019	2020	Q4	Q1	Q2	Q3	Q4	Q1
Acquisition of financial assets									
Currency and deposits	25.63	18.26	100.01	12.06	0.73	46.79	45.71	6.78	19.79
Debt securities	5.24	– 2.23	3.01	– 0.94	0.15	2.47	0.57	– 0.19	– 1.53
Short-term debt securities	1.42	– 1.31	1.27	– 0.31	– 0.32	0.53	1.25	– 0.18	0.12
Long-term debt securities	3.82	– 0.91	1.74	– 0.63	0.47	1.94	– 0.68	– 0.01	– 1.65
Memo item:									
Debt securities of domestic sectors	0.65	– 0.47	1.38	– 0.31	– 0.04	1.80	– 0.48	0.10	– 0.64
Non-financial corporations	0.59	0.51	– 0.17	– 0.25	– 0.02	0.20	0.13	– 0.48	0.10
Financial corporations	1.40	– 0.56	0.12	0.18	– 0.16	0.60	– 0.41	0.09	– 0.55
General government	– 1.34	– 0.41	1.44	– 0.24	0.14	1.00	– 0.20	0.49	– 0.20
Debt securities of the rest of the world	4.60	– 1.76	1.62	– 0.63	0.19	0.67	1.05	– 0.29	– 0.89
Loans	– 0.87	– 2.77	– 19.33	22.98	– 8.06	– 3.19	– 7.81	– 0.28	3.96
Short-term loans	24.05	12.37	– 8.52	26.90	– 9.40	– 2.83	0.49	3.22	– 0.20
Long-term loans	– 24.92	– 15.14	– 10.81	– 3.92	1.33	– 0.35	– 8.30	– 3.50	4.16
Memo item:									
Loans to domestic sectors	6.25	– 25.01	0.28	10.77	– 7.83	6.99	– 3.13	4.24	– 5.83
Non-financial corporations	4.52	– 28.14	– 12.27	12.60	– 9.25	5.75	– 3.86	– 4.90	– 1.66
Financial corporations	1.36	2.90	11.99	– 1.89	1.29	1.11	0.59	9.00	– 4.17
General government	0.36	0.22	0.56	0.06	0.14	0.14	0.14	0.14	0.00
Loans to the rest of the world	– 7.12	22.24	– 19.61	12.21	– 0.24	– 10.18	– 4.68	– 4.52	9.79
Equity and investment fund shares	130.07	91.38	74.98	21.32	57.08	– 15.94	20.83	13.02	19.59
Equity	128.06	82.38	62.19	19.78	56.22	– 17.09	15.96	7.10	15.77
Listed shares of domestic sectors	18.82	6.18	– 77.97	– 7.49	– 1.51	– 18.72	10.02	– 67.75	12.08
Non-financial corporations	18.27	4.62	– 78.06	– 9.14	– 1.32	– 18.55	10.15	– 68.34	12.08
Financial corporations	0.55	1.55	0.09	1.65	– 0.19	– 0.18	– 0.14	0.60	0.01
Listed shares of the rest of the world	– 3.84	5.55	6.54	0.56	0.73	– 1.42	3.43	3.79	0.71
Other equity 1	113.08	70.65	133.62	26.72	57.00	3.05	2.51	71.06	2.98
Investment fund shares	2.01	9.00	12.79	1.54	0.85	1.15	4.87	5.92	3.82
Money market fund shares	– 0.53	1.78	3.79	1.61	– 1.80	0.98	3.27	1.34	– 0.47
Non-MMF investment fund shares	2.54	7.22	9.00	– 0.08	2.65	0.17	1.60	4.58	4.30
Insurance technical reserves	0.39	1.68	2.08	0.33	0.56	0.54	0.50	0.48	0.48
Financial derivatives	2.15	0.54	– 25.09	11.22	– 0.93	– 10.35	– 3.49	– 10.33	21.57
Other accounts receivable	41.43	– 67.06	54.23	– 63.19	10.11	– 54.12	47.51	50.73	21.91
Total	204.03	39.79	189.87	3.78	59.63	– 33.79	103.82	60.22	85.78
External financing									
Debt securities	0.47	20.52	36.25	0.72	6.69	23.36	10.22	– 4.03	2.67
Short-term securities	3.38	4.88	– 4.40	– 3.52	2.17	2.76	– 3.91	– 5.42	– 1.19
Long-term securities	– 2.91	15.64	40.65	4.24	4.53	20.60	14.13	1.39	3.86
Memo item:									
Debt securities of domestic sectors	3.48	6.62	18.12	0.63	1.55	11.47	5.05	0.06	1.94
Non-financial corporations	0.59	0.51	– 0.17	– 0.25	– 0.02	0.20	0.13	– 0.48	0.10
Financial corporations	2.89	5.31	19.86	0.46	2.05	11.20	5.44	1.18	1.96
General government	0.01	0.47	– 0.22	0.42	– 0.10	– 0.19	0.05	0.01	0.14
Households	– 0.01	0.34	– 1.35	– 0.01	– 0.39	0.26	– 0.57	– 0.65	– 0.26
Debt securities of the rest of the world	– 3.01	13.90	18.13	0.09	5.15	11.89	5.17	– 4.08	0.73
Loans	157.71	77.15	68.70	16.41	33.60	28.80	1.05	5.25	19.52
Short-term loans	72.92	23.58	– 20.17	9.68	14.36	– 26.96	– 0.18	– 7.39	24.71
Long-term loans	84.78	53.57	88.88	6.73	19.24	55.76	1.23	12.65	– 5.18
Memo item:									
Loans from domestic sectors	86.80	33.41	30.73	26.24	9.98	23.80	– 3.15	0.11	26.47
Non-financial corporations	4.52	– 28.14	– 12.27	12.60	– 9.25	5.75	– 3.86	– 4.90	– 1.66
Financial corporations	80.88	60.35	9.46	9.57	23.59	2.07	– 9.65	– 6.55	27.18
General government	1.40	1.20	33.54	4.07	– 4.36	15.99	10.36	11.56	0.94
Loans from the rest of the world	70.91	43.74	37.97	– 9.84	23.62	5.00	4.20	5.14	– 6.94
Equity	16.08	17.96	56.49	5.18	6.07	9.74	21.58	19.10	14.52
Listed shares of domestic sectors	73.22	– 24.49	– 62.04	– 9.38	7.20	– 13.53	10.80	– 66.51	14.77
Non-financial corporations	18.27	4.62	– 78.06	– 9.14	– 1.32	– 18.55	10.15	– 68.34	12.08
Financial corporations	46.75	– 33.13	3.68	0.61	1.65	1.44	– 1.00	1.59	– 0.49
General government	0.53	– 0.01	0.26	– 0.05	0.20	0.09	– 0.01	– 0.01	– 0.07
Households	7.67	4.03	12.08	– 0.80	6.66	3.50	1.67	0.25	3.25
Listed shares of the rest of the world	– 31.95	– 1.59	12.49	14.28	– 5.95	18.40	– 1.32	1.37	– 4.52
Other equity 1	– 25.20	44.04	106.03	0.28	4.82	4.87	12.10	84.24	4.27
Insurance technical reserves	6.08	2.81	2.81	0.70	0.70	0.70	0.70	0.70	0.70
Financial derivatives and employee stock options	– 0.49	– 1.38	0.54	– 3.21	1.49	– 2.26	0.06	1.26	– 0.94
Other accounts payable	54.18	5.79	13.65	– 21.04	– 2.69	– 45.17	39.43	22.08	53.58
Total	234.01	122.85	178.44	– 1.24	45.87	15.18	73.04	44.36	90.05

1 Including unlisted shares.

IX. Financial accounts

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

End of year/quarter; € billion

				2019	2020				2021
Item	2018	2019	2020	Q4	Q4	Q1	Q2	Q3	Q4
Financial assets									
Currency and deposits	583.6	578.4	720.7	578.4	599.9	631.3	703.4	720.7	714.6
Debt securities	50.8	49.6	51.5	49.6	48.2	51.5	51.5	51.5	49.9
Short-term debt securities	4.9	3.7	4.8	3.7	3.4	3.8	5.1	4.8	5.0
Long-term debt securities	45.9	45.9	46.7	45.9	44.9	47.7	46.3	46.7	44.9
Memo item:									
Debt securities of domestic sectors	21.3	21.1	22.1	21.1	20.3	22.3	21.9	22.1	21.4
Non-financial corporations	4.5	5.0	4.7	5.0	4.7	5.0	5.1	4.7	4.7
Financial corporations	13.8	13.6	13.4	13.6	12.9	13.6	13.2	13.4	12.9
General government	3.0	2.6	4.0	2.6	2.7	3.7	3.5	4.0	3.8
Debt securities of the rest of the world	29.5	28.4	29.4	28.4	28.0	29.2	29.6	29.4	28.5
Loans	733.8	733.4	717.0	733.4	724.2	728.7	718.4	717.0	722.4
Short-term loans	555.6	569.4	565.8	569.4	559.1	564.4	563.2	565.8	565.9
Long-term loans	178.2	164.0	151.2	164.0	165.1	164.3	155.2	151.2	156.4
Memo item:									
Loans to domestic sectors	440.2	415.2	415.5	415.2	407.4	414.4	411.3	415.5	409.7
Non-financial corporations	368.0	339.9	327.6	339.9	330.6	336.4	332.5	327.6	325.9
Financial corporations	65.2	68.1	80.1	68.1	69.4	70.5	71.1	80.1	75.9
General government	7.1	7.3	7.9	7.3	7.4	7.6	7.7	7.9	7.9
Loans to the rest of the world	293.6	318.1	301.5	318.1	316.8	314.3	307.2	301.5	312.7
Equity and investment fund shares	2,164.5	2,425.8	2,495.2	2,425.8	2,218.7	2,380.0	2,413.5	2,495.2	2,653.1
Equity	1,998.1	2,235.8	2,290.4	2,235.8	2,042.9	2,193.4	2,220.0	2,290.4	2,440.7
Listed shares of domestic sectors	302.6	342.0	307.0	342.0	288.4	337.2	352.5	307.0	359.4
Non-financial corporations	296.0	332.9	298.9	332.9	281.4	329.6	346.0	298.9	350.9
Financial corporations	6.6	9.0	8.1	9.0	7.0	7.6	6.5	8.1	8.5
Listed shares of the rest of the world	40.2	50.7	66.6	50.7	45.3	47.4	55.3	66.6	71.0
Other equity [1]	1,655.4	1,843.1	1,916.9	1,843.1	1,709.2	1,808.8	1,812.3	1,916.9	2,010.4
Investment fund shares	166.4	190.0	204.7	190.0	175.8	186.6	193.5	204.7	212.4
Money market fund shares	1.0	3.2	7.0	3.2	1.4	2.4	5.7	7.0	6.5
Non-MMF investment fund shares	165.4	186.8	197.8	186.8	174.4	184.2	187.8	197.8	205.9
Insurance technical reserves	56.3	59.1	62.2	59.1	59.9	60.6	61.4	62.2	62.9
Financial derivatives	33.3	31.6	31.1	31.6	44.6	34.8	29.7	31.1	31.0
Other accounts receivable	1,171.0	1,244.8	1,225.6	1,244.8	1,210.8	1,123.1	1,183.3	1,225.6	1,331.0
Total	4,793.4	5,122.6	5,303.2	5,122.6	4,906.3	5,010.1	5,161.2	5,303.2	5,564.9
Liabilities									
Debt securities	181.3	204.7	249.2	204.7	202.9	238.6	251.4	249.2	251.1
Short-term securities	6.8	11.9	7.1	11.9	13.9	16.6	12.6	7.1	5.9
Long-term securities	174.5	192.9	242.1	192.9	189.0	222.0	238.9	242.1	245.1
Memo item:									
Debt securities of domestic sectors	70.1	77.7	96.0	77.7	74.3	88.8	94.9	96.0	95.6
Non-financial corporations	4.5	5.0	4.7	5.0	4.7	5.0	5.1	4.7	4.7
Financial corporations	51.5	57.8	78.1	57.8	56.4	69.7	76.1	78.1	78.0
General government	0.1	0.6	0.4	0.6	0.5	0.3	0.4	0.4	0.5
Households	14.0	14.4	12.8	14.4	12.8	13.8	13.3	12.8	12.5
Debt securities of the rest of the world	111.1	127.0	153.2	127.0	128.5	149.9	156.6	153.2	155.5
Loans	2,049.5	2,127.5	2,187.5	2,127.5	2,161.0	2,190.8	2,186.0	2,187.5	2,208.1
Short-term loans	793.5	820.3	794.4	820.3	834.9	806.2	803.5	794.4	821.6
Long-term loans	1,256.0	1,307.2	1,393.2	1,307.2	1,326.1	1,384.6	1,382.5	1,393.2	1,386.5
Memo item:									
Loans from domestic sectors	1,325.2	1,358.6	1,388.7	1,358.6	1,368.6	1,394.4	1,389.4	1,388.7	1,417.1
Non-financial corporations	368.0	339.9	327.6	339.9	330.6	336.4	332.5	327.6	325.9
Financial corporations	906.8	966.8	974.3	966.8	989.8	993.5	981.9	974.3	1,003.9
General government	50.5	51.9	86.7	51.9	48.1	64.5	75.0	86.7	87.2
Loans from the rest of the world	724.3	768.9	798.9	768.9	792.4	796.5	796.6	798.9	791.0
Equity	2,701.1	3,102.2	3,259.8	3,102.2	2,572.7	2,950.1	3,092.2	3,259.8	3,516.9
Listed shares of domestic sectors	659.1	733.2	739.2	733.2	594.9	710.7	746.7	739.2	847.5
Non-financial corporations	296.0	332.9	298.9	332.9	281.4	329.6	346.0	298.9	350.9
Financial corporations	161.7	157.2	171.2	157.2	126.0	149.8	155.4	171.2	191.7
General government	41.6	51.8	56.3	51.8	41.8	50.5	53.3	56.3	67.3
Households	159.8	191.3	212.8	191.3	145.7	180.8	192.0	212.8	237.6
Listed shares of the rest of the world	765.0	959.4	996.3	959.4	689.5	856.5	924.2	996.3	1,082.8
Other equity [1]	1,277.0	1,409.6	1,524.3	1,409.6	1,288.3	1,382.9	1,421.3	1,524.3	1,586.6
Insurance technical reserves	269.8	272.6	275.4	272.6	273.3	274.0	274.7	275.4	276.1
Financial derivatives and employee stock options	65.4	67.0	88.1	67.0	87.4	90.4	84.5	88.1	73.0
Other accounts payable	1,188.7	1,317.0	1,305.3	1,317.0	1,276.1	1,240.8	1,289.3	1,305.3	1,409.1
Total	6,455.7	7,091.0	7,365.3	7,091.0	6,573.3	6,984.7	7,178.1	7,365.3	7,734.2

1 Including unlisted shares.

IX. Financial accounts

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

€ billion

				2019	2020				2021
Item	2018	2019	2020	Q4	Q4	Q1	Q2	Q3	Q4
Acquisition of financial assets									
Currency and deposits	137.95	142.38	209.95	51.88	20.98	73.07	41.48	74.43	48.74
Currency	29.92	35.37	61.57	12.99	16.38	16.97	11.95	16.27	12.96
Deposits	108.03	107.01	148.38	38.90	4.60	56.10	29.53	58.15	35.78
Transferable deposits	109.88	111.01	165.34	42.16	18.74	58.64	31.76	56.20	34.31
Time deposits	6.78	1.47	– 1.70	0.71	– 3.11	– 0.85	0.41	1.85	– 0.01
Savings deposits (including savings certificates)	– 8.63	– 5.47	– 15.26	– 3.97	– 11.04	– 1.70	– 2.63	0.10	1.48
Debt securities	1.62	– 1.85	– 5.94	– 1.61	– 1.47	0.38	– 1.67	– 3.18	– 2.66
Short-term debt securities	– 0.13	– 0.53	0.08	0.02	– 0.03	0.16	0.10	– 0.16	0.16
Long-term debt securities	1.74	– 1.32	– 6.02	– 1.63	– 1.44	0.22	– 1.77	– 3.03	– 2.82
Memo item:									
Debt securities of domestic sectors	2.24	– 2.93	– 2.56	– 2.38	– 0.14	0.55	– 1.17	– 1.79	– 1.07
Non-financial corporations	– 0.10	0.21	– 1.32	– 0.04	– 0.32	0.19	– 0.56	– 0.62	– 0.28
Financial corporations	2.81	– 2.22	– 1.26	– 1.75	– 0.35	0.47	– 0.36	– 1.02	– 0.67
General government	– 0.46	– 0.92	0.02	– 0.58	0.53	– 0.11	– 0.24	– 0.15	– 0.12
Debt securities of the rest of the world	– 0.62	1.08	– 3.38	0.77	– 1.32	– 0.17	– 0.50	– 1.39	– 1.59
Equity and investment fund shares	38.44	49.78	90.16	16.20	19.39	28.96	20.35	21.46	28.06
Equity	18.84	18.94	48.52	3.43	13.62	15.57	11.60	7.72	2.57
Listed shares of domestic sectors	9.44	6.61	16.06	– 0.24	8.07	6.35	1.98	– 0.35	3.39
Non-financial corporations	6.28	3.52	11.92	– 1.19	6.47	3.41	1.71	0.33	3.12
Financial corporations	3.16	3.09	4.14	0.95	1.61	2.94	0.27	– 0.68	0.27
Listed shares of the rest of the world	4.37	7.46	23.27	2.58	3.02	6.40	7.43	6.43	– 1.74
Other equity 1	5.03	4.86	9.18	1.08	2.53	2.82	2.20	1.64	0.92
Investment fund shares	19.60	30.84	41.64	12.78	5.76	13.39	8.75	13.74	25.50
Money market fund shares	– 0.22	– 0.32	0.09	– 0.37	0.38	– 0.10	0.10	– 0.29	0.09
Non-MMF investment fund shares	19.81	31.16	41.55	13.14	5.38	13.49	8.65	14.03	25.41
Non-life insurance technical reserves and provision for calls under standardised guarantees	15.80	17.93	20.04	6.57	5.28	5.63	5.55	3.58	5.43
Life insurance and annuity entitlements	28.22	34.85	25.89	8.66	10.64	3.79	6.19	5.27	11.65
Pension entitlement, claims of pension funds on pension managers, entitlements to non-pension benefits	37.28	27.51	38.49	4.75	11.53	7.55	7.04	12.36	9.49
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	– 9.28	– 2.74	7.67	– 27.13	24.04	– 9.72	7.23	– 13.88	28.05
Total	250.02	267.85	386.26	59.33	90.39	109.67	86.18	100.03	128.76
External financing									
Loans	68.41	81.16	82.39	16.59	13.13	17.63	27.53	24.10	16.55
Short-term loans	2.44	0.92	– 5.51	0.20	– 1.58	– 2.29	– 0.52	– 1.12	0.48
Long-term loans	65.97	80.23	87.89	16.39	14.71	19.91	28.05	25.22	16.08
Memo item:									
Mortgage loans	57.42	67.17	84.16	19.79	15.69	18.47	25.54	24.47	18.52
Consumer loans	11.14	14.42	– 4.29	– 1.96	– 2.67	– 2.05	1.08	– 0.66	– 1.14
Entrepreneurial loans	– 0.14	– 0.43	2.51	– 1.25	0.10	1.21	0.91	0.29	– 0.82
Memo item:									
Loans from monetary financial institutions	61.72	73.41	83.17	18.60	15.52	17.96	27.32	22.37	14.85
Loans from other financial institutions	6.69	7.74	– 0.78	– 2.01	– 2.39	– 0.34	0.21	1.73	1.71
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	0.80	0.31	0.40	– 0.50	– 0.17	0.25	0.31	0.01	0.01
Total	69.21	81.46	82.79	16.09	12.96	17.88	27.84	24.11	16.56

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	2018	2019	2020	2019 Q4	2020 Q4	2021 Q1	Q2	Q3	Q4
Financial assets									
Currency and deposits	2,457.4	2,599.8	2,809.4	2,599.8	2,620.8	2,693.9	2,735.0	2,809.4	2,858.1
Currency	227.3	262.7	324.3	262.7	279.1	296.0	308.0	324.3	337.2
Deposits	2,230.1	2,337.1	2,485.2	2,337.1	2,341.7	2,397.8	2,427.0	2,485.2	2,520.9
Transferable deposits	1,398.0	1,509.1	1,674.1	1,509.1	1,527.8	1,586.4	1,617.9	1,674.1	1,708.3
Time deposits	252.4	253.9	252.1	253.9	250.8	249.9	250.3	252.1	252.2
Savings deposits (including savings certificates)	579.7	574.2	558.9	574.2	563.2	561.5	558.8	558.9	560.4
Debt securities	117.5	121.4	113.7	121.4	108.9	114.5	113.7	113.7	112.8
Short-term debt securities	2.1	1.6	1.6	1.6	1.5	1.7	1.8	1.6	1.7
Long-term debt securities	115.4	119.7	112.0	119.7	107.4	112.7	111.9	112.0	111.0
Memo item:									
Debt securities of domestic sectors	80.2	81.4	76.7	81.4	72.3	76.7	76.1	76.7	77.3
Non-financial corporations	12.1	12.4	10.9	12.4	11.0	11.8	11.3	10.9	10.5
Financial corporations	64.6	66.6	63.3	66.6	58.2	62.0	62.1	63.3	64.4
General government	3.4	2.5	2.6	2.5	3.1	3.0	2.7	2.6	2.4
Debt securities of the rest of the world	37.4	39.9	36.9	39.9	36.6	37.8	37.6	36.9	35.4
Equity and investment fund shares	1,162.2	1,386.4	1,539.0	1,386.4	1,220.7	1,374.3	1,423.6	1,539.0	1,656.8
Equity	588.8	706.1	804.5	706.1	618.9	708.4	735.9	804.5	866.1
Listed shares of domestic sectors	184.1	223.9	243.3	223.9	171.7	209.2	217.3	243.3	271.7
Non-financial corporations	151.9	182.3	204.0	182.3	138.7	172.3	183.6	204.0	228.2
Financial corporations	32.2	41.6	39.2	41.6	33.0	36.9	33.7	39.2	43.4
Listed shares of the rest of the world	100.2	136.3	180.5	136.3	116.9	144.7	156.1	180.5	199.5
Other equity [1]	304.5	345.9	380.7	345.9	330.3	354.5	362.5	380.7	395.0
Investment fund shares	573.4	680.2	734.5	680.2	601.9	665.9	687.7	734.5	790.7
Money market fund shares	2.4	2.3	2.3	2.3	2.7	2.7	2.7	2.3	2.4
Non-MMF investment fund shares	571.1	678.0	732.2	678.0	599.2	663.2	684.9	732.2	788.3
Non-life insurance technical reserves and provision for calls under standardised guarantees	375.9	393.8	413.9	393.8	399.1	404.7	410.3	413.9	419.3
Life insurance and annuity entitlements	1,011.1	1,069.1	1,094.3	1,069.1	1,079.6	1,083.2	1,089.2	1,094.3	1,106.0
Pension entitlement, claims of pension funds on pension managers, entitlements to non-pension benefits	883.8	911.4	949.8	911.4	922.9	930.4	937.5	949.8	959.3
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]	29.6	29.6	30.4	29.6	29.0	29.6	30.0	30.4	30.3
Total	6,037.6	6,511.5	6,950.5	6,511.5	6,381.0	6,630.5	6,739.2	6,950.5	7,142.5
Liabilities									
Loans	1,775.6	1,857.8	1,940.1	1,857.8	1,871.0	1,886.6	1,915.3	1,940.1	1,957.0
Short-term loans	58.1	58.8	53.1	58.8	57.2	54.9	54.2	53.1	53.5
Long-term loans	1,717.5	1,799.0	1,887.0	1,799.0	1,813.8	1,831.7	1,861.1	1,887.0	1,903.5
Memo item:									
Mortgage loans	1,307.9	1,378.6	1,463.7	1,378.6	1,394.4	1,412.5	1,438.8	1,463.7	1,482.2
Consumer loans	218.1	231.4	226.1	231.4	228.8	226.0	227.0	226.1	224.6
Entrepreneurial loans	249.7	247.7	250.2	247.7	247.8	248.1	249.5	250.2	250.2
Memo item:									
Loans from monetary financial institutions	1,667.2	1,741.6	1,824.6	1,741.6	1,757.2	1,773.2	1,801.6	1,824.6	1,839.8
Loans from other financial institutions	108.5	116.2	115.4	116.2	113.8	113.5	113.7	115.4	117.1
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	18.3	19.2	19.3	19.2	20.7	21.0	20.6	19.3	21.0
Total	1,793.9	1,877.0	1,959.4	1,877.0	1,891.7	1,907.7	1,935.9	1,959.4	1,977.9

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]										
2015	+ 29.1	+ 17.6	+ 4.6	+ 3.7	+ 3.2	+ 1.0	+ 0.6	+ 0.2	+ 0.1	+ 0.1
2016	+ 36.4	+ 13.7	+ 7.7	+ 6.3	+ 8.7	+ 1.2	+ 0.4	+ 0.2	+ 0.2	+ 0.3
2017 p	+ 44.4	+ 7.8	+ 13.9	+ 11.4	+ 11.2	+ 1.4	+ 0.2	+ 0.4	+ 0.4	+ 0.3
2018 p	+ 61.6	+ 20.8	+ 12.1	+ 12.8	+ 16.0	+ 1.8	+ 0.6	+ 0.4	+ 0.4	+ 0.5
2019 p	+ 52.5	+ 22.7	+ 16.0	+ 5.1	+ 8.7	+ 1.5	+ 0.7	+ 0.5	+ 0.1	+ 0.3
2020 pe	– 149.2	– 88.4	– 31.9	+ 5.3	– 34.2	– 4.5	– 2.7	– 1.0	+ 0.2	– 1.0
2019 H1 p	+ 46.5	+ 19.0	+ 13.0	+ 6.4	+ 8.1	+ 2.7	+ 1.1	+ 0.8	+ 0.4	+ 0.5
H2 p	+ 6.0	+ 3.7	+ 3.0	– 1.3	+ 0.6	+ 0.3	+ 0.2	+ 0.2	– 0.1	+ 0.0
2020 H1 pe	– 52.1	– 29.2	– 10.2	+ 0.2	– 12.9	– 3.2	– 1.8	– 0.6	+ 0.0	– 0.8
H2 pe	– 97.1	– 59.2	– 21.7	+ 5.1	– 21.3	– 5.7	– 3.4	– 1.3	+ 0.3	– 1.2
Debt level[2]										**End of year or quarter**
2015	2,189.1	1,372.3	658.2	176.3	1.5	72.3	45.3	21.8	5.8	0.0
2016	2,172.3	1,365.9	640.9	178.0	1.2	69.3	43.6	20.4	5.7	0.0
2017 p	2,122.9	1,350.3	613.6	175.2	0.8	65.1	41.4	18.8	5.4	0.0
2018 p	2,074.1	1,323.1	599.8	167.4	0.7	61.8	39.4	17.9	5.0	0.0
2019 p	2,057.6	1,299.8	609.4	165.1	0.7	59.7	37.7	17.7	4.8	0.0
2020 p	2,325.5	1,513.2	662.5	163.6	7.4	69.7	45.4	19.9	4.9	0.2
2019 Q1 p	2,084.4	1,324.5	611.7	165.7	0.7	61.6	39.2	18.1	4.9	0.0
Q2 p	2,074.8	1,320.4	609.9	164.3	0.7	61.1	38.9	18.0	4.8	0.0
Q3 p	2,091.7	1,328.1	619.9	163.7	0.6	61.0	38.8	18.1	4.8	0.0
Q4 p	2,057.6	1,299.8	609.4	165.1	0.7	59.7	37.7	17.7	4.8	0.0
2020 Q1 p	2,103.2	1,327.7	624.4	165.1	0.8	60.9	38.4	18.1	4.8	0.0
Q2 p	2,272.3	1,473.9	645.9	165.3	1.0	67.3	43.7	19.1	4.9	0.0
Q3 p	2,344.8	1,536.9	655.5	166.5	4.6	70.0	45.9	19.6	5.0	0.1
Q4 p	2,325.5	1,513.2	662.5	163.6	7.4	69.7	45.4	19.9	4.9	0.2
2021 Q1 p	2,366.7	1,538.8	673.9	167.9	16.2	71.1	46.3	20.3	5.0	0.5

Sources: Federal Statistical Office and Bundesbank calculations. **1** The deficit/surplus in accordance with ESA 2010 corresponds to the Maastricht definition. **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**
		of which:				of which:							
	Total	Taxes	Social con-tributions	Other	Total	Social benefits	Compen-sation of employees	Inter-mediate consumption	Gross capital formation	Interest	Other		
€ billion													
2015	1,364.9	705.1	501.2	158.6	1,335.8	721.9	233.0	153.0	64.5	42.2	121.2	+ 29.1	1,213.3
2016	1,426.7	739.2	524.3	163.3	1,390.4	754.5	240.7	162.5	68.1	37.3	127.2	+ 36.4	1,270.4
2017 p	1,485.2	773.1	549.5	162.5	1,440.8	783.9	250.1	168.4	71.6	33.7	133.0	+ 44.4	1,329.4
2018 p	1,553.8	808.0	572.6	173.2	1,492.2	806.0	259.6	173.4	78.7	31.1	143.5	+ 61.6	1,387.6
2019 p	1,610.6	834.1	597.5	179.0	1,558.1	845.9	271.5	181.9	86.2	27.5	145.1	+ 52.5	1,438.7
2020 pe	1,563.1	780.0	607.1	176.0	1,712.3	904.3	283.7	209.3	92.3	22.2	200.4	– 149.2	1,394.1
As a percentage of GDP													
2015	45.1	23.3	16.6	5.2	44.1	23.9	7.7	5.1	2.1	1.4	4.0	+ 1.0	40.1
2016	45.5	23.6	16.7	5.2	44.4	24.1	7.7	5.2	2.2	1.2	4.1	+ 1.2	40.5
2017 p	45.6	23.7	16.9	5.0	44.2	24.0	7.7	5.2	2.2	1.0	4.1	+ 1.4	40.8
2018 p	46.3	24.1	17.1	5.2	44.5	24.0	7.7	5.2	2.3	0.9	4.3	+ 1.8	41.3
2019 p	46.7	24.2	17.3	5.2	45.2	24.5	7.9	5.3	2.5	0.8	4.2	+ 1.5	41.7
2020 pe	46.9	23.4	18.2	5.3	51.3	27.1	8.5	6.3	2.8	0.7	6.0	– 4.5	41.8
Percentage growth rates													
2015	+ 3.9	+ 4.8	+ 3.9	+ 0.0	+ 3.0	+ 4.4	+ 2.4	+ 4.0	+ 6.6	– 10.5	– 1.8	.	+ 4.6
2016	+ 4.5	+ 4.8	+ 4.6	+ 2.9	+ 4.1	+ 4.5	+ 3.3	+ 6.2	+ 5.6	– 11.7	+ 4.9	.	+ 4.7
2017 p	+ 4.1	+ 4.6	+ 4.8	– 0.4	+ 3.6	+ 3.9	+ 3.9	+ 3.6	+ 5.1	– 9.5	+ 4.6	.	+ 4.6
2018 p	+ 4.6	+ 4.5	+ 4.2	+ 6.6	+ 3.6	+ 2.8	+ 3.8	+ 3.0	+ 9.8	– 7.8	+ 7.8	.	+ 4.4
2019 p	+ 3.6	+ 3.2	+ 4.4	+ 3.3	+ 4.4	+ 4.9	+ 4.6	+ 4.9	+ 9.6	– 11.6	+ 1.1	.	+ 3.7
2020 pe	– 2.9	– 6.5	+ 1.6	– 1.6	+ 9.9	+ 6.9	+ 4.5	+ 15.1	+ 7.2	– 19.0	+ 38.1	.	– 3.1

Source: Federal Statistical Office. * Figures in accordance with ESA 2010. **1** Taxes and social contributions plus customs duties and bank levies to the Single Resolution Fund.

X. Public finances in Germany

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

€ billion

Period	Central, state and local government [1]										Social security funds [2]			General government, total		
	Revenue			Expenditure												
		of which:			of which: [3]											
	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
2014 p	791.8	643.6	11.3	788.9	236.0	295.1	57.1	45.9	17.6	+ 2.9	554.5	551.1	+ 3.5	1,245.2	1,238.8	+ 6.4
2015 p	829.8	673.3	10.4	804.3	244.1	302.7	49.8	46.4	12.5	+ 25.5	575.0	573.1	+ 1.9	1,301.1	1,273.6	+ 27.4
2016 p	862.3	705.8	9.0	844.5	251.3	321.6	43.4	49.0	11.8	+ 17.8	601.8	594.8	+ 7.1	1,355.1	1,330.2	+ 24.9
2017 p	900.3	734.5	7.9	869.4	261.6	327.9	42.0	52.3	13.8	+ 30.8	631.5	622.0	+ 9.5	1,417.5	1,377.2	+ 40.3
2018 p	951.8	776.3	6.2	905.6	272.5	338.0	39.2	55.8	16.1	+ 46.2	656.2	642.5	+ 13.6	1,490.7	1,430.9	+ 59.8
2019 p	1,010.4	799.4	11.2	975.4	285.9	349.7	33.6	62.9	16.8	+ 35.0	684.7	676.7	+ 8.0	1,573.7	1,530.6	+ 43.1
2020 p	948.8	739.9	13.9	1,111.3	299.4	422.2	25.9	69.1	60.3	– 162.5	719.1	746.3	– 27.2	1,520.4	1,710.1	– 189.7
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
Q3 p	228.8	189.0	1.8	223.6	67.0	84.6	13.4	14.4	1.9	+ 5.2	161.8	161.1	+ 0.7	361.3	355.5	+ 5.9
Q4 p	255.2	203.9	2.2	262.1	73.1	89.7	6.2	20.3	9.6	– 6.9	174.6	163.4	+ 11.2	400.7	396.4	+ 4.3
2019 Q1 p	240.9	192.7	2.5	230.4	71.0	88.5	11.5	10.2	3.3	+ 10.5	163.3	166.4	– 3.1	374.3	366.8	+ 7.5
Q2 p	256.3	201.7	2.0	233.4	67.5	87.0	12.2	13.0	2.6	+ 22.8	169.9	168.4	+ 1.5	396.1	371.9	+ 24.3
Q3 p	245.3	194.7	3.4	236.7	70.9	86.2	4.5	16.4	3.1	+ 8.6	168.8	170.3	– 1.5	384.0	376.9	+ 7.1
Q4 p	269.3	210.6	3.2	272.1	76.1	87.5	5.1	22.5	7.7	– 2.8	181.9	172.6	+ 9.3	420.9	414.4	+ 6.5
2020 Q1 p	244.8	197.4	2.5	239.1	75.6	90.5	11.9	12.0	2.6	+ 5.7	168.3	175.7	– 7.4	380.0	381.7	– 1.7
Q2 p	212.1	158.0	2.7	269.2	69.5	119.2	8.6	15.4	3.4	– 57.1	175.9	187.0	– 11.1	354.6	422.9	– 68.2
Q3 p	227.7	181.5	4.0	282.2	72.4	101.9	1.4	18.3	34.3	– 54.5	181.1	195.0	– 13.9	370.0	438.4	– 68.4
Q4 p	261.1	202.0	4.5	314.8	81.4	109.1	5.8	22.7	19.8	– 53.7	186.0	189.5	– 3.5	410.1	467.3	– 57.2

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

Period	Central government			State government [2,3]			Local government [3]		
	Revenue [1]	Expenditure	Deficit/surplus	Revenue	Expenditure	Deficit/surplus	Revenue	Expenditure	Deficit/surplus
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
2018 p	374.4	363.5	+ 10.9	420.5	400.1	+ 20.4	271.8	261.5	+ 10.2
2019 p	382.5	369.2	+ 13.3	437.3	419.5	+ 17.9	284.2	278.1	+ 6.1
2020 p	341.4	472.1	– 130.7	458.8	488.9	– 30.1	297.0	294.6	+ 2.4
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
Q3 p	91.7	95.9	– 4.2	100.7	95.4	+ 5.3	66.0	64.3	+ 1.7
Q4 p	100.4	103.9	– 3.5	113.4	118.5	– 5.1	80.4	73.1	+ 7.3
2019 Q1 p	84.7	86.1	– 1.4	105.7	99.4	+ 6.2	58.2	63.2	– 4.9
Q2 p	97.7	90.3	+ 7.4	106.0	97.5	+ 8.5	70.6	65.9	+ 4.7
Q3 p	93.2	91.3	+ 1.9	107.9	102.6	+ 5.2	69.1	69.2	– 0.1
Q4 p	106.9	101.5	+ 5.4	115.6	118.2	– 2.6	84.5	78.4	+ 6.0
2020 Q1 p	92.3	90.4	+ 1.9	105.6	102.4	+ 3.2	57.9	67.7	– 9.8
Q2 p	70.8	114.8	– 44.0	108.2	125.3	– 17.1	69.4	69.4	+ 0.1
Q3 p	83.8	105.5	– 21.7	112.9	113.7	– 0.8	67.5	72.6	– 5.1
Q4 p	94.5	161.5	– 67.0	129.8	145.8	– 16.0	100.3	83.5	+ 16.8

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: Total	Central government 1	State government 1	European Union 2	Local government 3	Balance of untransferred tax shares 4	Memo item: Amounts deducted in the Federal budget 5
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
2018	776,314	665,005	349,134	287,282	28,589	111,308	+ 1	26,775
2019	799,416	684,491	355,050	298,519	30,921	114,902	+ 23	25,998
2020	739,880	632,237	313,381	286,065	32,791	107,916	– 274	30,266
2019 Q1	193,054	162,696	79,669	71,578	11,450	19,816	+ 10,541	6,270
Q2	202,383	172,563	90,883	75,455	6,224	29,784	+ 37	6,179
Q3	193,918	166,676	86,117	72,677	7,882	27,569	– 327	7,402
Q4	210,062	182,556	98,381	78,809	5,365	37,733	– 10,227	6,146
2020 Q1	198,351	168,099	83,086	75,420	9,593	18,875	+ 11,377	6,855
Q2	158,161	135,185	68,653	59,557	6,974	25,107	– 2,131	6,997
Q3	182,202	156,397	78,502	72,613	5,282	25,234	+ 571	9,705
Q4	201,167	172,557	83,140	78,475	10,942	38,700	– 10,090	6,709
2021 Q1	189,223	159,178	72,814	73,137	13,227	19,882	+ 10,163	6,887
2020 Apr.	.	35,898	17,895	15,389	2,615	.	.	2,357
May	.	39,181	18,301	17,100	3,780	.	.	2,320
2021 Apr.	.	47,886	23,203	21,816	2,867	.	.	2,479
May	.	47,113	23,117	20,899	3,097	.	.	2,479

Sources: Federal Ministry of Finance, Federal Statistical Office and Bundesbank calculations. **1** Before deducting or adding supplementary central government transfers, 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: Income taxes 2: Total	Wage tax 3	Assessed income tax	Corporation tax	Investment income tax 4	Value added taxes (VAT) 5: Total	Domestic VAT	Import VAT	Local business tax transfers 6	Central government taxes 7	State government taxes 7	EU customs duties	Memo item: Local government share in joint taxes
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
2018	713,576	332,141	208,231	60,415	33,425	30,069	234,800	175,437	59,363	9,078	108,586	23,913	5,057	48,571
2019	735,869	344,016	219,660	63,711	32,013	28,632	243,256	183,113	60,143	8,114	109,548	25,850	5,085	51,379
2020	682,345	320,798	209,286	58,982	24,268	28,261	219,484	168,700	50,784	3,954	105,632	27,775	4,703	50,107
2019 Q1	175,216	82,996	50,923	17,453	9,194	5,426	60,402	46,018	14,384	121	23,968	6,531	1,197	12,519
Q2	185,333	90,134	54,437	16,069	8,085	11,543	59,101	43,943	15,158	2,113	26,625	6,087	1,273	12,770
Q3	179,020	81,267	53,668	13,614	7,607	6,379	61,057	45,976	15,081	2,221	26,654	6,485	1,336	12,344
Q4	196,300	89,619	60,632	16,575	7,128	5,284	62,696	47,175	15,520	3,660	32,301	6,746	1,279	13,745
2020 Q1	181,350	88,009	53,389	18,711	8,495	7,415	60,060	46,038	14,022	244	24,517	7,406	1,114	13,251
Q2	146,360	69,928	50,760	10,633	2,348	6,187	44,262	31,625	12,638	1,170	23,525	6,326	1,149	11,175
Q3	168,308	73,766	47,470	13,492	5,411	7,392	59,819	47,933	11,886	796	25,930	6,784	1,212	11,910
Q4	186,327	89,094	57,667	16,146	8,014	7,268	55,343	43,105	12,238	1,744	31,660	7,259	1,227	13,770
2021 Q1	171,881	86,381	50,854	17,826	10,203	7,498	54,795	45,403	9,392	252	21,712	7,757	983	12,703
2020 Apr.	39,030	16,250	17,542	– 713	– 2,481	1,903	11,423	6,904	4,519	975	7,954	2,045	383	3,132
May	41,987	15,508	15,135	– 999	– 225	1,596	16,505	12,319	4,187	197	7,240	2,127	409	2,805
2021 Apr.	51,471	22,156	18,439	318	1,250	2,150	18,316	13,189	5,127	998	7,083	2,441	478	3,586
May	50,012	16,654	13,918	– 218	– 21	2,975	22,740	16,595	6,146	215	7,611	2,382	410	2,899

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 2020: 43.0:52.9:4.1. The EU share is deducted from central government's share. **6** Respective percentage share of central and state government for 2020: 39.8:60.2. **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		
														of which:	
	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	Local business tax 2	Real property taxes
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
2018	40,882	18,927	14,339	13,779	9,047	6,858	2,133	2,622	14,083	6,813	1,894	1,122	71,817	55,904	14,203
2019	40,683	19,646	14,257	14,136	9,372	6,689	2,118	2,648	15,789	6,987	1,975	1,099	71,661	55,527	14,439
2020	37,635	18,676	14,651	14,553	9,526	6,561	2,238	1,792	16,055	8,600	2,044	1,076	61,489	45,471	14,676
2019 Q1	4,848	4,679	2,495	6,542	2,594	1,646	579	586	3,976	1,705	499	351	17,959	14,139	3,350
Q2	9,937	5,257	3,588	2,543	2,491	1,659	485	665	3,667	1,660	513	247	19,163	14,869	3,881
Q3	10,519	4,624	3,667	2,770	2,251	1,639	515	668	3,923	1,824	474	264	17,118	12,659	4,019
Q4	15,379	5,086	4,507	2,281	2,035	1,745	538	730	4,223	1,798	488	237	17,422	13,861	3,190
2020 Q1	4,966	4,930	2,413	6,766	2,634	1,708	562	537	4,525	1,981	542	358	17,245	13,391	3,403
Q2	8,117	4,235	3,772	2,606	2,426	1,585	455	328	3,566	2,154	425	181	12,971	8,842	3,895
Q3	9,985	4,365	3,978	2,817	2,366	1,499	506	414	3,730	2,262	509	283	14,690	10,242	4,095
Q4	14,566	5,145	4,487	2,365	2,101	1,768	715	513	4,234	2,203	567	254	16,584	12,997	3,283
2021 Q1	4,126	3,171	2,585	6,776	2,567	1,692	395	400	4,716	2,110	578	353	17,594	13,798	3,503
2020 Apr.	2,811	943	1,638	860	957	485	132	127	1,194	649	139	62	.	.	.
May	2,644	1,089	1,028	1,032	686	490	167	103	1,174	762	138	54	.	.	.
2021 Apr.	2,424	492	1,466	1,014	819	578	134	155	1,403	772	182	84	.	.	.
May	3,114	495	1,251	1,069	769	541	249	125	1,383	755	160	84	.	.	.

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 statutory pension insurance scheme: budgetary development and assets*

€ million

Period	Revenue 1,2			Expenditure 1,2			Deficit/surplus	Assets 1,4					Memo item: Administrative assets
		of which:			of which:								
	Total	Contributions 3	Payments from central government	Total	Pension payments	Pensioners' health insurance		Total	Deposits 5	Securities	Equity interests, mortgages and other loans 6	Real estate	
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
2018	312,788	221,572	90,408	308,356	263,338	18,588	+ 4,432	40,345	38,314	1,713	262	56	4,008
2019	327,298	232,014	94,467	325,436	277,282	20,960	+ 1,861	42,963	40,531	2,074	303	56	3,974
2020	335,185	235,988	98,447	339,072	289,284	21,865	– 3,887	39,880	38,196	1,286	344	55	3,901
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
Q4	82,953	60,561	22,185	78,432	67,042	4,729	+ 4,521	40,353	38,332	1,713	252	56	4,018
2019 Q1	77,984	54,393	23,426	78,630	67,328	5,087	– 646	39,432	37,637	1,474	263	57	4,001
Q2	81,410	57,837	23,408	80,804	69,011	5,205	+ 605	40,232	38,639	1,272	264	57	3,996
Q3	80,305	56,637	23,481	82,716	70,633	5,330	– 2,411	38,386	36,876	1,183	271	56	3,995
Q4	86,756	63,133	23,413	82,849	70,674	5,333	+ 3,907	42,945	40,539	2,074	276	56	3,987
2020 Q1	80,578	55,999	24,436	82,622	70,829	5,346	– 2,045	40,840	38,636	1,848	300	56	3,966
Q2	82,098	57,515	24,413	82,875	70,889	5,346	– 777	39,779	37,975	1,446	304	55	3,949
Q3	82,689	58,109	24,418	86,497	74,054	5,591	– 3,808	36,898	35,197	1,333	313	55	3,925
Q4	88,978	64,375	24,412	86,605	73,879	5,576	+ 2,373	39,847	38,186	1,286	321	55	3,916
2021 Q1	83,066	57,351	25,542	86,048	73,799	5,600	– 2,982	36,888	35,326	1,166	342	54	3,887

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.

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9. Federal Employment Agency: budgetary development*

€ million

	Revenue				Expenditure									
		of which:				of which:								
Period	Total 1	Contri-butions	Insolvency compen-sation levy	Central government subscriptions	Total	Unemploy-ment benefit 2	Short-time working benefits 3	Job promotion 4	Re-integration payment 5	Insolvency benefit payment	Adminis-trative expend-iture 6	Deficit/ surplus	Deficit-offsetting grant or loan from central govern-ment
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	–
2018	39,335	34,172	622	–	33,107	13,757	761	6,951	.	588	8,129	+ 6,228	–
2019	35,285	29,851	638	–	33,154	15,009	772	7,302	.	842	6,252	+ 2,131	–
2020	33,678	28,236	630	–	61,013	20,617	22,719	7,384	.	1,214	6,076	– 27,335	–
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	–
Q4	10,940	9,367	167	–	7,802	3,204	51	1,834	.	139	1,781	+ 3,138	–
2019 Q1	8,369	7,027	148	–	8,597	3,969	403	1,818	.	179	1,450	– 228	–
Q2	8,685	7,440	156	–	8,136	3,673	204	1,832	.	243	1,475	+ 549	–
Q3	8,650	7,263	162	–	7,829	3,682	68	1,711	.	190	1,510	+ 821	–
Q4	9,581	8,121	172	–	8,592	3,685	98	1,941	.	230	1,816	+ 989	–
2020 Q1	8,123	6,851	153	–	9,301	4,469	392	1,934	.	235	1,470	– 1,179	–
Q2	7,906	6,691	151	–	17,005	4,869	7,977	1,793	.	254	1,407	– 9,099	–
Q3	8,350	6,934	153	–	18,619	5,737	8,637	1,701	.	472	1,414	– 10,269	–
Q4	9,299	7,760	174	–	16,088	5,543	5,712	1,957	.	251	1,785	– 6,789	–
2021 Q1	8,228	6,747	289	–	18,260	5,956	8,006	1,935	.	184	1,391	– 10,033	–

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

	Revenue 1			Expenditure 1								
		of which:			of which:							
Period	Total	Contri-butions 2	Central govern-ment funds 3	Total	Hospital treatment	Pharma-ceuticals	Medical treatment	Dental treatment 4	Remedies and therapeutic appliances	Sickness benefits	Adminis-trative expend-iture 5	Deficit/ surplus
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
2018	242,360	224,912	14,500	239,706	74,506	38,327	39,968	14,490	15,965	13,090	11,564	+ 2,654
2019	251,295	233,125	14,500	252,440	77,551	40,635	41,541	15,010	17,656	14,402	11,136	– 1,145
2020	269,158	237,588	27,940	275,268	78,531	42,906	44,131	14,967	18,133	15,956	11,864	– 6,110
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
Q4	64,645	59,893	3,625	60,689	18,537	9,806	10,067	3,677	4,157	3,272	3,236	+ 3,956
2019 Q1	59,809	55,622	3,625	62,485	19,586	9,947	10,386	3,738	4,106	3,649	2,707	– 2,676
Q2	62,121	57,858	3,625	62,858	19,210	10,127	10,421	3,821	4,289	3,535	2,774	– 736
Q3	62,143	57,763	3,625	62,716	19,109	10,229	10,278	3,630	4,467	3,558	2,804	– 573
Q4	67,094	61,884	3,625	64,075	19,497	10,353	10,455	3,821	4,713	3,659	2,975	+ 3,019
2020 Q1	61,949	57,419	3,625	66,438	20,049	11,086	10,806	3,804	4,470	4,061	2,816	– 4,489
Q2	68,108	58,096	9,359	69,487	17,674	10,492	10,908	3,389	3,986	4,143	2,980	– 1,378
Q3	70,130	59,403	10,151	71,063	20,913	10,567	11,642	3,774	4,852	3,829	2,970	– 934
Q4	68,645	62,672	4,805	67,987	19,887	10,729	11,019	3,891	4,725	3,920	3,039	+ 658
2021 Q1	72,970	59,338	13,303	72,660	19,631	11,175	11,564	4,069	4,564	4,287	2,967	+ 310

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		Expenditure 1						Deficit/ surplus
				of which:					
	Total	of which: Contributions 2	Total	Non-cash care benefits 3	Inpatient care total 4	Nursing benefit	Contributions to pension insurance scheme 5	Administrative expenditure	
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	6,923	16,034	10,010	1,611	1,606	– 2,557
2018	37,949	37,886	41,265	7,703	16,216	10,809	2,093	1,586	– 3,315
2019	47,228	46,508	44,008	8,257	16,717	11,689	2,392	1,781	+ 3,220
2020 p	50,616	47,889	49,077	8,805	16,492	12,892	2,695	1,938	+ 1,539
2018 Q1	8,961	8,948	10,146	1,907	4,025	2,603	496	424	– 1,185
Q2	9,338	9,322	10,118	1,854	4,016	2,658	509	389	– 780
Q3	9,349	9,334	10,428	1,928	4,073	2,781	515	397	– 1,079
Q4	10,071	10,050	10,581	1,972	4,091	2,835	561	384	– 510
2019 Q1	11,123	10,938	10,728	2,060	4,082	2,833	547	437	+ 396
Q2	11,795	11,620	10,812	2,012	4,132	2,868	588	449	+ 983
Q3	11,734	11,557	11,159	2,098	4,234	2,972	598	450	+ 576
Q4	12,592	12,413	11,252	2,062	4,243	3,064	626	433	+ 1,339
2020 Q1	11,693	11,473	11,444	2,186	4,214	3,067	633	489	+ 249
Q2	11,921	11,732	11,816	2,051	4,015	3,173	664	468	+ 105
Q3	13,924	11,938	12,890	2,263	4,087	3,249	682	500	+ 1,033
Q4	13,079	12,746	12,927	2,306	4,177	3,403	716	481	+ 152
2021 Q1	12,093	11,831	13,344	2,355	3,971	3,387	725	512	– 1,251

Source: Federal Ministry of Health. * The final annual figures generally differ from the total of the reported provisional quarterly figures as the latter are not revised subsequently. 1 Including transfers to the long-term care provident fund. 2 Since 2005 including special contributions for childless persons (0.25% of income subject to insurance contributions). 3 Data revision in 2017. Comparability with previous values is therefore very limited. 4 Until 2016 only full inpatient nursing care. From 2017, also includes benefits for short-term care and daytime/night-time nursing care, inter alia. 5 For non-professional carers.

12. Central government: borrowing in the market

€ million

Period	Total new borrowing 1		of which: Change in money market loans	Change in money market deposits 3
	Gross 2	Net		
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
2018	+ 167,231	– 16,248	– 91	– 1,670
2019	+ 185,070	+ 63	– 8,044	– 914
2020	+ 456,828	+ 217,904	+ 24,181	– 3,399
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
Q4	+ 34,195	– 10,205	+ 3,525	– 971
2019 Q1	+ 56,654	+ 3,281	– 2,172	– 1,199
Q2	+ 48,545	+ 5,491	– 279	+ 7,227
Q3	+ 48,053	+ 4,030	+ 176	– 5,093
Q4	+ 31,817	– 12,738	– 5,768	– 1,849
2020 Q1	+ 65,656	+ 31,296	+ 9,236	+ 1,698
Q2	+ 185,560	+ 126,585	+ 31,212	– 7,314
Q3	+ 159,067	+ 80,783	– 6,080	+ 588
Q4	+ 46,545	– 20,760	– 10,187	+ 1,629
2021 Q1	+ 109,953	+ 42,045	.	– 4,708

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	
2014	2,216,204	12,774	635,562	190,130	44,640	1,333,098
2015	2,189,119	85,952	622,130	186,661	48,583	1,245,794
2016	2,172,331	205,391	599,211	179,755	45,046	1,142,929
2017	2,122,863	319,159	553,119	175,617	42,121	1,032,847
2018	2,074,126	364,731	509,310	181,077	42,009	976,999
2019 p	2,057,627	366,562	476,418	177,601	49,707	987,340
2020 p	2,325,463	522,392	509,440	184,701	52,392	1,056,539
2018 Q1	2,100,909	329,387	530,483	176,495	42,221	1,022,323
Q2	2,086,389	344,279	514,817	179,856	41,938	1,005,498
Q3	2,086,851	356,899	503,066	180,464	42,726	1,003,696
Q4	2,074,126	364,731	509,310	181,077	42,009	976,999
2019 Q1 p	2,084,397	359,884	499,217	179,512	42,186	1,003,596
Q2 p	2,074,778	361,032	492,533	179,168	41,438	1,000,607
Q3 p	2,091,734	358,813	490,314	179,228	47,831	1,015,548
Q4 p	2,057,627	366,562	476,418	177,601	49,707	987,340
2020 Q1 p	2,103,218	371,076	497,181	180,477	48,790	1,005,694
Q2 p	2,272,296	424,141	562,304	181,288	48,488	1,056,075
Q3 p	2,344,818	468,723	533,949	184,051	49,675	1,108,421
Q4 p	2,325,463	522,392	509,440	184,701	52,392	1,056,539
2021 Q1 p	2,366,746	561,443	490,853	182,756	61,467	1,070,227

Source: Bundesbank calculations based on data from the Federal Statistical Office. * As defined in the Maastricht Treaty. 1 Calculated as a residual.

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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								
2014	2,216,204	12,150	72,618	1,501,494	95,896	534,046	.	.
2015	2,189,119	14,303	65,676	1,499,010	89,074	521,055	.	.
2016	2,172,331	15,845	69,715	1,483,871	94,976	507,924	.	.
2017	2,122,863	14,651	48,789	1,484,462	86,513	488,448	.	.
2018 Q1	2,100,909	12,472	48,431	1,479,513	76,260	484,233	.	.
Q2	2,086,389	12,636	54,933	1,465,727	73,256	479,837	.	.
Q3	2,086,851	15,607	59,989	1,465,852	68,923	476,479	.	.
Q4	2,074,126	14,833	52,572	1,456,543	75,999	474,180	.	.
2019 Q1 p	2,084,397	15,663	64,218	1,460,634	71,234	472,647	.	.
Q2 p	2,074,778	12,868	56,256	1,463,027	74,511	468,115	.	.
Q3 p	2,091,734	17,586	62,602	1,465,529	79,144	466,873	.	.
Q4 p	2,057,627	14,595	49,180	1,459,128	68,519	466,204	.	.
2020 Q1 p	2,103,218	11,590	70,930	1,472,976	84,528	463,195	.	.
Q2 p	2,272,296	13,333	122,238	1,534,559	142,298	459,867	.	.
Q3 p	2,344,818	12,134	180,449	1,582,940	110,399	458,896	.	.
Q4 p	2,325,463	14,768	163,408	1,593,572	95,780	457,934	.	.
2021 Q1 p	2,366,746	12,482	180,796	1,638,203	80,743	454,523	.	.
Central government								
2014	1,398,475	12,150	64,230	1,141,973	54,388	125,735	1,202	12,926
2015	1,372,287	14,303	49,512	1,138,951	45,256	124,265	1,062	13,667
2016	1,365,933	15,845	55,208	1,123,853	50,004	121,022	556	8,567
2017	1,350,298	14,651	36,297	1,131,896	47,761	119,693	1,131	10,618
2018 Q1	1,337,700	12,472	35,923	1,132,746	37,211	119,348	1,065	9,902
Q2	1,329,290	12,636	42,888	1,119,893	35,048	118,825	1,036	10,708
Q3	1,335,530	15,607	46,614	1,118,470	36,633	118,207	817	10,275
Q4	1,323,058	14,833	42,246	1,107,140	42,057	116,782	933	9,975
2019 Q1 p	1,324,528	15,663	50,032	1,102,604	39,185	117,044	809	11,583
Q2 p	1,320,389	12,868	42,752	1,109,057	38,950	116,761	835	13,862
Q3 p	1,328,106	17,586	48,934	1,105,439	39,067	117,080	704	13,849
Q4 p	1,299,848	14,595	38,480	1,101,866	28,592	116,315	605	10,302
2020 Q1 p	1,327,699	11,590	56,680	1,103,935	38,708	116,785	546	8,245
Q2 p	1,473,910	13,333	109,221	1,139,513	95,511	116,332	510	7,278
Q3 p	1,536,930	12,134	166,564	1,178,717	62,993	116,522	555	12,092
Q4 p	1,513,212	14,768	154,505	1,180,714	46,895	116,330	545	15,021
2021 Q1 p	1,538,824	12,482	167,492	1,212,526	29,945	116,379	598	23,438
State government								
2014	658,164	–	8,391	361,916	19,245	268,612	14,825	2,297
2015	658,234	–	16,169	362,376	22,133	257,557	15,867	2,348
2016	640,887	–	14,515	361,996	19,266	245,110	11,273	1,694
2017	613,601	–	12,543	354,688	18,412	227,958	14,038	2,046
2018 Q1	604,075	–	12,548	349,682	17,372	224,473	12,997	1,882
Q2	600,595	–	12,073	348,833	17,668	222,020	13,952	2,018
Q3	599,864	–	13,392	350,399	15,235	220,838	13,674	1,936
Q4	599,845	–	10,332	352,376	17,647	219,490	14,035	1,891
2019 Q1 p	611,666	–	14,190	361,293	18,657	217,525	15,229	2,004
Q2 p	609,889	–	13,508	357,571	24,068	214,743	17,631	1,887
Q3 p	619,883	–	13,671	363,723	29,048	213,440	17,755	1,957
Q4 p	609,428	–	10,703	361,084	25,049	212,593	14,934	1,831
2020 Q1 p	624,364	–	14,252	372,596	29,567	207,949	12,233	1,815
Q2 p	645,947	–	13,020	398,890	29,269	204,767	11,073	2,183
Q3 p	655,524	–	13,888	408,581	30,216	202,839	11,940	2,263
Q4 p	662,523	–	8,905	417,432	33,717	202,469	12,226	1,553
2021 Q1 p	673,903	–	13,306	430,276	32,683	197,638	11,303	2,276
Local government								
2014	176,120	–	–	1,297	26,009	148,814	1,959	734
2015	176,259	–	–	2,047	27,414	146,798	2,143	463
2016	178,016	–	–	2,404	26,941	148,671	1,819	431
2017	175,220	–	–	3,082	24,503	147,636	1,881	466
2018 Q1	173,997	–	–	2,426	24,662	146,909	1,777	460
Q2	172,519	–	–	2,561	24,467	145,490	1,909	465
Q3	167,189	–	1	2,703	20,543	143,943	2,031	485
Q4	167,403	–	1	3,046	20,344	144,012	1,884	497
2019 Q1 p	165,673	–	1	2,960	18,801	143,911	2,139	498
Q2 p	164,257	–	–	2,961	18,757	142,538	2,016	525
Q3 p	163,691	–	–	3,016	18,517	142,158	2,065	555
Q4 p	165,057	–	–	2,996	19,052	143,009	1,862	532
2020 Q1 p	165,068	–	–	3,128	18,125	143,816	1,893	528
Q2 p	165,279	–	–	3,094	18,306	143,879	2,221	367
Q3 p	166,525	–	–	2,961	18,913	144,651	2,312	398
Q4 p	163,614	–	–	3,101	16,186	144,327	1,595	317
2021 Q1 p	167,876	–	–	3,121	19,076	145,679	2,293	340

For footnotes see end of table.

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14. Maastricht debt by instrument (cont'd)

€ 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
Social security funds								
2014	1,524	–	–	–	481	1,043	94	2,122
2015	1,502	–	–	–	537	965	91	2,685
2016	1,232	–	–	–	562	670	89	3,044
2017	807	–	–	–	262	545	15	3,934
2018 Q1	990	–	–	–	439	551	15	3,610
Q2	898	–	–	–	398	500	15	3,721
Q3	805	–	–	–	415	390	15	3,841
Q4	690	–	–	–	388	302	16	4,506
2019 Q1 p	723	–	–	–	453	270	16	4,110
Q2 p	742	–	–	–	557	185	16	4,224
Q3 p	594	–	–	–	391	203	16	4,179
Q4 p	712	–	–	–	376	336	16	4,753
2020 Q1 p	775	–	–	–	287	488	16	4,100
Q2 p	980	–	–	–	581	399	16	3,993
Q3 p	4,602	–	–	–	4,210	392	3,956	4,011
Q4 p	7,409	–	–	–	7,098	311	6,929	4,404
2021 Q1 p	16,191	–	–	–	15,997	194	15,853	3,995

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: Total 1	Currency and deposits 2: of which: 3 Federal day bond	Debt securities: Total 1	Debt securities, 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	Loans 1
2007	987,909	6,675	.	917,584	564,137	173,949	10,019	3,444	506	102,083	37,385	10,287	63,650
2008	1,019,905	12,466	3,174	928,754	571,913	164,514	12,017	7,522	1,336	105,684	40,795	9,649	78,685
2009	1,086,173	9,981	2,495	1,013,072	577,798	166,471	16,982	7,748	1,369	113,637	104,409	9,471	63,121
2010	1,337,160	10,890	1,975	1,084,019	602,624	185,586	25,958	9,948	2,396	126,220	85,867	8,704	242,251
2011	1,346,869	10,429	2,154	1,121,331	615,200	199,284	29,313	14,927	3,961	130,648	58,297	8,208	215,109
2012	1,390,377	9,742	1,725	1,177,168	631,425	217,586	35,350	16,769	5,374	117,719	56,222	6,818	203,467
2013	1,392,745	10,592	1,397	1,192,025	643,200	234,759	41,105	10,613	4,730	110,029	50,004	4,488	190,127
2014	1,398,475	12,150	1,187	1,206,203	653,823	244,633	48,692	14,553	5,368	103,445	27,951	2,375	180,123
2015	1,372,287	14,303	1,070	1,188,463	663,296	232,387	59,942	14,553	5,607	96,389	18,536	1,305	169,521
2016	1,365,933	15,845	1,010	1,179,062	670,245	221,551	51,879	14,585	3,602	95,727	23,609	737	171,026
2017	1,350,298	14,651	966	1,168,193	693,687	203,899	58,365	14,490	4,720	91,013	10,037	289	167,455
2018	1,323,058	14,833	921	1,149,386	710,513	182,847	64,647	–	5,139	86,009	12,949	48	158,839
2019 p	1,299,848	14,595	–	1,140,346	719,747	174,719	69,805	–	6,021	89,230	13,487	.	144,906
2020 p	1,513,212	14,768	.	1,335,219	808,300	183,046	58,279	–	3,692	98,543	113,141	.	163,225
2018 Q1	1,337,700	12,472	951	1,168,669	699,638	193,811	60,778	14,455	4,421	94,282	9,031	219	156,559
Q2	1,329,290	12,636	941	1,162,780	710,784	185,042	62,863	–	4,276	92,639	15,049	141	153,873
Q3	1,335,530	15,607	932	1,165,084	703,682	194,356	64,304	–	4,548	90,575	17,340	75	154,840
Q4	1,323,058	14,833	921	1,149,386	710,513	182,847	64,647	–	5,139	86,009	12,949	48	158,839
2019 Q1 p	1,324,528	15,663	902	1,152,636	709,008	178,900	66,531	–	4,191	89,782	18,288	31	156,229
Q2 p	1,320,389	12,868	852	1,151,809	720,904	173,313	68,110	–	5,691	91,024	15,042	19	155,711
Q3 p	1,328,106	17,586	822	1,154,373	711,482	183,268	69,088	–	5,639	90,416	18,100	–	156,147
Q4 p	1,299,848	14,595	–	1,140,346	719,747	174,719	69,805	–	6,021	89,230	13,487	.	144,906
2020 Q1 p	1,327,699	11,590	.	1,160,616	721,343	182,095	71,028	–	5,310	91,084	23,572	.	155,493
Q2 p	1,473,910	13,333	.	1,248,734	774,587	178,329	56,061	–	3,752	95,622	79,987	.	211,843
Q3 p	1,536,930	12,134	.	1,345,281	796,338	191,388	57,144	–	3,737	99,276	127,478	.	179,515
Q4 p	1,513,212	14,768	.	1,335,219	808,300	183,046	58,279	–	3,692	98,543	113,141	.	163,225
2021 Q1 p	1,538,824	12,482	.	1,380,018	821,254	194,571	60,687	–	3,857	103,910	134,800	.	146,324

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	2018	2019	2020	2018	2019	2020	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
	Index 2015 = 100			Annual percentage change									
At constant prices, chained													
I. Origin of domestic product													
Production sector (excluding construction)	109.3	105.4	95.3	0.7	– 3.6	– 9.6	– 2.9	– 4.3	– 5.7	– 21.3	– 9.6	– 1.8	– 1.2
Construction	103.7	107.3	111.3	1.7	3.5	3.8	4.7	1.4	6.1	2.0	– 1.7	8.8	– 3.6
Wholesale/retail trade, transport and storage, hotel and restaurant services	107.5	109.7	103.8	2.3	2.1	– 5.4	3.4	1.7	– 0.1	– 14.2	– 3.1	– 3.8	– 8.2
Information and communication	115.8	120.2	119.2	7.0	3.8	– 0.8	4.2	2.8	0.3	– 3.4	– 0.7	0.4	0.7
Financial and insurance activities	97.1	99.1	98.7	– 3.6	2.0	– 0.4	3.6	1.9	1.1	– 0.5	– 0.7	– 1.4	– 0.4
Real estate activities	100.8	101.8	101.4	0.3	1.0	– 0.4	1.2	1.5	0.6	– 1.7	– 0.5	– 0.0	0.2
Business services [1]	109.8	110.8	102.5	2.4	0.9	– 7.4	1.0	0.7	– 1.7	– 12.6	– 8.7	– 7.1	– 5.7
Public services, education and health	105.7	107.4	104.1	1.4	1.6	– 3.1	1.9	1.5	– 0.6	– 8.2	0.1	– 3.7	– 3.0
Other services	101.0	102.1	90.5	1.6	1.1	– 11.4	1.6	0.7	– 2.4	– 20.3	– 6.0	– 17.1	– 13.9
Gross value added	106.4	106.9	101.6	1.3	0.4	– 4.9	1.1	0.0	– 1.5	– 11.5	– 4.2	– 2.7	– 3.5
Gross domestic product [2]	106.2	106.8	101.7	1.3	0.6	– 4.8	1.2	0.2	– 1.8	– 11.3	– 3.7	– 2.3	– 3.4
II. Use of domestic product													
Private consumption [3]	105.6	107.2	100.9	1.5	1.6	– 6.0	2.2	1.0	– 1.3	– 13.3	– 3.7	– 5.5	– 9.1
Government consumption	107.0	109.9	114.0	1.2	2.7	3.7	3.6	3.2	2.7	4.4	4.2	3.5	2.5
Machinery and equipment	112.1	112.7	99.6	4.4	0.5	– 11.6	1.7	– 2.7	– 9.2	– 23.6	– 10.0	– 4.1	– 0.7
Premises	107.4	111.5	114.1	2.6	3.8	2.3	4.1	2.2	5.3	0.6	– 0.8	4.9	– 1.6
Other investment [4]	114.2	117.3	116.0	4.5	2.7	– 1.1	2.9	2.6	– 1.1	– 1.3	– 0.7	– 1.1	– 0.7
Changes in inventories [5,6]	.	.	.	– 0.1	– 0.7	– 0.9	– 1.7	– 1.1	– 0.4	– 0.2	– 1.8	– 1.2	0.0
Domestic demand	107.7	109.0	104.6	1.8	1.2	– 4.1	0.9	0.2	– 0.6	– 8.5	– 3.8	– 3.4	– 4.6
Net exports [6]	.	.	.	– 0.4	– 0.6	– 0.9	0.4	0.0	– 1.2	– 3.3	– 0.1	0.9	0.9
Exports	109.8	110.8	100.5	2.3	1.0	– 9.4	2.7	0.8	– 3.2	– 22.2	– 9.2	– 3.1	– 0.6
Imports	114.1	117.0	107.1	3.6	2.6	– 8.4	2.0	0.9	– 0.8	– 17.4	– 10.0	– 5.6	– 3.0
Gross domestic product [2]	106.2	106.8	101.7	1.3	0.6	– 4.8	1.2	0.2	– 1.8	– 11.3	– 3.7	– 2.3	– 3.4
At current prices (€ billion)													
III. Use of domestic product													
Private consumption [3]	1,755.4	1,806.9	1,711.6	3.0	2.9	– 5.3	3.6	2.3	0.4	– 12.1	– 3.9	– 5.4	– 7.3
Government consumption	670.3	704.5	754.4	3.4	5.1	7.1	6.0	5.4	5.7	7.9	7.5	7.2	6.4
Machinery and equipment	235.6	240.1	215.1	5.0	1.9	– 10.4	3.3	– 1.2	– 7.8	– 22.6	– 8.8	– 3.1	0.3
Premises	344.9	373.7	388.8	7.4	8.4	4.0	8.3	6.0	8.7	3.4	– 0.3	5.3	0.2
Other investment [4]	128.8	134.2	134.6	6.9	4.2	0.3	4.3	4.1	0.3	0.0	0.7	0.3	0.6
Changes in inventories [5]	15.0	– 10.3	– 61.7	.	.	.	.	.	.	.	.	.	.
Domestic use	3,150.0	3,249.1	3,142.7	3.9	3.1	– 3.3	2.7	2.0	1.3	– 7.8	– 3.7	– 2.9	– 2.5
Net exports	206.4	199.9	193.5	.	.	.	.	.	.	.	.	.	.
Exports	1,590.0	1,617.4	1,460.1	3.3	1.7	– 9.7	3.0	1.2	– 2.9	– 22.5	– 9.9	– 3.8	0.3
Imports	1,383.6	1,417.4	1,266.7	5.6	2.4	– 10.6	1.0	– 0.2	– 1.8	– 21.1	– 12.3	– 7.4	– 2.5
Gross domestic product [2]	3,356.4	3,449.1	3,336.2	3.0	2.8	– 3.3	3.6	2.5	0.6	– 9.2	– 3.0	– 1.6	– 1.1
IV. Prices (2015 = 100)													
Private consumption	103.7	105.1	105.9	1.5	1.3	0.7	1.4	1.3	1.7	1.4	– 0.2	0.2	2.0
Gross domestic product	104.4	106.7	108.4	1.7	2.2	1.6	2.4	2.3	2.5	2.3	0.7	0.8	2.3
Terms of trade	100.1	100.9	103.0	– 0.8	0.9	2.1	1.4	1.5	1.4	4.2	1.8	1.1	0.5
V. Distribution of national income													
Compensation of employees	1,771.8	1,845.9	1,843.6	4.5	4.2	– 0.1	4.5	3.5	3.0	– 3.2	– 0.5	0.4	– 0.4
Entrepreneurial and property income	738.3	718.2	657.5	– 0.5	– 2.7	– 8.4	0.1	– 3.4	– 3.7	– 24.3	– 6.8	– 0.5	4.0
National income	2,510.1	2,564.1	2,501.1	3.0	2.2	– 2.5	3.1	1.7	0.9	– 8.8	– 2.4	0.2	0.9
Memo item: Gross national income	3,447.4	3,542.8	3,431.2	3.3	2.8	– 3.2	3.5	2.3	0.7	– 8.8	– 3.1	– 1.6	– 1.1

Source: Federal Statistical Office; figures computed in May 2021. **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

		of which:										
				Industry								
					of which: by main industrial grouping				of which: by economic sector			
	Production sector, total	Construction	Energy	Total	Intermediate goods	Capital goods	Durable goods	Non-durable goods	Manufacture of basic metals and fabricated metal products	Manufacture of computers, electronic and optical products and electrical equipment	Macinery and equipment	Motor vehicles, trailers and semi-trailers
	2015 = 100											
% of total 1	100	14,04	6,37	79,59	29,45	36,98	2.27	10,89	10,31	9,95	12,73	14,16
Period												
2017	104.9	108.7	98.9	104.7	104.9	105.0	106.9	103.0	106.2	107.0	104.1	105.3
2018	2 105.9	2 109.1	97.4	106.0	105.5	106.0	106.2	106.9	107.3	109.0	106.5	103.5
2019	102.5	112.8	90.4	101.6	101.8	101.4	106.2	101.0	102.8	106.5	103.4	92.0
2020	94.1	116.1	84.4	91.0	94.9	85.7	97.6	97.2	90.5	98.5	89.5	69.4
2020 Q1	96.6	99.4	94.2	96.3	101.2	91.1	101.6	99.9	98.2	103.4	91.4	80.1
Q2	84.3	115.8	72.8	79.6	85.6	70.9	84.3	92.0	78.8	88.3	81.3	44.1
Q3	93.7	118.5	78.8	90.5	94.4	84.8	97.9	98.0	89.7	97.0	86.6	71.7
Q4	101.8	130.7	91.8	97.5	98.3	95.9	106.5	99.0	95.4	105.3	98.5	81.4
2021 Q1 r	95.0	94.8	92.0	95.2	103.6	88.1	100.7	96.1	99.4	107.0	91.3	75.4
2020 May	82.6	113.2	71.7	78.1	84.0	69.6	85.3	89.5	77.3	86.6	77.5	45.6
June	93.8	121.7	74.0	90.5	89.9	88.6	97.2	96.8	86.0	94.5	96.5	72.1
July	93.7	119.9	75.7	90.5	93.3	86.0	92.7	97.5	86.5	94.3	86.4	76.1
Aug.	88.0	113.7	80.7	84.1	91.1	75.3	91.6	93.6	85.7	93.7	78.8	57.2
Sep.	99.4	121.8	79.9	97.0	98.8	93.0	109.5	102.8	96.9	103.1	94.6	81.9
Oct.	101.7	124.7	91.3	98.5	102.7	93.3	108.7	102.8	99.0	104.5	90.3	85.6
Nov.	106.0	130.4	91.8	102.8	104.2	101.4	114.4	101.6	103.1	111.1	98.8	92.5
Dec.	97.6	137.1	92.2	91.1	87.9	92.9	96.5	92.5	84.2	100.3	106.5	66.1
2021 Jan. r	88.6	76.3	97.5	90.0	100.2	80.9	95.6	92.4	94.1	100.4	82.1	70.8
Feb. r	90.9	88.9	86.5	91.6	99.3	85.6	99.2	89.8	96.6	104.2	88.2	74.1
Mar. r	105.4	119.2	92.1	104.1	111.2	97.7	107.3	106.2	107.6	116.4	103.6	81.2
Apr. x	97.5	117.0	86.4	94.9	103.8	87.8	101.6	93.4	99.8	107.0	93.9	71.3
May x,p	96.9	119.1	81.7	94.2	104.3	84.4	100.4	98.6	98.5	106.8	92.3	64.5
	Annual percentage change											
2017	+ 3.3	+ 3.3	+ 0.4	+ 3.6	+ 4.1	+ 3.7	+ 4.2	+ 2.1	+ 4.5	+ 5.9	+ 4.5	+ 3.2
2018	2 + 1.0	2 + 0.4	− 1.5	+ 1.2	+ 0.6	+ 1.0	− 0.7	+ 3.8	+ 1.0	+ 1.9	+ 2.3	− 1.7
2019	− 3.2	+ 3.4	− 7.2	− 4.2	− 3.5	− 4.3	± 0.0	− 5.5	− 4.2	− 2.3	− 2.9	− 11.1
2020	− 8.2	+ 2.9	− 6.6	− 10.4	− 6.8	− 15.5	− 8.1	− 3.8	− 12.0	− 7.5	− 13.4	− 24.6
2020 Q1	− 4.8	+ 6.0	− 8.0	− 6.2	− 3.4	− 10.2	− 6.2	− 0.6	− 7.8	− 3.9	− 9.1	− 18.5
Q2	− 18.0	+ 1.8	− 12.9	− 22.2	− 17.2	− 30.6	− 18.2	− 7.7	− 24.9	− 15.8	− 20.8	− 53.8
Q3	− 8.4	− 0.5	− 2.9	− 10.4	− 7.5	− 15.3	− 6.1	− 3.1	− 12.7	− 9.7	− 15.1	− 19.5
Q4	− 1.7	+ 5.0	− 2.7	− 3.0	+ 1.1	− 6.0	− 2.5	− 3.7	− 1.9	− 0.6	− 9.2	− 4.2
2021 Q1 r	− 1.7	− 4.6	− 2.3	− 1.1	+ 2.3	− 3.3	− 0.9	− 3.8	+ 1.3	+ 3.5	− 0.1	− 5.9
2020 May	− 18.8	+ 1.7	− 14.9	− 23.0	− 18.5	− 30.8	− 16.1	− 10.3	− 25.5	− 16.4	− 22.1	− 52.7
June	− 10.5	+ 3.7	− 5.6	− 13.5	− 13.1	− 17.2	− 8.8	− 2.6	− 18.9	− 12.7	− 11.6	− 26.0
July	− 9.5	− 1.6	− 7.0	− 11.3	− 10.0	− 14.9	− 7.0	− 3.9	− 17.1	− 10.6	− 16.0	− 16.4
Aug.	− 9.0	− 0.1	+ 0.5	− 11.5	− 7.4	− 17.4	− 4.4	− 5.1	− 11.8	− 9.1	− 16.2	− 25.5
Sep.	− 6.9	+ 0.3	− 2.2	− 8.7	− 4.9	− 14.0	− 6.6	− 0.3	− 9.0	− 9.5	− 13.2	− 17.8
Oct.	− 3.1	+ 2.4	− 0.7	− 4.4	− 2.1	− 6.3	− 4.6	− 4.0	− 5.2	− 3.9	− 10.1	− 4.8
Nov.	− 2.5	+ 3.1	− 3.6	− 3.6	+ 0.9	− 6.5	− 1.6	− 5.4	− 1.9	+ 0.1	− 9.0	− 5.5
Dec.	+ 0.8	+ 9.4	− 3.8	− 0.8	+ 5.5	− 4.9	− 0.9	− 1.3	+ 2.3	+ 2.1	− 8.5	− 1.5
2021 Jan. r	− 3.7	− 9.9	− 2.6	− 2.9	+ 1.6	− 6.0	− 3.4	− 5.7	− 1.1	+ 0.8	− 0.6	− 12.6
Feb. r	− 6.6	− 7.6	− 5.7	− 6.5	− 1.7	− 10.2	− 4.3	− 8.1	− 2.1	+ 1.5	− 3.3	− 19.6
Mar. r	+ 4.9	+ 1.7	+ 1.3	+ 5.9	+ 6.9	+ 6.3	+ 5.1	+ 2.1	+ 6.7	+ 8.0	+ 3.2	+ 20.8
Apr. x	+ 27.6	+ 4.0	+ 18.7	+ 35.0	+ 25.2	+ 61.1	+ 44.1	+ 4.2	+ 36.3	+ 27.7	+ 34.1	+ 385.0
May x,p	+ 17.3	+ 5.2	+ 13.9	+ 20.6	+ 24.2	+ 21.3	+ 17.7	+ 10.2	+ 27.4	+ 23.3	+ 19.1	+ 41.4

Source of the unadjusted figures: Federal Statistical Office. ***** For explanatory notes, see Statistical Series - Seasonally adjusted business statistics, Tabels III.1.a to III.1.c **o** Using JDemetra+ 2.2.2 (X13). **1** Share of gross value added at factor cost of the production sector in the base year 2015. **2** As of January 2018 weights in structural and civil engineering work corrected by the Federal Statistical Office. **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											
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
2018	110.5	+ 1.7	111.5	+ 1.9	109.9	+ 1.3	110.0	+ 4.1	118.9	+ 2.1	107.1	+ 4.8
2019	104.9	− 5.1	103.5	− 7.2	105.4	− 4.1	107.0	− 2.7	123.3	+ 3.7	101.7	− 5.0
2020	97.2	− 7.3	97.9	− 5.4	95.6	− 9.3	105.8	− 1.1	124.4	+ 0.9	99.6	− 2.1
2020 May	71.3	− 29.8	76.7	− 25.4	64.9	− 35.3	95.1	− 8.4	111.0	− 1.9	89.9	− 10.7
June	96.1	− 11.4	86.0	− 18.3	102.0	− 8.0	98.9	− 6.2	115.0	− 5.0	93.6	− 6.6
July	96.4	− 6.8	94.4	− 8.2	96.4	− 6.3	105.5	− 4.6	120.3	− 1.2	100.6	− 5.9
Aug.	91.2	− 2.0	89.8	− 6.5	90.4	+ 0.6	104.3	+ 0.6	124.2	+ 2.6	97.8	− 0.3
Sep.	104.2	− 1.2	101.7	+ 1.6	104.8	− 3.3	111.6	+ 3.0	146.4	+ 4.7	100.1	+ 2.1
Oct.	109.2	+ 2.9	108.3	+ 4.1	109.4	+ 2.4	111.4	− 0.1	145.0	+ 13.2	100.4	− 5.4
Nov.	113.7	+ 7.1	114.0	+ 10.4	113.9	+ 6.2	110.2	− 1.3	138.2	+ 0.1	101.0	− 1.8
Dec.	108.6	+ 6.3	101.6	+ 9.7	113.7	+ 4.2	102.7	+ 9.6	131.3	+ 9.0	93.2	+ 9.9
2021 Jan.	110.2	+ 1.7	119.7	+ 7.7	104.2	− 2.2	111.0	+ 0.9	140.1	+ 8.4	101.5	− 2.0
Feb.	111.4	+ 6.6	116.8	+ 10.4	108.0	+ 5.6	111.2	− 2.8	128.5	+ 6.1	105.4	− 6.1
Mar.	129.0	+ 31.0	133.3	+ 23.1	127.0	+ 40.2	123.9	+ 8.9	146.8	+ 19.4	116.3	+ 5.1
Apr.	118.2	+ 84.4	126.2	+ 64.3	114.1	+ 116.5	111.4	+ 21.9	161.7	+ 84.4	94.8	+ 2.5
May p	113.8	+ 59.6	122.6	+ 59.8	108.2	+ 66.7	114.6	+ 20.5	157.2	+ 41.6	100.5	+ 11.8
	From the domestic market											
2017	107.0	+ 7.2	107.1	+ 9.7	107.8	+ 5.9	101.6	+ 3.7	108.7	+ 5.4	99.3	+ 3.1
2018	107.2	+ 0.2	108.6	+ 1.4	106.6	− 1.1	102.9	+ 1.3	114.7	+ 5.5	98.9	− 0.4
2019	101.2	− 5.6	99.1	− 8.7	102.9	− 3.5	101.2	− 1.7	116.2	+ 1.3	96.1	− 2.8
2020	94.9	− 6.2	94.1	− 5.0	95.1	− 7.6	98.0	− 3.2	105.5	− 9.2	95.4	− 0.7
2020 May	74.7	− 24.7	74.8	− 24.9	72.6	− 26.8	88.1	− 8.6	99.8	− 5.8	84.1	− 9.7
June	104.3	+ 3.4	81.3	− 18.1	125.9	+ 22.4	91.2	− 5.2	100.4	− 5.0	88.1	− 5.3
July	95.2	− 6.9	93.5	− 7.1	96.0	− 7.2	99.1	− 4.5	104.5	− 8.8	97.3	− 2.9
Aug.	88.5	− 2.7	88.3	− 3.1	87.0	− 3.3	100.0	+ 2.5	111.3	+ 3.0	96.2	+ 2.2
Sep.	99.5	− 0.9	95.3	± 0.0	102.7	− 1.4	101.7	− 1.8	125.4	− 4.6	93.7	− 0.4
Oct.	104.5	+ 5.6	106.8	+ 8.5	102.6	+ 4.3	104.5	− 2.3	119.6	− 9.3	99.4	+ 0.8
Nov.	109.2	+ 6.2	113.3	+ 12.4	106.3	+ 2.7	104.6	− 4.6	124.3	− 8.4	97.9	− 2.9
Dec.	98.2	+ 4.8	94.9	+ 12.7	102.1	− 0.3	91.0	+ 2.0	104.1	− 3.0	86.5	+ 4.1
2021 Jan.	103.0	+ 1.6	112.7	+ 6.9	95.4	− 2.7	98.0	− 3.2	111.0	+ 6.3	93.6	− 6.5
Feb.	107.8	+ 6.2	111.9	+ 12.1	105.3	+ 2.9	101.2	− 3.9	108.4	+ 5.7	98.7	− 7.1
Mar.	125.6	+ 30.2	128.8	+ 25.7	125.2	+ 39.7	109.8	+ 0.9	130.5	+ 25.8	102.8	− 7.0
Apr.	110.9	+ 69.1	117.1	+ 59.3	107.0	+ 88.7	101.7	+ 26.8	126.9	+ 93.4	93.2	+ 9.5
May p	112.4	+ 50.5	118.3	+ 58.2	109.1	+ 50.3	101.4	+ 15.1	122.5	+ 22.7	94.3	+ 12.1
	From abroad											
2017	109.8	+ 8.2	111.9	+ 11.6	108.9	+ 6.9	108.9	+ 6.1	122.8	+ 14.7	104.5	+ 3.4
2018	113.0	+ 2.9	114.6	+ 2.4	112.0	+ 2.8	115.5	+ 6.1	122.2	− 0.5	113.4	+ 8.5
2019	107.7	− 4.7	108.3	− 5.5	106.9	− 4.6	111.5	− 3.5	129.1	+ 5.6	105.9	− 6.6
2020	98.9	− 8.2	101.9	− 5.9	95.9	− 10.3	111.8	+ 0.3	139.6	+ 8.1	102.9	− 2.8
2020 May	68.8	− 33.3	78.7	− 26.0	60.3	− 40.2	100.6	− 8.2	120.1	+ 1.0	94.3	− 11.5
June	89.8	− 21.4	91.0	− 18.5	87.6	− 24.3	104.8	− 6.8	126.7	− 5.1	97.8	− 7.5
July	97.3	− 6.7	95.4	− 9.2	96.7	− 5.8	110.4	− 4.7	133.0	+ 4.2	103.1	− 8.0
Aug.	93.3	− 1.5	91.5	− 9.6	92.5	+ 2.9	107.7	− 0.7	134.5	+ 2.2	99.1	− 2.0
Sep.	107.8	− 1.4	108.6	+ 3.1	106.1	− 4.3	119.2	+ 6.3	163.3	+ 11.5	105.0	+ 4.0
Oct.	112.7	+ 1.1	110.0	± 0.0	113.5	+ 1.5	116.8	+ 1.6	165.4	+ 32.2	101.1	− 9.6
Nov.	117.1	+ 7.6	114.8	+ 8.4	118.5	+ 8.1	114.5	+ 1.1	149.4	+ 6.6	103.3	− 1.1
Dec.	116.5	+ 7.3	108.9	+ 7.1	120.7	+ 6.6	111.8	+ 15.1	153.2	+ 16.9	98.4	+ 14.3
2021 Jan.	115.7	+ 1.8	127.2	+ 8.5	109.5	− 1.9	121.1	+ 3.7	163.5	+ 9.6	107.5	+ 1.1
Feb.	114.1	+ 6.9	122.1	+ 8.7	109.7	+ 7.2	118.9	− 2.1	144.7	+ 6.5	110.6	− 5.3
Mar.	131.6	+ 31.5	138.1	+ 20.6	128.1	+ 40.5	134.8	+ 14.6	160.0	+ 15.6	126.6	+ 14.2
Apr.	123.7	+ 96.7	136.1	+ 69.5	118.4	+ 135.4	118.9	+ 18.9	189.7	+ 79.8	96.1	− 2.1
May p	114.8	+ 66.9	127.3	+ 61.8	107.7	+ 78.6	124.8	+ 24.1	185.2	+ 54.2	105.3	+ 11.7

Source of the unadjusted figures: Federal Statistical Office. * At current prices; for explanatory notes, see Statistical Series - Seasonally adjusted business statistics, Tables III.2.a to III.2.c. o Using JDemetra+ 2.2.2 (X13).

XI. Economic conditions in Germany

4. Orders received by construction *

Adjusted for working-day variations o

Zeit	Total		Breakdown by type of construction: Structural engineering: Total		Residential construction		Industrial construction		Public sector construction		Civil engineering		Breakdown by client 1: Industrial clients		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
2017	122.4	+ 7.0	123.1	+ 7.0	123.1	+ 5.3	123.4	+ 7.4	121.9	+ 12.0	121.6	+ 6.9	119.8	+ 7.3	125.0	+ 7.8
2018	134.7	+ 10.0	131.1	+ 6.5	136.6	+ 11.0	127.9	+ 3.6	125.2	+ 2.7	138.8	+ 14.1	135.6	+ 13.2	132.4	+ 5.9
2019	146.0	+ 8.4	145.0	+ 10.6	150.1	+ 9.9	142.2	+ 11.2	138.9	+ 10.9	147.1	+ 6.0	147.9	+ 9.1	141.2	+ 6.6
2020	145.7	− 0.2	144.3	− 0.5	160.9	+ 7.2	130.5	− 8.2	141.5	+ 1.9	147.3	+ 0.1	139.7	− 5.5	143.4	+ 1.6
2020 Apr.	149.6	− 2.3	134.1	− 10.1	131.6	− 12.1	137.3	− 9.5	130.1	− 4.9	167.7	+ 6.2	140.4	− 3.6	171.1	+ 4.4
May	138.8	− 6.2	124.0	− 14.5	146.7	− 0.1	102.9	− 31.2	128.0	+ 5.3	156.1	+ 3.0	121.3	− 18.5	154.1	+ 4.3
June	167.7	+ 3.7	153.1	− 5.0	165.0	+ 4.2	139.5	− 14.2	164.8	+ 0.4	184.6	+ 13.7	144.3	− 12.4	196.1	+ 22.4
July	149.1	− 3.2	151.8	+ 2.6	157.9	+ 2.1	137.2	− 3.6	185.9	+ 25.7	145.9	− 9.3	136.8	− 10.4	157.7	+ 1.7
Aug.	136.7	+ 1.6	135.4	− 0.1	159.6	+ 14.6	114.0	− 13.1	135.5	− 2.7	138.3	+ 3.5	130.1	− 5.1	130.5	+ 1.2
Sep.	151.5	+ 2.5	157.0	+ 7.2	173.4	+ 10.5	141.1	+ 8.3	162.1	− 6.4	145.2	− 2.7	146.2	+ 2.0	144.4	− 2.1
Oct.	142.4	+ 4.0	150.8	+ 9.7	181.5	+ 17.2	127.1	+ 2.2	137.8	+ 6.3	132.6	− 2.6	141.5	+ 4.6	119.6	− 6.5
Nov.	139.6	− 3.9	146.9	− 5.0	167.7	+ 12.0	132.2	− 20.6	133.4	+ 4.9	131.0	− 2.5	143.8	− 14.2	117.6	+ 0.4
Dec.	150.5	+ 1.6	147.8	− 0.8	191.9	+ 7.7	117.9	− 10.1	113.7	− 4.6	153.7	+ 4.4	136.6	− 11.4	141.3	+ 15.0
2021 Jan.	134.0	+ 3.6	140.5	+ 4.8	147.3	+ 7.2	146.0	+ 8.7	97.7	− 20.4	126.5	+ 2.0	150.7	+ 6.8	106.8	− 4.0
Feb.	143.2	+ 6.5	148.8	+ 4.1	161.1	+ 8.6	147.2	+ 4.5	114.1	− 14.3	136.7	+ 9.8	143.4	+ 3.0	132.1	+ 9.5
Mar. r	157.5	− 0.8	156.3	+ 1.5	173.8	+ 2.5	141.4	+ 0.1	154.3	+ 2.5	159.0	− 3.3	150.9	− 2.8	155.2	− 0.8
Apr.	160.1	+ 7.0	158.3	+ 18.0	185.1	+ 40.7	139.5	+ 1.6	139.8	+ 7.5	162.3	− 3.2	148.1	+ 5.5	158.8	− 7.2

Source of the unadjusted figures: Federal Statistical Office. * At current prices; excluding value added tax; for explanatory notes, see Statistical Series – Seasonally adjusted business statistics, Table III.2.f. o Using JDemetra+ 2.2.2 (X13). 1 Excluding residential construction. 2 Including road construction.

5. Retail trade turnover *

Adjusted for calendar variations o

Zeit	Total: At current prices		Total: At 2015 prices		of which: In stores by enterprises main product range (at current prices): 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		Retail sale via mail order houses or via internet as well as other retail sale 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
2017	107.6	+ 5.0	105.8	+ 3.6	105.9	+ 4.2	108.2	+ 7.2	106.2	+ 6.3	103.0	+ 1.5	107.7	+ 3.7	120.5	+ 10.0
2018	110.7	+ 2.9	107.5	+ 1.6	109.6	+ 3.5	105.6	− 2.4	107.1	+ 0.8	103.1	+ 0.1	112.5	+ 4.5	127.7	+ 6.0
2019	114.9	+ 3.8	111.0	+ 3.3	112.1	+ 2.3	106.7	+ 1.0	108.9	+ 1.7	107.1	+ 3.9	118.7	+ 5.5	138.4	+ 8.4
2020 3	121.1	+ 5.4	115.6	+ 4.1	120.9	+ 7.9	81.7	− 23.4	106.3	− 2.4	116.8	+ 9.1	124.3	+ 4.7	168.5	+ 21.7
2020 May	123.4	+ 8.9	117.6	+ 8.1	127.4	+ 14.0	78.2	− 23.7	95.8	+ 3.0	127.8	+ 16.4	113.3	− 2.4	168.7	+ 32.2
June	121.0	+ 5.1	115.7	+ 4.2	119.1	+ 3.0	95.3	− 17.1	102.4	+ 4.2	121.9	+ 14.5	119.6	+ 3.7	162.3	+ 23.2
July	122.8	+ 6.2	117.4	+ 4.9	119.1	+ 4.5	98.0	− 5.8	108.6	+ 14.3	125.4	+ 15.7	122.9	+ 1.8	156.4	+ 14.0
Aug.	120.4	+ 8.4	115.0	+ 6.9	120.8	+ 8.9	91.3	− 7.5	104.0	+ 1.7	116.9	+ 15.6	119.1	+ 3.7	155.2	+ 24.9
Sep.	119.2	+ 6.3	113.5	+ 5.1	113.7	+ 6.8	100.5	− 8.7	103.9	− 6.2	117.7	+ 13.7	122.2	+ 3.6	160.6	+ 15.4
Oct.	129.0	+ 10.1	122.7	+ 9.0	122.3	+ 8.4	109.1	− 6.4	120.5	+ 9.0	129.8	+ 16.8	128.9	+ 5.7	182.3	+ 28.7
Nov.	136.4	+ 10.4	130.2	+ 9.7	123.4	+ 7.4	90.5	− 21.9	154.3	+ 15.9	140.2	+ 20.9	133.3	+ 7.2	226.3	+ 37.5
Dec.	137.4	+ 3.2	131.0	+ 2.1	137.7	+ 7.6	69.4	− 41.7	134.5	− 15.5	119.4	+ 5.3	142.1	+ 6.5	217.7	+ 26.6
2021 Jan.	103.8	− 3.7	98.6	− 5.2	116.1	+ 12.2	19.4	− 78.1	64.9	− 43.4	59.4	− 38.5	126.6	+ 3.5	186.0	+ 34.4
Feb.	104.9	− 0.7	99.1	− 2.1	114.4	+ 5.7	22.5	− 72.0	64.7	− 33.8	70.1	− 27.8	127.2	+ 8.9	178.1	+ 40.7
Mar.	129.4	+ 9.1	122.2	+ 7.9	132.4	+ 1.4	58.8	+ 18.3	88.6	+ 5.2	119.7	+ 11.2	134.8	− 2.2	205.8	+ 33.6
Apr.	121.0	+ 8.9	113.5	+ 7.5	124.7	− 0.1	39.2	+ 32.9	69.0	+ 26.1	106.7	+ 5.9	130.4	+ 14.5	192.9	+ 11.4
May	125.2	+ 1.5	117.3	− 0.3	127.3	− 0.1	64.1	− 18.0	73.3	− 23.5	111.2	− 13.0	127.9	+ 12.9	200.5	+ 18.9

Source of the unadjusted figures: Federal Statistical Office. * Excluding value added tax; for explanatory notes, see Statistical Series - Seasonally adjusted business statistics, Table III.4.c. o Using JDemetra+ 2.2.2 (X13). 1 Including stalls and markets. 2 Excluding stores, stalls and markets. 3 As of January 2020 figures are provisional, partially revised, and particularly uncertain in recent months due to estimates for missing reports.

XI. Economic conditions in Germany

6. Labour market *

Period	Employment [1] Thousands	Employment [1] Annual percentage change	Employment subject to social contributions [2] Total Thousands	Employment subject to social contributions [2] Total Annual percentage change	of which: Production sector (Thousands)	of which: Services excluding temporary employment (Thousands)	of which: Temporary employment (Thousands)	Solely jobs exempt from social contributions [2] (Thousands)	Short-time workers [3] Total (Thousands)	Short-time workers [3] of which: Cyclically induced (Thousands)	Unemployment [4] Total (Thousands)	Unemployment [4] of which: Assigned to the legal category of the Third Book of the Social Security Code (SGB III) (Thousands)	Unemployment rate in % [4,5]	Vacancies, thousands [4,6]
2016	43,661	+ 1.2	31,508	+ 2.2	9,028	21,407	834	4,804	128	42	2,691	822	6.1	655
2017	44,262	+ 1.4	32,234	+ 2.3	9,146	21,980	868	4,742	114	24	2,533	[7] 855	5.7	731
2018	44,868	+ 1.4	32,964	+ 2.3	9,349	22,532	840	4,671	118	25	2,340	802	5.2	796
2019	45,268	+ 0.9	33,518	+ 1.7	9,479	23,043	751	4,579	145	60	[8] 2,267	827	[8] 5.0	774
2020	44,818	− 1.0	33,579	+ 0.2	9,395	23,277	660	4,290	2,939	2,847	2,695	1,137	5.9	613
2018 Q2	44,790	+ 1.4	32,802	+ 2.3	9,296	22,414	843	4,701	23	14	2,325	760	5.1	794
Q3	45,028	+ 1.3	33,040	+ 2.2	9,387	22,546	855	4,694	35	27	2,311	784	5.1	828
Q4	45,257	+ 1.2	33,452	+ 2.1	9,498	22,890	819	4,627	88	35	2,200	755	4.9	804
2019 Q1	44,920	+ 1.2	33,214	+ 2.0	9,419	22,803	761	4,581	303	34	2,360	892	5.2	780
Q2	45,240	+ 1.0	33,388	+ 1.8	9,455	22,932	750	4,615	51	43	[8] 2,227	778	[8] 4.9	795
Q3	45,376	+ 0.8	33,548	+ 1.5	9,491	23,049	753	4,598	66	58	2,276	827	5.0	794
Q4	45,538	+ 0.6	33,924	+ 1.4	9,551	23,388	738	4,522	161	105	2,204	811	4.8	729
2020 Q1	45,068	+ 0.3	33,642	+ 1.3	9,439	23,284	686	4,458	1,219	949	2,385	960	5.2	683
Q2	44,634	− 1.3	33,415	+ 0.1	9,387	23,137	640	4,235	5,399	5,388	2,770	1,154	6.0	593
Q3	44,695	− 1.5	33,424	− 0.4	9,359	23,171	640	4,273	2,705	2,691	2,904	1,266	6.3	583
Q4	44,874	− 1.5	33,836	− 0.3	9,395	23,518	676	4,194	2,433	2,361	2,722	1,167	5.9	595
2021 Q1	[9] 44,361	[9] − 1.6	[10] 33,566	[10] − 0.2	[10] 9,293	[10] 23,376	[10] 664	[10] 4,048	...	[10] 3,086	2,878	1,248	6.3	586
Q2	...	...	...	...	...	...	...	...	...	...	2,691	1,024	[11] 5.9	658
2018 Feb.	44,376	+ 1.5	32,551	+ 2.4	9,223	22,262	838	4,642	359	23	2,546	927	5.7	764
Mar.	44,472	+ 1.4	32,660	+ 2.3	9,253	22,334	837	4,656	327	27	2,458	859	5.5	778
Apr.	44,646	+ 1.4	32,782	+ 2.4	9,291	22,404	840	4,686	23	13	2,384	796	5.3	784
May	44,826	+ 1.5	32,857	+ 2.3	9,310	22,450	845	4,718	21	12	2,315	751	5.1	793
June	44,898	+ 1.3	32,870	+ 2.2	9,325	22,439	853	4,742	25	16	2,276	735	5.0	805
July	44,930	+ 1.3	32,844	+ 2.2	9,339	22,396	860	4,736	22	14	2,325	788	5.1	823
Aug.	44,981	+ 1.3	33,131	+ 2.3	9,412	22,609	856	4,664	41	33	2,351	804	5.2	828
Sep.	45,173	+ 1.2	33,422	+ 2.1	9,496	22,827	842	4,619	42	34	2,256	759	5.0	834
Oct.	45,262	+ 1.3	33,488	+ 2.2	9,515	22,895	827	4,616	46	37	2,204	742	4.9	824
Nov.	45,325	+ 1.3	33,513	+ 2.1	9,513	22,934	822	4,638	51	43	2,186	745	4.8	807
Dec.	45,184	+ 1.2	33,286	+ 2.1	9,434	22,854	773	4,637	166	26	2,210	777	4.9	781
2019 Jan.	44,866	+ 1.2	33,156	+ 2.0	9,405	22,762	763	4,574	354	42	2,406	919	5.3	758
Feb.	44,908	+ 1.2	33,199	+ 2.0	9,416	22,794	758	4,564	310	29	2,373	908	5.3	784
Mar.	44,985	+ 1.2	33,286	+ 1.9	9,442	22,855	749	4,574	246	32	2,301	850	5.1	797
Apr.	45,146	+ 1.1	33,383	+ 1.8	9,457	22,925	753	4,607	49	40	2,229	795	4.9	796
May	45,269	+ 1.0	33,433	+ 1.8	9,462	22,968	749	4,627	53	45	[8] 2,236	772	[8] 4.9	792
June	45,304	+ 0.9	33,407	+ 1.6	9,455	22,948	750	4,646	51	43	2,216	766	4.9	798
July	45,315	+ 0.9	33,360	+ 1.6	9,450	22,901	757	4,644	55	47	2,275	825	5.0	799
Aug.	45,305	+ 0.7	33,610	+ 1.4	9,505	23,101	750	4,568	60	51	2,319	848	5.1	795
Sep.	45,509	+ 0.7	33,938	+ 1.5	9,583	23,341	754	4,517	84	75	2,234	808	4.9	787
Oct.	45,578	+ 0.7	33,966	+ 1.4	9,567	23,398	748	4,510	111	102	2,204	795	4.8	764
Nov.	45,601	+ 0.6	33,968	+ 1.4	9,559	23,423	742	4,532	124	115	2,180	800	4.8	736
Dec.	45,434	+ 0.6	33,740	+ 1.4	9,474	23,344	694	4,531	247	97	2,227	838	4.9	687
2020 Jan.	45,096	+ 0.5	33,608	+ 1.4	9,432	23,255	689	4,471	382	133	2,426	985	5.3	668
Feb.	45,106	+ 0.4	33,624	+ 1.3	9,427	23,278	683	4,461	439	134	2,396	971	5.3	690
Mar.	45,003	+ 0.0	33,648	+ 1.1	9,440	23,290	675	4,350	2,834	2,580	2,335	925	5.1	691
Apr.	44,728	− 0.9	33,430	+ 0.1	9,396	23,141	643	4,194	6,007	5,995	2,644	1,093	5.8	626
May	44,583	− 1.5	33,328	− 0.3	9,367	23,083	624	4,206	5,726	5,715	2,813	1,172	6.1	584
June	44,590	− 1.6	33,323	− 0.3	9,355	23,084	629	4,260	4,464	4,452	2,853	1,197	6.2	570
July	44,590	− 1.6	33,233	− 0.4	9,322	23,024	635	4,302	3,319	3,306	2,910	1,258	6.3	573
Aug.	44,620	− 1.5	33,482	− 0.4	9,367	23,218	642	4,266	2,551	2,537	2,955	1,302	6.4	584
Sep.	44,875	− 1.4	33,792	− 0.4	9,421	23,454	656	4,240	2,244	2,229	2,847	1,238	6.2	591
Oct.	44,951	− 1.4	33,862	− 0.3	9,410	23,530	671	4,229	2,037	2,021	2,760	1,183	6.0	602
Nov.	44,923	− 1.5	33,899	− 0.2	9,400	23,559	696	4,166	2,405	2,386	2,699	1,152	5.9	601
Dec.	44,747	− 1.5	33,700	− 0.1	9,327	23,478	666	4,134	2,856	2,676	2,707	1,166	5.9	581
2021 Jan.	44,358	− 1.6	[10] 33,519	[10] − 0.3	[10] 9,283	[10] 23,350	[10] 657	[10] 4,046	...	[10] 3,293	2,901	1,298	6.3	566
Feb.	44,355	− 1.7	[10] 33,518	[10] − 0.3	[10] 9,281	[10] 23,342	[10] 661	[10] 4,018	...	[10] 3,267	2,904	1,270	6.3	583
Mar.	[9] 44,371	[9] − 1.4	[10] 33,625	[10] − 0.1	[10] 9,307	[10] 23,391	[10] 683	[10] 4,026	...	[10] 2,698	2,827	1,177	6.2	609
Apr.	[9] 44,497	[9] − 0.5	[10] 33,676	[10] + 0.7	[10] 9,322	[10] 23,419	[10] 685	[10] 4,019	...	[10] 2,341	2,771	1,091	6.0	629
May	[9] 44,631	[9] + 0.1	...	...	...	...	...	...	...	...	2,687	1,020	[11] 5.9	654
June	...	...	...	...	...	...	...	...	...	...	2,614	961	5.7	693

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 and seasonal jobs, 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** Statistical break due to late recording of unemployed persons in the legal category of the Second Book of the Social Security Code (SGB II). **9** Initial preliminary estimate by the Federal Statistical Office. **10** Unadjusted figures estimated by the Federal Employment Agency. In 2019 and 2020, the estimated values for Germany deviated from the final data by a maximum of 0.1% for employees subject to social contributions, by a maximum of 0.9% for persons solely in jobs exempt from social contributions, and by a maximum of 55.3% for cyclically induced short-time work. **11** From May 2021, calculated on the basis of new labour force figures.

XI. Economic conditions in Germany

7. Prices

Period	Harmonised Index of Consumer Prices: Total [2]	of which: [1] Food [3]	of which: [1] Non-energy industrial goods [4]	of which: [1] Energy [4,5]	of which: [1] Services [2,4]	of which: Actual rents for housing	Memo item: Consumer price index (national concept)	Construction price index	Index of producer prices of industrial products sold on the domestic market [6]	Index of producer prices of agricultural products [6]	Indices of foreign trade prices: Exports	Indices of foreign trade prices: Imports	HWWI Index of World Market Prices of Raw Materials [7]: Energy [8]	HWWI Index of World Market Prices of Raw Materials [7]: Other raw materials [9]
	2015 = 100													
Index level														
2017	102.1	104.0	102.2	97.5	102.5	102.9	102.0	105.3	101.1	108.6	100.7	100.1	99.6	107.1
2018	104.0	106.7	103.0	102.3	104.2	104.6	103.8	110.2	103.7	109.0	101.9	102.7	124.6	106.2
2019	105.5	108.4	104.2	103.7	105.7	106.1	105.3	115.3	104.8	r 111.5	102.4	101.7	110.0	108.1
2020	[10] 105.8	[10] 110.9	[10] 104.1	[10] 99.0	[10] 106.9	[10] 107.6	[10] 105.8	[10] 117.0	103.8	[11] 107.8	101.7	97.3	73.4	111.6
2019 Aug.	106.3	108.8	103.4	103.8	107.8	106.3	106.0	115.8	104.5	112.5	102.3	100.5	100.2	106.0
Sep.	106.2	108.8	104.7	103.8	106.9	106.4	106.0		104.6	109.9	102.4	101.1	105.9	107.5
Oct.	106.3	108.6	105.0	103.8	106.9	106.6	106.1		104.4	r 110.3	102.4	101.0	105.7	107.1
Nov.	105.4	109.0	105.2	103.7	104.9	106.7	105.3	116.4	104.4	r 112.0	102.4	101.5	110.5	106.9
Dec.	106.0	109.2	105.1	103.6	106.1	106.8	105.8		104.5	r 114.4	102.5	101.7	112.5	110.4
2020 Jan.	105.1	110.1	104.0	104.9	104.3	107.0	105.2		105.3	r 113.2	102.7	101.3	107.4	112.2
Feb.	105.7	111.2	104.3	103.9	105.2	107.1	105.6	117.8	104.9	r 114.2	102.6	100.4	94.3	108.7
Mar.	105.8	111.0	105.2	101.6	105.5	107.3	105.7		104.1	r 113.7	101.9	96.9	61.3	104.9
Apr.	106.2	112.2	105.4	98.6	106.7	107.4	106.1		103.4	r 112.7	101.5	95.2	49.7	101.0
May	106.2	112.5	105.4	97.4	106.7	107.5	106.0	118.3	103.0	109.2	101.3	95.5	55.5	102.1
June	106.9	112.7	104.8	98.7	108.1	107.6	106.6		103.0	r 110.0	101.3	96.1	65.2	105.1
July	[10] 106.4	[10] 110.2	[10] 102.5	[10] 98.0	[10] 109.4	[10] 107.7	[10] 106.1		103.2	r 107.5	101.3	96.4	68.3	107.5
Aug.	[10] 106.2	[10] 110.1	[10] 102.6	[10] 97.6	[10] 109.0	[10] 107.8	[10] 106.0	[10] 115.7	103.2	r 104.8	101.2	96.5	71.2	111.7
Sep.	[10] 105.8	[10] 109.9	[10] 103.6	[10] 96.9	[10] 108.0	[10] 107.8	[10] 105.8		103.6	[11] 103.3	101.3	96.8	70.4	117.9
Oct.	[10] 105.8	[10] 110.2	[10] 103.9	[10] 97.0	[10] 107.6	[10] 108.0	[10] 105.9		103.7	103.7	101.4	97.1	73.4	118.9
Nov.	[10] 104.7	[10] 110.3	[10] 104.0	[10] 96.0	[10] 105.5	[10] 108.1	[10] 105.0	[10] 116.0	103.9	103.8	101.8	97.6	77.8	120.4
Dec.	[10] 105.3	[10] 109.9	[10] 103.4	[10] 97.4	[10] 106.9	[10] 108.2	[10] 105.5		104.7	104.0	101.9	98.2	86.6	128.9
2021 Jan.	106.8	112.3	105.1	102.6	106.9	108.4	106.3		106.2	106.5	102.8	100.1	99.1	140.0
Feb.	107.4	113.0	105.5	104.1	107.3	108.5	107.0	121.2	106.9	108.8	103.3	101.8	104.7	143.4
Mar.	107.9	113.1	105.7	106.2	107.6	108.6	107.5		107.9	113.8	104.1	103.6	109.1	150.1
Apr.	108.4	114.5	105.8	106.1	108.3	108.7	108.2		108.8	115.6	104.9	105.0	110.8	154.5
May	108.7	114.2	106.3	106.7	108.7	108.9	108.7	125.1	110.4	118.4	105.6	106.8	118.9	169.0
June	109.1	114.1	106.5	107.6	109.1	108.9	109.1		…	…	…	…	129.4	166.3
Annual percentage change														
2017	+ 1.7	+ 2.7	+ 1.2	+ 3.1	+ 1.4	+ 1.7	+ 1.5	+ 3.3	+ 2.7	+ 10.0	+ 1.7	+ 3.5	+ 19.7	+ 8.8
2018	+ 1.9	+ 2.6	+ 0.8	+ 4.9	+ 1.6	+ 1.6	+ 1.8	+ 4.7	+ 2.6	+ 0.4	+ 1.2	+ 2.6	+ 25.1	− 0.8
2019	+ 1.4	+ 1.6	+ 1.1	+ 1.4	+ 1.5	+ 1.5	+ 1.4	+ 4.7	+ 1.1	r + 2.3	+ 0.5	− 1.0	− 11.7	+ 1.8
2020	[10] + 0.4	[10] + 2.3	[10] − 0.1	[10] − 4.5	[10] + 1.2	[10] + 1.4	[10] + 0.5	[10] + 1.4	− 1.0	[11] − 3.3	− 0.7	− 4.3	− 33.3	+ 3.2
2019 Aug.	+ 1.0	+ 2.3	+ 1.1	+ 0.7	+ 0.7	+ 1.4	+ 1.4	+ 4.3	+ 0.3	r + 1.8	− 0.1	− 2.7	− 23.2	+ 0.3
Sep.	+ 0.9	+ 1.6	+ 0.9	− 1.2	+ 1.2	+ 1.4	+ 1.2		− 0.1	− 1.5	± 0.0	− 2.5	− 24.8	+ 4.7
Oct.	+ 0.9	+ 1.4	+ 0.9	− 2.2	+ 1.3	+ 1.5	+ 1.1		− 0.6	r − 0.9	− 0.2	− 3.5	− 27.0	+ 1.5
Nov.	+ 1.2	+ 1.9	+ 1.1	− 4.0	+ 2.4	+ 1.5	+ 1.1	+ 3.9	− 0.7	+ 0.4	− 0.1	− 2.1	− 10.7	+ 1.6
Dec.	+ 1.5	+ 2.1	+ 1.3	+ 0.1	+ 2.0	+ 1.5	+ 1.5		− 0.2	r + 2.6	+ 0.4	− 0.7	+ 1.0	+ 7.0
2020 Jan.	+ 1.6	+ 2.5	+ 1.1	+ 3.3	+ 1.4	+ 1.5	+ 1.7		+ 0.2	r + 1.6	+ 0.5	− 0.9	− 4.4	+ 7.5
Feb.	+ 1.7	+ 3.1	+ 0.9	+ 2.2	+ 1.5	+ 1.4	+ 1.7	+ 3.3	− 0.1	r + 2.0	+ 0.3	− 2.0	− 17.5	− 0.6
Mar.	+ 1.3	+ 3.1	+ 1.3	− 0.8	+ 1.3	+ 1.5	+ 1.4		− 0.8	+ 0.4	− 0.5	− 5.5	− 46.8	− 3.1
Apr.	+ 0.8	+ 4.0	+ 0.8	− 5.6	+ 1.3	+ 1.5	+ 0.9		− 1.9	− 2.5	− 1.1	− 7.4	− 58.3	− 7.2
May	+ 0.5	+ 3.9	+ 0.8	− 8.2	+ 1.3	+ 1.5	+ 0.6	+ 2.9	− 2.2	− 5.6	− 1.2	− 7.0	− 52.4	− 4.2
June	+ 0.8	+ 4.0	+ 0.7	− 5.9	+ 1.4	+ 1.4	+ 0.9		− 1.8	r − 4.4	− 1.0	− 5.1	− 36.6	− 3.2
July	[10] ± 0.0	[10] + 1.4	[10] − 0.8	[10] − 6.4	[10] + 1.4	[10] + 1.4	[10] − 0.1		− 1.7	− 5.9	− 1.1	− 4.6	− 35.4	− 4.9
Aug.	[10] − 0.1	[10] + 1.2	[10] − 0.8	[10] − 6.0	[10] + 1.1	[10] + 1.4	[10] ± 0.0	[10] − 0.1	− 1.2	− 6.8	− 1.1	− 4.0	− 28.9	+ 5.4
Sep.	[10] − 0.4	[10] + 1.0	[10] − 1.1	[10] − 6.6	[10] + 1.0	[10] + 1.3	[10] − 0.2		− 1.0	[11] − 6.0	− 1.1	− 4.3	− 33.5	+ 9.7
Oct.	[10] − 0.5	[10] + 1.5	[10] − 1.0	[10] − 6.6	[10] + 0.7	[10] + 1.3	[10] − 0.2		− 0.7	− 6.0	− 1.0	− 3.9	− 30.6	+ 11.0
Nov.	[10] − 0.7	[10] + 1.2	[10] − 1.1	[10] − 7.4	[10] + 0.6	[10] + 1.3	[10] − 0.3	[10] − 0.3	− 0.5	− 7.3	− 0.6	− 3.8	− 29.6	+ 12.6
Dec.	[10] − 0.7	[10] + 0.6	[10] − 1.6	[10] − 6.0	[10] + 0.8	[10] + 1.3	[10] − 0.3		+ 0.2	− 9.1	− 0.6	− 3.4	− 23.0	+ 16.8
2021 Jan.	+ 1.6	+ 2.0	+ 1.1	− 2.2	+ 2.5	+ 1.3	+ 1.0		+ 0.9	− 5.9	+ 0.1	− 1.2	− 7.7	+ 24.8
Feb.	+ 1.6	+ 1.6	+ 1.2	+ 0.2	+ 2.0	+ 1.3	+ 1.3	+ 2.9	+ 1.9	− 4.7	+ 0.7	+ 1.4	+ 11.0	+ 31.9
Mar.	+ 2.0	+ 1.9	+ 0.5	+ 4.5	+ 2.0	+ 1.2	+ 1.7		+ 3.7	+ 0.1	+ 2.2	+ 6.9	+ 78.0	+ 43.1
Apr.	+ 2.1	+ 2.0	+ 0.4	+ 7.6	+ 1.5	+ 1.2	+ 2.0		+ 5.2	+ 2.6	+ 3.3	+ 10.3	+ 122.9	+ 53.0
May	+ 2.4	+ 1.5	+ 0.9	+ 9.5	+ 1.9	+ 1.3	+ 2.5	+ 5.7	+ 7.2	+ 8.4	+ 4.2	+ 11.8	+ 114.2	+ 65.5
June	+ 2.1	+ 1.2	+ 1.6	+ 9.0	+ 0.9	+ 1.2	+ 2.3		…	…	…	…	+ 98.5	+ 58.2

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** With effect from 2015, methodological changes to the collection of data on the prices of package holidays, impacting until the beginning of the series. **3** Including alcoholic beverages and tobacco. **4** Modified procedure as of 2017 due to calculations on the basis of the five digit structure set out in the European Classification of Individual Consumption according to Purpose (ECOICOP). **5** Electricity, gas and other fuels as well as transport fuels and lubricants, from January 2017 excluding lubricants. **6** Excluding value added tax. **7** For the euro area, in euro. **8** Coal, crude oil (Brent) and natural gas. **9** Food, beverages and tobacco as well as industrial raw materials. **10** Influenced by a temporary reduction of value added tax. **11** From September 2020 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
2012	1,150.0	4.2	776.1	4.0	376.8	1.5	1,152.9	3.2	1,668.4	2.5	161.0	– 1.3	9.7
2013	1,186.3	3.2	799.4	3.0	383.9	1.9	1,183.2	2.6	1,690.8	1.3	157.1	– 2.5	9.3
2014	1,234.2	4.0	830.5	3.9	394.0	2.6	1,224.5	3.5	1,734.5	2.6	170.6	8.6	9.8
2015	1,285.5	4.2	863.3	4.0	410.5	4.2	1,273.8	4.0	1,782.3	2.8	179.4	5.1	10.1
2016	1,337.4	4.0	896.3	3.8	426.2	3.8	1,322.5	3.8	1,841.5	3.3	187.8	4.7	10.2
2017	1,394.1	4.2	931.6	3.9	440.9	3.4	1,372.5	3.8	1,905.9	3.5	201.9	7.5	10.6
2018	1,461.3	4.8	975.2	4.7	452.8	2.7	1,428.0	4.0	1,970.8	3.4	215.4	6.7	10.9
2019	1,521.6	4.1	1,020.3	4.6	470.8	4.0	1,491.1	4.4	2,027.1	2.9	220.3	2.2	10.9
2020	1,511.5	– 0.7	1,019.5	– 0.1	514.1	9.2	1,533.6	2.8	2,041.3	0.7	329.7	49.7	16.2
2019 Q4	416.6	3.3	278.4	3.6	117.8	4.3	396.2	3.8	512.5	2.4	49.7	2.6	9.7
2020 Q1	365.6	2.9	245.8	2.8	124.3	5.5	370.1	3.7	521.9	2.7	84.8	16.2	16.3
Q2	355.0	– 4.4	234.2	– 3.9	129.3	11.0	363.5	0.9	493.6	– 1.3	98.5	93.1	20.0
Q3	374.2	– 1.0	258.5	– 0.3	130.7	10.0	389.2	3.0	508.5	0.5	66.9	43.6	13.2
Q4	416.6	0.0	281.0	0.9	129.8	10.2	410.8	3.7	517.4	1.0	79.5	60.2	15.4
2021 Q1	361.7	– 1.1	245.0	– 0.3	134.9	8.6	380.0	2.7	527.7	1.1	122.3	44.2	23.2

Source: Federal Statistical Office; figures computed in May 2021. * 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 a monthly basis							
	On an hourly basis		Total		Total excluding one-off payments		Basic pay rates 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
2012	92.5	2.6	92.7	2.5	92.7	2.8	92.7	2.8	92.4	2.9
2013	94.8	2.5	95.0	2.5	95.0	2.5	95.0	2.5	94.4	2.2
2014	97.7	3.1	97.8	2.9	97.7	2.8	97.7	2.8	97.2	2.9
2015	100.0	2.3	100.0	2.3	100.0	2.3	100.0	2.4	100.0	2.9
2016	102.1	2.1	102.1	2.1	102.1	2.1	102.2	2.2	102.5	2.5
2017	104.2	2.1	104.2	2.0	104.3	2.1	104.5	2.3	105.1	2.5
2018	107.1	2.8	107.1	2.8	107.0	2.7	107.3	2.7	108.4	3.2
2019	110.2	2.9	110.2	2.9	109.7	2.5	110.0	2.5	111.6	2.9
2020	112.6	2.2	112.6	2.2	111.9	2.0	112.2	2.0	111.7	0.0
2019 Q4	121.8	2.4	121.8	2.3	121.8	2.3	110.7	2.3	121.3	2.4
2020 Q1	104.2	2.4	104.2	2.4	104.2	2.4	111.6	2.4	107.5	2.2
Q2	105.0	2.0	104.9	1.9	105.1	2.2	112.1	2.1	105.4	– 3.4
Q3	116.2	1.8	116.2	1.8	114.4	1.8	112.5	1.8	111.0	0.1
Q4	125.0	2.6	124.9	2.6	123.9	1.8	112.6	1.7	122.7	1.2
2021 Q1	105.7	1.4	105.7	1.4	105.8	1.5	113.3	1.5	107.7	0.2
2020 Nov.	160.4	2.1	160.3	2.1	159.7	1.8	112.6	1.7	.	.
Dec.	109.5	4.2	109.5	4.2	107.0	1.8	112.6	1.8	.	.
2021 Jan.	105.7	1.5	105.7	1.4	105.8	1.6	113.2	1.5	.	.
Feb.	105.7	1.4	105.7	1.4	105.8	1.5	113.2	1.5	.	.
Mar.	105.8	1.4	105.7	1.4	105.8	1.4	113.3	1.3	.	.
Apr.	106.8	1.8	106.8	1.8	106.7	1.6	113.7	1.6	.	.
May	106.4	1.1	106.3	1.0	106.4	1.0	113.7	1.4	.	.

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 May 2021.

XI. Economic conditions in Germany

10. Assets, equity and liabilities of listed non-financial groups *

End of year/half

Period	Total assets	Assets: Non-current assets	of which: Intangible assets	of which: Tangible assets	of which: Financial assets	Current assets	of which: Inventories	of which: Trade receivables	of which: Cash 1	Equity and liabilities: Equity	Liabilities: Total	Long-term: Total	Long-term: of which: Financial debt	Short-term: Total	Short-term of which: Financial debt	Short-term of which: Trade payables
	Total (€ billion)															
2017	2,396.2	1,488.2	498.6	602.8	295.9	908.0	230.6	225.1	156.2	757.1	1,639.1	866.4	495.7	772.7	236.1	195.6
2018 3	2,589.6	1,537.1	540.8	611.1	288.5	1,052.5	249.5	234.9	172.6	790.2	1,799.3	925.8	558.7	873.5	257.5	205.1
2019	2,801.2	1,770.0	586.3	737.5	333.4	1,031.2	257.6	237.8	168.5	821.5	1,979.8	1,091.3	676.3	888.5	289.8	207.7
2020 p	2,850.7	1,797.6	607.6	733.4	335.1	1,053.1	243.7	226.2	240.5	812.1	2,038.7	1,181.5	746.4	857.1	304.4	196.2
2019 H1	2,702.6	1,657.9	549.7	682.9	314.5	1,044.6	269.2	240.5	140.5	777.5	1,925.1	1,024.3	613.9	900.8	301.7	210.8
H2	2,801.2	1,770.0	586.3	737.5	333.4	1,031.2	257.6	237.8	168.5	821.5	1,979.8	1,091.3	676.3	888.5	289.8	207.7
2020 H1	2,892.1	1,801.3	625.0	734.3	319.7	1,090.9	257.6	216.6	220.8	794.2	2,097.9	1,183.9	754.2	914.0	335.5	179.7
H2 p	2,850.7	1,797.6	607.6	733.4	335.1	1,053.1	243.7	226.2	240.5	812.1	2,038.7	1,181.5	746.4	857.1	304.4	196.2
	As a percentage of total assets															
2017	100.0	62.1	20.8	25.2	12.4	37.9	9.6	9.4	6.5	31.6	68.4	36.2	20.7	32.3	9.9	8.2
2018 3	100.0	59.4	20.9	23.6	11.1	40.6	9.6	9.1	6.7	30.5	69.5	35.8	21.6	33.7	9.9	7.9
2019	100.0	63.2	20.9	26.3	11.9	36.8	9.2	8.5	6.0	29.3	70.7	39.0	24.1	31.7	10.3	7.4
2020 p	100.0	63.1	21.3	25.7	11.8	36.9	8.6	7.9	8.4	28.5	71.5	41.5	26.2	30.1	10.7	6.9
2019 H1	100.0	61.4	20.3	25.3	11.6	38.7	10.0	8.9	5.2	28.8	71.2	37.9	22.7	33.3	11.2	7.8
H2	100.0	63.2	20.9	26.3	11.9	36.8	9.2	8.5	6.0	29.3	70.7	39.0	24.1	31.7	10.3	7.4
2020 H1	100.0	62.3	21.6	25.4	11.1	37.7	8.9	7.5	7.6	27.5	72.5	40.9	26.1	31.6	11.6	6.2
H2 p	100.0	63.1	21.3	25.7	11.8	36.9	8.6	7.9	8.4	28.5	71.5	41.5	26.2	30.1	10.7	6.9
	Groups with a focus on the production sector (€ billion) 2															
2017	1,989.3	1,190.8	351.5	484.0	281.8	798.5	215.8	181.4	128.5	609.9	1,379.4	719.1	397.8	660.3	218.4	150.1
2018 3	2,149.9	1,215.7	388.2	473.3	277.5	934.1	234.6	188.7	139.2	637.2	1,512.7	760.3	442.4	752.4	236.2	152.6
2019	2,303.5	1,396.8	419.6	565.7	319.7	906.8	243.8	188.7	136.9	662.7	1,640.9	887.5	523.8	753.4	257.5	158.1
2020 p	2,265.7	1,355.2	399.1	543.9	320.0	910.5	228.8	179.8	188.0	636.8	1,628.9	904.8	537.0	724.1	267.3	149.9
2019 H1	2,229.6	1,297.6	388.9	517.9	302.7	932.0	255.6	194.2	115.8	629.6	1,600.0	831.4	473.9	768.6	265.8	164.3
H2	2,303.5	1,396.8	419.6	565.7	319.7	906.8	243.8	188.7	136.9	662.7	1,640.9	887.5	523.8	753.4	257.5	158.1
2020 H1	2,305.5	1,352.3	406.4	547.5	303.4	953.2	244.0	171.8	171.4	615.1	1,690.4	912.2	548.5	778.1	294.6	137.1
H2 p	2,265.7	1,355.2	399.1	543.9	320.0	910.5	228.8	179.8	188.0	636.8	1,628.9	904.8	537.0	724.1	267.3	149.9
	As a percentage of total assets															
2017	100.0	59.9	17.7	24.3	14.2	40.1	10.9	9.1	6.5	30.7	69.3	36.2	20.0	33.2	11.0	7.6
2018 3	100.0	56.6	18.1	22.0	12.9	43.5	10.9	8.8	6.5	29.6	70.4	35.4	20.6	35.0	11.0	7.1
2019	100.0	60.6	18.2	24.6	13.9	39.4	10.6	8.2	5.9	28.8	71.2	38.5	22.7	32.7	11.2	6.9
2020 p	100.0	59.8	17.6	24.0	14.1	40.2	10.1	7.9	8.3	28.1	71.9	39.9	23.7	32.0	11.8	6.6
2019 H1	100.0	58.2	17.4	23.2	13.6	41.8	11.5	8.7	5.2	28.2	71.8	37.3	21.3	34.5	11.9	7.4
H2	100.0	60.6	18.2	24.6	13.9	39.4	10.6	8.2	5.9	28.8	71.2	38.5	22.7	32.7	11.2	6.9
2020 H1	100.0	58.7	17.6	23.8	13.2	41.4	10.6	7.5	7.4	26.7	73.3	39.6	23.8	33.8	12.8	6.0
H2 p	100.0	59.8	17.6	24.0	14.1	40.2	10.1	7.9	8.3	28.1	71.9	39.9	23.7	32.0	11.8	6.6
	Groups with a focus on the services sector (€ billion)															
2017	406.9	297.4	147.1	118.8	14.1	109.5	14.8	43.6	27.6	147.2	259.6	147.3	97.9	112.4	17.6	45.5
2018 3	439.7	321.3	152.7	137.9	11.0	118.3	14.9	46.1	33.3	153.1	286.6	165.5	116.3	121.1	21.3	52.5
2019	497.7	373.3	166.7	171.8	13.7	124.4	13.7	49.1	31.6	158.8	338.9	203.8	152.6	135.1	32.3	49.6
2020 p	585.0	442.4	208.5	189.6	15.1	142.6	14.9	46.4	52.6	175.3	409.7	276.7	209.4	133.0	37.1	46.3
2019 H1	472.9	360.3	160.8	165.1	11.8	112.6	13.7	46.3	24.7	147.9	325.0	192.8	140.0	132.2	35.9	46.5
H2	497.7	373.3	166.7	171.8	13.7	124.4	13.7	49.1	31.6	158.8	338.9	203.8	152.6	135.1	32.3	49.6
2020 H1	586.6	449.0	218.7	186.8	16.3	137.6	13.7	44.9	49.4	179.1	407.6	271.7	205.7	135.9	40.9	42.6
H2 p	585.0	442.4	208.5	189.6	15.1	142.6	14.9	46.4	52.6	175.3	409.7	276.7	209.4	133.0	37.1	46.3
	As a percentage of total assets															
2017	100.0	73.1	36.2	29.2	3.5	26.9	3.7	10.7	6.8	36.2	63.8	36.2	24.1	27.6	4.3	11.2
2018 3	100.0	73.1	34.7	31.4	2.5	26.9	3.4	10.5	7.6	34.8	65.2	37.6	26.5	27.6	4.8	11.9
2019	100.0	75.0	33.5	34.5	2.8	25.0	2.8	9.9	6.4	31.9	68.1	41.0	30.7	27.2	6.5	10.0
2020 p	100.0	75.6	35.6	32.4	2.6	24.4	2.6	7.9	9.0	30.0	70.0	47.3	35.8	22.7	6.3	7.9
2019 H1	100.0	76.2	34.0	34.9	2.5	23.8	2.9	9.8	5.2	31.3	68.7	40.8	29.6	28.0	7.6	9.8
H2	100.0	75.0	33.5	34.5	2.8	25.0	2.8	9.9	6.4	31.9	68.1	41.0	30.7	27.2	6.5	10.0
2020 H1	100.0	76.5	37.3	31.9	2.8	23.5	2.3	7.7	8.4	30.5	69.5	46.3	35.1	23.2	7.0	7.3
H2 p	100.0	75.6	35.6	32.4	2.6	24.4	2.6	7.9	9.0	30.0	70.0	47.3	35.8	22.7	6.3	7.9

***** 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 H1 2018 or 2018 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: Weighted average		Distribution 2: First quartile	Median	Third quartile	Operating income (EBIT)		Operating income (EBIT) as a percentage of revenues: Weighted average		Distribution 2: 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																
2013	1,540.6	− 0.6	187.0	− 2.8	12.1	− 0.3	5.2	10.3	18.4	99.4	5.5	6.5	0.4	1.9	5.9	11.0
2014	1,565.1	1.0	198.7	4.9	12.7	0.5	5.9	10.3	17.4	109.2	8.5	7.0	0.5	1.9	6.1	11.1
2015	1,634.6	6.9	196.0	− 1.1	12.0	− 1.0	6.1	10.6	17.8	91.5	− 16.4	5.6	− 1.5	1.7	6.6	11.3
2016	1,625.0	− 0.4	214.5	7.9	13.2	1.0	6.7	11.4	17.9	111.8	9.1	6.9	0.5	2.6	6.7	12.0
2017	1,720.2	5.1	243.5	14.6	14.2	1.2	7.1	11.0	18.0	142.0	33.3	8.3	1.8	2.5	6.9	12.0
2018 6	1,707.6	0.7	232.8	− 0.9	13.6	− 0.2	6.2	10.6	17.7	129.2	− 6.3	7.6	− 0.6	2.2	6.5	11.9
2019	1,765.5	2.6	233.7	0.4	13.2	− 0.3	6.9	12.2	19.1	105.5	− 17.9	6.0	− 1.5	1.7	5.8	11.7
2020 p	1,633.6	− 8.8	213.8	− 7.7	13.1	0.2	6.5	11.5	18.0	52.3	− 40.9	3.2	− 2.1	− 0.8	5.0	10.7
2016 H1	782.3	− 1.9	111.6	6.2	14.3	1.1	5.9	10.4	17.7	65.5	2.7	8.4	0.3	1.6	6.4	11.3
H2	842.8	1.1	102.9	9.8	12.2	1.0	6.9	11.9	19.0	46.3	20.9	5.5	0.8	3.0	7.5	12.5
2017 H1	844.4	6.8	125.7	14.6	14.9	1.0	5.7	10.1	17.2	78.5	29.6	9.3	1.6	1.8	5.8	11.6
H2	879.0	3.5	117.5	14.6	13.4	1.3	6.9	12.0	19.1	63.0	38.2	7.2	1.8	3.3	7.5	12.4
2018 H1 6	848.6	− 0.1	120.8	− 2.2	14.2	− 0.3	5.1	10.6	18.1	72.7	− 5.3	8.6	− 0.5	1.8	6.4	12.4
H2	869.8	1.4	114.5	0.5	13.2	− 0.1	6.4	11.2	17.8	58.0	− 7.7	6.7	− 0.6	2.1	6.7	12.3
2019 H1	861.7	2.7	112.4	− 4.0	13.0	− 0.9	6.6	11.7	18.6	53.4	− 23.3	6.2	− 2.1	1.5	5.7	11.7
H2	904.2	2.4	121.3	4.8	13.4	0.3	6.8	11.9	19.9	52.1	− 11.3	5.8	− 0.9	0.9	6.1	12.4
2020 H1	744.9	− 14.4	78.3	− 34.0	10.5	− 3.0	4.8	9.9	16.7	7.9	− 88.0	1.1	− 5.3	− 2.1	3.5	9.0
H2 p	888.8	− 3.3	135.5	17.2	15.3	2.8	7.7	13.2	19.8	44.3	8.8	5.0	0.7	1.7	6.5	11.7
Groups with a focus on the production sector 5																
2013	1,199.6	− 0.8	142.6	− 2.6	11.9	− 0.2	5.1	10.3	16.0	77.5	− 5.8	6.5	− 0.3	1.6	5.9	10.5
2014	1,220.9	1.0	152.2	5.9	12.5	0.6	5.7	10.0	15.5	85.2	9.7	7.0	0.6	1.6	6.0	10.5
2015	1,310.5	7.0	149.1	− 2.6	11.4	− 1.1	6.3	10.5	16.3	69.1	− 19.7	5.3	− 1.7	2.1	6.6	10.4
2016	1,296.6	− 0.8	162.1	6.4	12.5	0.8	6.6	10.7	16.2	84.9	4.3	6.6	0.3	2.9	6.4	10.7
2017	1,396.8	5.5	187.6	16.6	13.4	1.3	7.1	11.0	15.8	112.6	40.5	8.1	2.0	3.2	6.8	10.5
2018 6	1,368.5	1.0	175.8	− 1.6	12.8	− 0.3	6.9	10.7	15.8	100.7	− 7.1	7.4	− 0.6	2.9	6.8	11.3
2019	1,411.8	2.0	168.3	− 4.4	11.9	− 0.8	6.9	11.4	16.6	76.3	− 23.7	5.4	− 1.8	1.4	5.8	10.1
2020 p	1,286.0	− 9.4	143.8	− 8.6	11.2	0.1	6.4	10.6	16.5	29.3	− 47.9	2.3	− 2.3	− 0.7	4.4	9.8
2016 H1	625.5	− 2.3	86.6	1.8	13.8	0.5	6.7	10.6	15.9	52.7	− 6.4	8.4	− 0.3	2.9	6.4	10.1
H2	671.2	0.7	75.5	12.0	11.3	1.1	6.2	11.3	16.6	32.2	34.3	4.8	0.9	2.6	6.6	10.7
2017 H1	695.6	7.3	101.6	18.7	14.6	1.4	6.1	10.2	16.1	66.4	37.3	9.5	2.1	2.4	5.9	11.0
H2	701.8	3.7	86.0	14.2	12.3	1.1	7.0	11.8	16.9	46.2	45.5	6.6	1.9	3.6	7.3	10.8
2018 H1 6	682.3	− 0.1	95.0	− 3.4	13.9	− 0.5	7.0	10.9	16.7	60.0	− 6.0	8.8	− 0.6	2.9	6.7	11.5
H2	695.8	2.0	83.2	0.6	12.0	− 0.2	6.3	11.1	16.1	42.1	− 8.8	6.1	− 0.7	2.0	6.4	11.2
2019 H1	690.3	2.4	83.4	− 8.8	12.1	− 1.5	7.1	10.8	16.1	41.9	− 26.8	6.1	− 2.4	1.8	5.9	9.5
H2	721.5	1.7	84.9	0.4	11.8	− 0.2	6.1	10.9	16.9	34.4	− 19.6	4.8	− 1.3	0.6	5.3	11.2
2020 H1	581.0	− 15.9	49.1	− 42.3	8.4	− 3.8	4.4	8.8	15.1	0.2	− 101.6	0.0	− 6.2	− 2.1	3.2	8.0
H2 p	705.0	− 3.0	94.7	25.4	13.4	3.4	7.3	12.3	18.6	29.0	19.8	4.1	1.1	1.1	6.1	10.7
Groups with a focus on the services sector																
2013	341.0	− 0.1	44.4	− 3.5	13.0	− 0.5	5.2	9.3	20.7	21.9	82.2	6.4	2.9	2.4	5.9	11.8
2014	344.2	0.8	46.5	1.8	13.5	0.1	6.0	12.3	22.6	24.1	4.3	7.0	0.2	2.6	6.3	13.7
2015	324.1	6.1	46.9	4.0	14.5	− 0.3	5.9	11.1	22.1	22.3	− 3.8	6.9	− 0.7	1.3	6.7	13.9
2016	328.4	1.3	52.5	12.8	16.0	1.6	6.8	13.4	25.1	26.9	24.4	8.2	1.5	2.3	8.2	15.3
2017	323.4	3.5	55.9	8.3	17.3	0.8	6.8	11.5	23.0	29.4	11.4	9.1	0.6	2.1	7.2	15.1
2018 6	339.2	− 0.6	57.1	1.3	16.8	0.3	5.5	10.5	24.7	28.5	− 3.5	8.4	− 0.3	1.4	5.8	16.6
2019	353.7	4.8	65.4	15.2	18.5	1.7	6.9	13.7	24.5	29.2	2.8	8.3	− 0.2	2.4	6.2	16.2
2020 p	347.6	− 6.1	70.0	− 5.4	20.1	0.1	6.9	13.2	22.1	23.0	− 22.1	6.6	− 1.4	− 1.2	6.4	12.2
2016 H1	156.8	− 0.4	25.0	24.0	16.0	3.1	5.1	10.2	23.4	12.8	61.2	8.2	3.1	1.0	6.2	14.6
H2	171.6	2.9	27.4	4.2	16.0	0.2	7.4	13.3	24.3	14.1	3.0	8.2	0.0	4.0	8.9	17.1
2017 H1	148.8	4.6	24.2	0.4	16.2	− 0.6	5.2	9.8	21.0	12.1	0.3	8.2	− 0.3	1.2	5.6	14.5
H2	177.1	2.5	31.5	15.6	17.8	2.0	6.6	12.5	24.6	16.8	21.6	9.5	1.5	2.9	7.8	17.9
2018 H1 6	166.3	0.2	25.9	2.8	15.6	0.4	3.8	9.5	22.7	12.6	− 1.9	7.6	− 0.2	− 0.9	4.7	15.3
H2	174.0	− 1.3	31.3	− 0.0	18.0	0.2	6.7	11.3	25.6	15.9	− 4.6	9.1	− 0.3	2.2	7.0	17.8
2019 H1	171.4	4.0	29.0	13.1	16.9	1.4	5.7	12.3	24.4	11.6	− 7.5	6.7	− 0.9	0.0	4.9	14.5
H2	182.7	5.5	36.5	16.9	20.0	1.9	7.1	15.1	24.4	17.7	10.9	9.7	0.5	1.8	8.2	16.3
2020 H1	163.9	− 8.1	29.2	− 9.4	17.8	− 0.3	5.6	10.8	21.2	7.7	− 36.4	4.7	− 2.1	− 2.2	4.3	10.9
H2 p	183.8	− 4.2	40.8	− 2.2	22.2	0.4	8.9	14.7	23.3	15.3	− 12.8	8.3	− 0.9	2.6	7.2	13.3

* 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 Series 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

				2020 r		2021			
Item	2018 r	2019 r	2020 r	Q3	Q4	Q1 r	Feb. r	Mar. r	Apr. p
I. Current Account	+ 346,207	+ 282,215	+ 247,657	+ 84,714	+ 98,175	+ 72,593	+ 20,962	+ 35,649	+ 31,428
1. Goods									
Receipts	2,333,597	2,397,441	2,190,887	547,127	601,457	592,794	191,150	227,547	206,244
Expenditure	2,045,057	2,082,702	1,850,089	452,467	488,318	499,896	157,185	190,394	179,857
Balance	+ 288,541	+ 314,738	+ 340,801	+ 94,661	+ 113,139	+ 92,898	+ 33,965	+ 37,153	+ 26,387
2. Services									
Receipts	946,766	1,003,052	847,982	203,151	228,769	206,132	64,039	73,315	70,787
Expenditure	828,987	939,122	811,361	182,615	213,669	190,057	59,970	67,423	60,354
Balance	+ 117,778	+ 63,930	+ 36,618	+ 20,534	+ 15,100	+ 16,075	+ 4,069	+ 5,892	+ 10,433
3. Primary income									
Receipts	853,727	858,902	749,639	177,114	184,241	185,879	58,964	64,623	60,831
Expenditure	761,362	802,408	716,955	177,062	165,763	165,098	52,982	57,171	54,566
Balance	+ 92,367	+ 56,494	+ 32,684	+ 52	+ 18,477	+ 20,780	+ 5,982	+ 7,452	+ 6,265
4. Secondary income									
Receipts	110,262	113,869	115,999	26,801	30,577	28,126	9,559	9,880	9,615
Expenditure	262,742	266,817	278,444	57,333	79,118	85,287	32,613	24,728	21,272
Balance	− 152,478	− 152,946	− 162,448	− 30,533	− 48,542	− 57,160	− 23,054	− 14,847	− 11,657
II. Capital account	− 37,290	− 26,213	− 3,267	+ 1,084	− 904	+ 3,447	+ 28	+ 2,819	+ 728
III. Financial account 1	+ 303,530	+ 200,276	+ 256,681	+ 97,970	+ 125,845	+ 84,836	+ 18,832	+ 20,775	+ 5,181
1. Direct investment	+ 137,128	− 95,424	− 181,564	+ 27,018	− 111,378	+ 62,834	+ 16,584	+ 4,164	+ 29,124
By resident units abroad the euro area	− 257,807	+ 9,077	− 62,195	+ 24,670	− 97,901	+ 70,565	+ 21,496	− 12,546	+ 34,248
By non-resident units of the euro area	− 394,935	+ 104,503	+ 119,369	− 2,348	+ 13,477	+ 7,731	+ 4,912	− 16,710	+ 5,124
2. Portfolio investment	+ 206,809	− 41,724	+ 604,855	+ 17,429	+ 594,904	+ 94,303	+ 86,916	+ 3,451	+ 15,605
By resident units abroad the euro area	+ 190,785	+ 433,966	+ 699,768	+ 96,180	+ 354,957	+ 259,711	+ 84,179	+ 79,617	+ 62,054
Equity and investment fund shares	+ 33,921	+ 70,792	+ 307,687	+ 79,006	+ 183,913	+ 157,494	+ 51,997	+ 50,247	+ 46,022
Short-term debt securities	− 52,159	+ 4,757	+ 130,434	− 18,360	+ 41,489	+ 24,043	− 3,626	+ 18,043	− 12,179
Long-term debt securities	+ 209,024	+ 358,417	+ 261,646	+ 35,534	+ 129,555	+ 78,174	+ 35,808	+ 11,326	+ 28,211
By non-resident units of the euro area	− 16,022	+ 475,688	+ 94,914	+ 78,751	− 239,946	+ 165,407	− 2,737	+ 76,165	+ 46,449
Equity and investment fund shares	+ 103,841	+ 240,139	+ 91,364	+ 44,849	+ 22,713	+ 87,467	+ 18,645	+ 24,111	+ 41,635
Short-term debt securities	− 60,005	− 6,481	+ 141,365	+ 21,300	− 68,042	+ 86,672	− 9,010	+ 38,011	+ 6,213
Long-term debt securities	− 59,855	+ 242,035	− 137,816	+ 12,602	− 194,617	− 8,732	− 12,372	+ 14,044	− 1,399
3. Financial derivatives and employee stock options	+ 39,860	+ 1,071	+ 523	− 31,802	− 19,570	+ 7,161	− 967	− 5,575	+ 4,541
4. Other investment	− 105,349	+ 333,124	− 180,361	+ 81,939	− 340,178	− 76,479	− 82,102	+ 19,228	− 44,838
Eurosystem	− 134,123	+ 142,624	− 203,671	+ 7,420	− 196,362	+ 146,780	+ 8,983	− 31,545	+ 42,567
General government	− 4,857	+ 120	− 19,485	+ 16,571	− 33,841	− 21,287	− 16,317	− 9,761	+ 3,896
MFIs 2	+ 102,018	+ 185,876	+ 13,037	+ 53,359	− 34,707	− 274,462	− 84,581	+ 23,486	− 90,641
Enterprises and households	− 68,384	+ 4,504	+ 29,755	+ 4,588	− 75,267	+ 72,490	+ 9,812	+ 37,048	− 660
5. Reserve assets	+ 25,080	+ 3,230	+ 13,231	+ 3,386	+ 2,069	− 2,982	− 1,597	− 494	+ 748
IV. Net errors and omissions	− 5,387	− 55,724	+ 12,295	+ 12,172	+ 28,575	+ 8,798	− 2,157	− 17,692	− 26,975

* Source: ECB, according to the international standards of the International Monetary Fund's Balance of Payments Manual (sixth edition). **1** increase: + / decrease: -. **2** Excluding the Eurosystem.

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 2	Financial account 3		Errors and omissions 4
		Goods								
	Total	Total	of which: Supplementary trade items 1	Services	Primary income	Secondary income		Total	of which: Reserve assets	
2006	+ 137,674	+ 160,965	– 4,687	– 31,777	+ 40,499	– 32,014	– 1,328	+ 157,142	– 2,934	+ 20,796
2007	+ 171,493	+ 201,728	– 1,183	– 32,465	+ 35,620	– 33,390	– 1,597	+ 183,169	+ 953	+ 13,273
2008	+ 144,954	+ 184,160	– 3,947	– 29,122	+ 24,063	– 34,147	– 893	+ 121,336	+ 2,008	– 22,725
2009	+ 142,744	+ 140,626	– 6,605	– 17,642	+ 54,524	– 34,764	– 1,858	+ 129,693	+ 8,648	– 11,194
2010	+ 147,298	+ 160,829	– 6,209	– 25,255	+ 51,306	– 39,582	+ 1,219	+ 92,757	+ 1,613	– 55,760
2011	+ 167,340	+ 162,970	– 9,357	– 29,930	+ 69,087	– 34,787	+ 419	+ 120,857	+ 2,836	– 46,902
2012	+ 195,712	+ 199,531	– 11,388	– 30,774	+ 65,658	– 38,703	– 413	+ 151,417	+ 1,297	– 43,882
2013	+ 184,352	+ 203,802	– 12,523	– 39,321	+ 63,284	– 43,413	– 563	+ 226,014	+ 838	+ 42,224
2014	+ 210,906	+ 219,629	– 14,296	– 25,303	+ 57,752	– 41,172	+ 2,936	+ 240,258	– 2,564	+ 26,416
2015	+ 260,286	+ 248,394	– 15,405	– 18,516	+ 69,262	– 38,854	– 48	+ 234,392	– 2,213	– 25,845
2016	+ 266,689	+ 252,409	– 19,921	– 20,987	+ 76,199	– 40,931	+ 2,142	+ 261,123	+ 1,686	– 7,708
2017	+ 254,936	+ 255,077	– 13,613	– 23,994	+ 74,629	– 50,776	– 2,936	+ 276,709	– 1,269	+ 24,710
2018	+ 264,156	+ 224,584	– 22,682	– 17,410	+ 105,694	– 48,713	+ 676	+ 246,544	+ 392	– 18,288
2019	+ 258,627	+ 216,523	– 31,760	– 20,653	+ 111,191	– 48,434	– 526	+ 203,799	– 544	– 54,302
2020 r	+ 233,918	+ 189,532	– 8,907	+ 3,471	+ 92,497	– 51,582	– 4,771	+ 231,103	– 51	+ 1,956
2018 Q2	+ 68,219	+ 64,694	– 3,544	– 2,536	+ 11,430	– 5,369	– 442	+ 66,100	– 374	– 1,677
Q3	+ 56,223	+ 50,524	– 5,011	– 12,014	+ 29,919	– 12,206	– 1,587	+ 42,895	– 493	– 11,741
Q4	+ 65,027	+ 44,532	– 12,500	– 871	+ 38,033	– 16,667	– 609	+ 61,806	+ 560	– 2,612
2019 Q1	+ 70,210	+ 56,391	– 4,760	– 1,290	+ 31,863	– 16,753	+ 900	+ 44,999	– 63	– 26,111
Q2	+ 57,800	+ 52,295	– 7,867	– 2,849	+ 14,629	– 6,274	– 374	+ 47,570	+ 444	– 9,856
Q3	+ 62,831	+ 57,801	– 7,757	– 12,518	+ 29,954	– 12,405	+ 265	+ 18,301	– 349	– 44,796
Q4	+ 67,786	+ 50,037	– 11,376	– 3,995	+ 34,746	– 13,003	– 1,317	+ 92,930	– 576	+ 26,460
2020 Q1 r	+ 62,196	+ 52,500	– 2,696	– 2,773	+ 26,874	– 14,404	– 348	+ 37,818	+ 133	– 24,030
Q2 r	+ 37,318	+ 27,533	– 1,960	+ 5,647	+ 13,060	– 8,922	+ 188	+ 28,568	+ 243	– 8,938
Q3 r	+ 62,013	+ 55,641	– 1,106	– 5,402	+ 22,142	– 10,369	– 1,206	+ 68,302	– 1,276	+ 7,495
Q4 r	+ 72,391	+ 53,857	– 3,145	+ 5,999	+ 30,421	– 17,886	– 3,405	+ 96,416	+ 848	+ 27,430
2021 Q1	+ 66,234	+ 55,556	– 1,223	+ 3,603	+ 27,693	– 20,618	– 215	+ 127,511	+ 385	+ 61,492
2018 Dec.	+ 22,324	+ 10,046	– 5,312	+ 2,419	+ 16,567	– 6,708	+ 880	+ 33,667	– 17	+ 10,464
2019 Jan.	+ 20,071	+ 14,600	– 2,196	– 997	+ 11,534	– 5,066	+ 2,133	+ 19,763	+ 158	– 2,441
Feb.	+ 17,750	+ 17,446	– 1,727	– 154	+ 8,499	– 8,041	+ 166	+ 16,326	+ 112	– 1,590
Mar.	+ 32,389	+ 24,345	– 837	– 140	+ 11,830	– 3,646	– 1,399	+ 8,909	– 333	– 22,080
Apr.	+ 22,256	+ 17,081	– 2,686	– 312	+ 9,185	– 3,697	– 47	+ 23,703	+ 547	+ 1,494
May	+ 15,432	+ 19,137	– 3,090	+ 131	– 4,604	+ 767	– 52	+ 6,277	+ 182	– 9,103
June	+ 20,112	+ 16,077	– 2,092	– 2,668	+ 10,048	– 3,344	– 276	+ 17,589	– 285	– 2,247
July	+ 20,611	+ 20,555	– 3,036	– 4,819	+ 9,538	– 4,664	+ 171	+ 11,234	+ 348	– 9,548
Aug.	+ 17,334	+ 16,559	– 1,639	– 5,218	+ 10,219	– 4,226	+ 788	– 1,942	+ 755	– 20,065
Sep.	+ 24,886	+ 20,687	– 3,083	– 2,482	+ 10,197	– 3,516	– 694	+ 9,009	– 1,452	– 15,183
Oct.	+ 19,690	+ 20,550	– 3,285	– 5,948	+ 9,775	– 4,687	– 823	+ 44,140	– 107	+ 25,273
Nov.	+ 23,695	+ 17,228	– 3,055	+ 392	+ 9,744	– 3,669	– 491	+ 20,116	– 356	– 3,088
Dec.	+ 24,401	+ 12,259	– 5,035	+ 1,562	+ 15,227	– 4,647	– 3	+ 28,674	– 113	+ 4,275
2020 Jan. r	+ 15,860	+ 14,116	– 769	– 1,090	+ 10,156	– 7,321	+ 267	+ 3,235	+ 898	– 12,892
Feb. r	+ 21,578	+ 20,218	– 1,768	– 1,359	+ 7,014	– 4,294	+ 48	+ 17,898	+ 750	– 3,728
Mar. r	+ 24,758	+ 18,167	– 159	– 324	+ 9,704	– 2,789	– 663	+ 16,684	– 1,514	– 7,411
Apr. r	+ 9,965	+ 3,711	– 617	+ 1,710	+ 8,859	– 4,315	+ 88	+ 10,215	+ 950	+ 161
May r	+ 7,079	+ 8,995	+ 768	+ 1,553	– 14	– 3,454	+ 8	+ 115	+ 33	– 6,972
June r	+ 20,273	+ 14,827	– 2,111	+ 2,384	+ 4,215	– 1,154	+ 91	+ 18,238	– 740	– 2,127
July r	+ 20,204	+ 19,766	– 430	– 2,646	+ 6,782	– 3,698	– 928	+ 18,341	– 611	– 935
Aug. r	+ 16,668	+ 13,915	– 226	– 2,308	+ 8,416	– 3,355	+ 486	+ 32,997	– 611	+ 15,843
Sep. r	+ 25,142	+ 21,961	– 450	– 448	+ 6,944	– 3,315	– 764	+ 16,964	– 53	– 7,413
Oct. r	+ 24,370	+ 20,733	– 513	+ 843	+ 7,236	– 4,442	– 1,320	+ 27,100	+ 140	+ 4,050
Nov. r	+ 21,562	+ 18,376	+ 122	+ 2,239	+ 8,537	– 7,589	– 2,090	+ 14,685	+ 89	– 4,788
Dec. r	+ 26,459	+ 14,748	– 2,754	+ 2,917	+ 14,648	– 5,855	+ 5	+ 54,631	+ 618	+ 28,167
2021 Jan.	+ 17,931	+ 14,532	– 440	+ 943	+ 9,795	– 7,340	– 395	+ 28,522	+ 743	+ 10,986
Feb.	+ 18,326	+ 18,088	– 728	+ 1,335	+ 7,636	– 8,733	– 1,448	+ 53,697	+ 102	+ 36,818
Mar.	+ 29,977	+ 22,935	– 56	+ 1,324	+ 10,262	– 4,545	+ 1,628	+ 45,293	– 460	+ 13,687
Apr.	+ 20,965	+ 15,470	– 662	+ 2,809	+ 6,508	– 3,822	– 984	+ 21,070	– 251	+ 1,089
May p	+ 13,099	+ 14,404	– 703	+ 1,228	– 146	– 2,387	– 301	+ 6,843	+ 211	– 5,955

1 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. **2** Including net acquisition/disposal of non-produced non-financial assets. **3** Net lending: +/net borrowing: -. **4** 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		2018	2019	2020	2020 Dec.	2021 Jan.	Feb.	Mar.	Apr.	May p
All countries 1	Exports	1,317,440	1,328,152	1,205,281	100,984	98,381	107,756	126,692	111,802	109,435
	Imports	1,088,720	1,104,141	1,025,344	85,655	84,230	89,869	106,539	96,557	97,133
	Balance	+ 228,720	+ 224,010	+ 179,937	+ 15,329	+ 14,151	+ 17,887	+ 20,152	+ 15,245	+ 12,302
I. European countries	Exports	900,141	902,831	823,347	65,953	68,238	74,068	86,415	77,097	76,147
	Imports	744,575	747,692	682,701	56,849	55,128	61,686	72,707	64,272	65,721
	Balance	+ 155,566	+ 155,140	+ 140,646	+ 9,103	+ 13,111	+ 12,382	+ 13,708	+ 12,825	+ 10,426
1. EU Member States (27)	Exports	696,480	698,257	634,774	51,747	54,621	58,356	67,643	60,622	60,676
	Imports	586,433	593,251	547,343	46,002	44,268	49,715	58,278	51,003	52,868
	Balance	+ 110,047	+ 105,006	+ 87,431	+ 5,746	+ 10,352	+ 8,642	+ 9,365	+ 9,619	+ 7,809
Euro area (19) countries	Exports	492,469	492,308	440,949	35,869	38,184	40,374	47,142	42,303	41,943
	Imports	405,810	409,863	372,337	30,943	29,722	33,601	39,816	34,761	36,393
	Balance	+ 86,659	+ 82,445	+ 68,612	+ 4,925	+ 8,461	+ 6,773	+ 7,325	+ 7,541	+ 5,549
of which:										
Austria	Exports	65,027	66,076	60,060	4,579	4,861	5,494	6,421	5,901	5,788
	Imports	42,994	44,059	40,415	3,310	3,329	3,690	4,316	3,775	3,841
	Balance	+ 22,033	+ 22,017	+ 19,645	+ 1,269	+ 1,531	+ 1,803	+ 2,105	+ 2,125	+ 1,947
Belgium and Luxembourg	Exports	50,389	52,006	48,775	4,114	4,297	4,410	4,991	4,754	4,612
	Imports	49,315	46,322	39,763	3,184	3,361	3,559	4,542	4,700	4,568
	Balance	+ 1,074	+ 5,683	+ 9,012	+ 931	+ 935	+ 850	+ 449	+ 53	+ 44
France	Exports	105,359	106,564	90,817	7,273	7,853	8,141	9,529	8,461	8,352
	Imports	65,024	66,199	56,460	4,624	4,454	4,978	5,899	5,011	4,822
	Balance	+ 40,335	+ 40,364	+ 34,357	+ 2,649	+ 3,399	+ 3,164	+ 3,629	+ 3,450	+ 3,530
Italy	Exports	69,813	67,887	60,378	4,789	5,403	5,912	6,840	6,092	6,140
	Imports	60,223	57,100	54,016	4,386	4,423	5,205	5,896	5,211	5,511
	Balance	+ 9,591	+ 10,786	+ 6,361	+ 403	+ 980	+ 706	+ 944	+ 881	+ 630
Netherlands	Exports	91,061	91,528	84,479	7,346	7,363	7,732	9,138	7,763	7,923
	Imports	97,709	97,816	87,907	7,621	7,096	7,860	9,150	8,042	8,486
	Balance	− 6,649	− 6,288	− 3,429	− 275	+ 267	− 128	− 12	− 279	− 563
Spain	Exports	44,184	44,218	37,479	2,983	3,370	3,458	3,984	3,749	3,691
	Imports	32,399	33,126	31,309	2,562	2,567	2,649	3,362	2,860	2,915
	Balance	+ 11,785	+ 11,092	+ 6,170	+ 422	+ 803	+ 809	+ 622	+ 889	+ 776
Other EU Member States	Exports	204,011	205,949	193,824	15,879	16,437	17,982	20,501	18,319	18,734
	Imports	180,623	183,387	175,005	15,059	14,546	16,113	18,462	16,242	16,474
	Balance	+ 23,388	+ 22,561	+ 18,819	+ 820	+ 1,891	+ 1,869	+ 2,039	+ 2,077	+ 2,259
2. Other European countries	Exports	203,661	204,575	188,573	14,205	13,618	15,712	18,772	16,475	15,471
	Imports	158,142	154,441	135,358	10,848	10,859	11,971	14,429	13,268	12,853
	Balance	+ 45,519	+ 50,134	+ 53,215	+ 3,358	+ 2,759	+ 3,740	+ 4,343	+ 3,206	+ 2,617
of which:										
Switzerland	Exports	54,021	56,345	56,287	4,012	4,633	4,697	5,427	4,950	4,670
	Imports	45,913	45,824	45,474	3,390	3,529	3,857	4,472	4,056	4,324
	Balance	+ 8,108	+ 10,521	+ 10,812	+ 622	+ 1,104	+ 840	+ 955	+ 894	+ 346
United Kingdom	Exports	82,164	79,166	66,769	4,986	4,332	5,455	6,486	5,326	5,014
	Imports	37,025	38,397	34,771	2,846	1,722	2,698	3,145	3,052	2,699
	Balance	+ 45,139	+ 40,770	+ 31,998	+ 2,141	+ 2,611	+ 2,758	+ 3,341	+ 2,274	+ 2,315
II. Non-European countries	Exports	413,483	421,728	380,214	34,923	30,025	33,712	40,123	34,563	33,137
	Imports	342,980	355,390	341,668	28,708	29,015	27,913	33,688	32,158	31,280
	Balance	+ 70,503	+ 66,338	+ 38,546	+ 6,215	+ 1,010	+ 5,799	+ 6,435	+ 2,405	+ 1,857
1. Africa	Exports	22,524	23,627	20,037	1,754	1,679	1,745	2,226	1,766	1,723
	Imports	22,542	24,475	18,707	1,782	1,930	1,815	2,236	1,987	2,204
	Balance	− 18	− 848	+ 1,330	− 28	− 251	− 69	− 10	− 221	− 481
2. America	Exports	158,952	165,602	141,740	12,290	11,545	13,132	15,284	13,751	12,592
	Imports	92,444	100,007	93,995	7,714	6,989	7,233	9,067	8,654	8,071
	Balance	+ 66,508	+ 65,595	+ 47,745	+ 4,576	+ 4,557	+ 5,899	+ 6,217	+ 5,097	+ 4,521
of which:										
United States	Exports	113,341	118,680	103,821	9,140	8,454	9,480	11,123	10,066	9,093
	Imports	64,493	71,334	67,686	5,605	4,754	5,126	6,667	6,161	5,881
	Balance	+ 48,847	+ 47,346	+ 36,135	+ 3,535	+ 3,700	+ 4,355	+ 4,456	+ 3,905	+ 3,212
3. Asia	Exports	219,716	221,278	207,780	19,940	16,062	17,947	21,512	18,171	17,896
	Imports	224,355	227,036	225,092	18,903	19,764	18,601	22,044	21,130	20,632
	Balance	− 4,639	− 5,759	− 17,313	+ 1,037	− 3,702	− 654	− 532	− 2,959	− 2,736
of which:										
Middle East	Exports	29,144	28,663	25,445	3,334	1,676	1,971	2,299	2,023	2,223
	Imports	8,156	7,460	5,921	532	447	423	496	531	664
	Balance	+ 20,989	+ 21,202	+ 19,524	+ 2,802	+ 1,229	+ 1,548	+ 1,803	+ 1,492	+ 1,559
Japan	Exports	20,436	20,662	17,382	1,519	1,470	1,434	1,665	1,551	1,308
	Imports	23,710	23,904	21,254	1,721	1,778	1,660	1,907	2,081	1,964
	Balance	− 3,275	− 3,243	− 3,872	− 202	− 308	− 225	− 242	− 530	− 657
People's Republic of China 2	Exports	93,004	95,984	95,860	9,249	7,552	8,476	10,315	8,376	8,402
	Imports	106,065	110,054	116,881	10,142	10,616	9,868	11,670	10,729	10,348
	Balance	− 13,061	− 14,070	− 21,021	− 893	− 3,064	− 1,392	− 1,355	− 2,353	− 1,946
New industrial countries and emerging markets of Asia 3	Exports	54,995	54,164	50,585	4,064	4,085	4,261	5,118	4,484	4,514
	Imports	52,945	51,748	48,233	4,127	4,082	3,772	4,690	4,529	4,557
	Balance	+ 2,050	+ 2,416	+ 2,352	− 63	+ 2	+ 489	+ 428	− 44	− 43
4. Oceania and polar regions	Exports	12,291	11,221	10,657	939	739	887	1,101	875	926
	Imports	3,639	3,872	3,874	309	333	264	340	388	372
	Balance	+ 8,652	+ 7,349	+ 6,783	+ 630	+ 407	+ 623	+ 760	+ 488	+ 554

* 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. EU excl. UK. **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								Primary income		
		of which:									
	Total	Transport	Travel 1	Financial services	Charges for the use of intellectual property	Telecommuni-cations-, computer and information services	Other business services	Gouvernment goods and services 2	Compensation of employees	Investment income	Other primary income 3
2016	– 20,987	– 5,950	– 38,247	8,612	15,790	– 7,156	– 1,520	3,092	474	76,800	– 1,076
2017	– 23,994	– 3,679	– 43,558	9,613	14,903	– 8,188	– 1,065	2,177	– 637	76,669	– 1,403
2018	– 17,410	– 2,003	– 44,543	9,535	17,398	– 7,206	580	3,325	– 1,208	107,902	– 1,001
2019	– 20,653	2	– 45,947	10,392	17,728	– 9,561	– 2,933	3,493	373	111,763	– 945
2020	3,471	– 6,095	– 14,698	9,461	17,392	– 6,822	– 4,775	3,347	2,307	91,586	– 1,396
2019 Q3	– 12,518	265	– 18,530	2,844	3,220	– 2,149	– 528	927	– 662	31,853	– 1,237
Q4	– 3,995	68	– 10,513	2,839	5,362	– 3,165	– 805	725	459	30,866	3,421
2020 Q1	– 2,773	– 1,220	– 7,497	2,464	4,344	– 2,164	– 963	881	917	26,953	– 996
Q2	5,647	– 1,534	259	2,332	4,794	– 1,524	– 1,125	879	384	15,200	– 2,524
Q3	– 5,402	– 1,863	– 7,428	2,206	3,353	– 1,993	– 1,645	892	97	23,168	– 1,123
Q4	5,999	– 1,478	– 32	2,458	4,902	– 1,140	– 1,042	695	909	26,265	3,247
2021 Q1	3,603	– 1,036	– 378	2,614	4,422	– 2,501	– 1,418	785	999	27,710	– 1,016
2020 July	– 2,646	– 574	– 2,272	957	623	– 833	– 953	269	2	7,234	– 453
Aug.	– 2,308	– 520	– 3,012	533	1,335	– 878	– 396	254	45	8,679	– 308
Sep.	– 448	– 769	– 2,144	716	1,395	– 283	– 296	369	51	7,255	– 362
Oct.	843	– 620	– 728	961	1,341	– 700	– 93	259	257	7,413	– 434
Nov.	2,239	– 457	358	497	1,712	– 611	– 82	192	266	8,741	– 470
Dec.	2,917	– 401	338	1,001	1,849	170	– 867	244	386	10,111	4,151
2021 Jan.	943	– 460	– 133	1,013	1,086	– 869	– 347	256	343	9,806	– 354
Feb.	1,335	– 356	– 62	797	1,467	– 733	– 260	262	359	7,576	– 299
Mar.	1,324	– 220	– 183	803	1,868	– 900	– 811	267	297	10,328	– 363
Apr.	2,809	192	– 155	1,204	1,859	– 673	– 153	265	138	6,694	– 323
May p	1,228	– 270	– 144	760	1,462	– 656	– 665	289	175	1,735	– 2,056

1 Since 2001 the sample results of a household survey have been used on the expenditure side. 2 Domestic public authorities' receipts from and expenditure on services, not included elsewhere; including the receipts from foreign military bases. 3 Includes, inter alia, taxes on leasing, production and imports transferred to the EU as well as subsidies received from the EU.

5. Secondary income and Capital account of the Federal Republic of Germany (balances)

€ million

Period	Secondary income							Capital account		
		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	Total	Non-produced non-financial assets	Capital transfers
2016	– 40,931	– 25,417	– 11,516	10,739	– 15,514	4,214	4,196	2,142	3,219	– 1,077
2017	– 50,776	– 23,191	– 9,851	9,665	– 27,584	4,632	4,613	– 2,936	926	– 3,863
2018	– 48,713	– 28,645	– 10,186	10,237	– 20,067	5,152	5,142	676	3,444	– 2,768
2019	– 48,434	– 28,956	– 10,728	11,745	– 19,479	5,445	5,431	– 526	2,754	– 3,280
2020	– 51,582	– 34,268	– 12,211	10,877	– 17,313	5,925	5,908	– 4,771	469	– 5,240
2019 Q3	– 12,405	– 7,741	– 1,890	1,601	– 4,664	1,363	1,358	265	1,277	– 1,011
Q4	– 13,003	– 8,266	– 4,687	1,342	– 4,737	1,363	1,358	– 1,317	854	– 2,171
2020 Q1	– 14,404	– 9,565	– 2,315	2,514	– 4,839	1,482	1,477	– 348	– 444	95
Q2	– 8,922	– 4,819	– 2,270	4,506	– 4,104	1,480	1,477	188	504	– 316
Q3	– 10,369	– 6,422	– 3,249	2,144	– 3,947	1,481	1,477	– 1,206	– 54	– 1,151
Q4	– 17,886	– 13,463	– 4,378	1,713	– 4,423	1,482	1,477	– 3,405	464	– 3,869
2021 Q1	– 20,618	– 14,676	– 3,294	2,276	– 5,942	1,547	1,543	– 215	– 25	– 190
2020 July	– 3,698	– 2,117	– 1,086	752	– 1,582	493	492	– 928	– 450	– 478
Aug.	– 3,355	– 2,312	– 1,149	176	– 1,043	495	492	486	696	– 209
Sep.	– 3,315	– 1,993	– 1,015	1,215	– 1,322	493	492	– 764	– 300	– 465
Oct.	– 4,442	– 2,998	– 962	525	– 1,444	494	492	– 1,320	– 782	– 538
Nov.	– 7,589	– 5,989	– 1,390	256	– 1,601	494	492	– 2,090	– 393	– 1,697
Dec.	– 5,855	– 4,476	– 2,026	931	– 1,379	493	492	5	1,639	– 1,634
2021 Jan.	– 7,340	– 5,854	– 1,803	399	– 1,486	516	514	– 395	– 373	– 22
Feb.	– 8,733	– 6,458	– 661	923	– 2,275	515	514	– 1,448	– 1,236	– 212
Mar.	– 4,545	– 2,364	– 830	955	– 2,181	516	514	1,628	1,584	44
Apr.	– 3,822	– 2,165	– 641	1,332	– 1,658	516	514	– 984	– 857	– 127
May p	– 2,387	– 849	– 405	2,680	– 1,538	516	514	– 301	– 284	– 17

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.

XII. External sector

6. Financial account of the Federal Republic of Germany (net)

€ million

Item	2018	2019	2020	2020 Q3	2020 Q4	2021 Q1	2021 Mar.	2021 Apr.	2021 May p
I. Net domestic investment abroad (increase: +)	+ 398,714	+ 247,406	+ 707,119	+ 228,598	+ 77,200	+ 291,719	+ 91,916	+ 17,665	+ 51,264
1. Direct investment	+ 156,050	+ 136,291	+ 96,602	+ 15,075	+ 43,818	+ 45,517	+ 14,871	+ 18,246	+ 2,896
Equity	+ 154,766	+ 116,375	+ 79,229	+ 10,404	+ 13,948	+ 12,105	− 192	+ 18,553	+ 5,243
of which: Reinvestment of earnings 1	+ 37,276	+ 37,654	+ 16,648	+ 7,274	− 3,967	+ 14,233	+ 2,351	+ 3,093	+ 2,516
Debt instruments	+ 1,285	+ 19,916	+ 17,373	+ 4,671	+ 29,871	+ 33,412	+ 15,063	− 307	− 2,347
2. Portfolio investment	+ 82,648	+ 136,850	+ 186,532	+ 44,665	+ 67,717	+ 77,652	+ 13,113	+ 16,114	+ 8,102
Shares 2	+ 9,251	+ 14,111	+ 65,947	+ 18,839	+ 22,891	+ 9,077	+ 11,198	+ 1,968	+ 1,559
Investment fund shares 3	+ 28,366	+ 53,919	+ 64,435	+ 27,355	+ 30,200	+ 16,793	+ 2,250	+ 9,276	+ 4,746
Short-term 4 debt securities	+ 1,973	+ 8,599	+ 2,019	− 885	− 1,898	+ 3,628	− 1,720	+ 87	− 3,152
Long-term 5 debt securities	+ 43,058	+ 60,221	+ 54,131	− 644	+ 16,524	+ 48,154	+ 1,386	+ 4,783	+ 4,949
3. Financial derivatives and employee stock options 6	+ 22,539	+ 24,532	+ 99,097	+ 25,245	+ 9,121	+ 22,346	+ 8,506	+ 4,699	+ 3,619
4. Other investment 7	+ 137,085	− 49,723	+ 324,940	+ 144,889	− 44,304	+ 145,819	+ 55,886	− 21,143	+ 36,436
MFIs 8	+ 49,862	+ 9,276	− 4,494	− 12,449	− 49,332	+ 142,555	− 3,326	+ 41,287	− 17,371
Short-term	+ 45,400	− 8,901	+ 3,526	− 8,459	− 50,666	+ 135,399	− 13,266	+ 37,339	− 14,522
Long-term	+ 4,462	+ 18,177	− 8,020	− 3,990	+ 1,333	+ 7,157	+ 9,940	+ 3,947	− 2,848
Enterprises and households 9	+ 39,124	+ 16,241	+ 85,204	+ 37,093	− 10,143	+ 62,426	+ 21,340	− 4,357	+ 1,330
Short-term	+ 20,489	+ 4,510	+ 43,928	− 5,614	+ 4,426	+ 60,016	+ 20,669	− 4,855	− 24
Long-term	+ 18,635	+ 11,730	+ 41,276	+ 42,706	− 14,568	+ 2,410	+ 671	+ 498	+ 1,354
General government	− 8,696	− 4,325	+ 1,118	+ 1,542	− 5,900	− 4,891	− 235	− 1,058	+ 227
Short-term	− 7,706	− 1,139	+ 2,399	+ 2,070	− 5,513	− 4,591	− 108	− 1,139	+ 280
Long-term	− 990	− 3,186	− 1,281	− 528	− 387	− 300	− 127	+ 81	− 53
Bundesbank	+ 56,795	− 70,915	+ 243,112	+ 118,704	+ 21,071	− 54,271	+ 38,108	− 57,014	+ 52,249
5. Reserve assets	+ 392	− 544	− 51	− 1,276	+ 848	+ 385	− 460	− 251	+ 211
II. Net foreign investment in the reporting country (increase: +)	+ 152,171	+ 43,607	+ 476,016	+ 160,296	− 19,215	+ 164,208	+ 46,623	− 3,405	+ 44,421
1. Direct investment	+ 135,583	+ 60,170	+ 97,216	+ 26,495	+ 40,655	+ 14,345	− 6,788	+ 18,386	+ 4,656
Equity	+ 48,790	+ 30,250	+ 31,079	+ 3,352	+ 15,740	+ 5,664	+ 2,580	+ 5,424	+ 1,207
of which: Reinvestment of earnings 1	+ 4,331	+ 1,031	+ 2,152	+ 1,786	− 1,337	+ 1,039	− 118	+ 664	+ 122
Debt instruments	+ 86,793	+ 29,920	+ 66,136	+ 23,144	+ 24,915	+ 8,681	− 9,368	+ 12,962	+ 3,449
2. Portfolio investment	− 70,988	+ 63,443	+ 143,783	+ 134,064	− 104,819	+ 30,853	+ 17,986	− 9,820	+ 5,163
Shares 2	− 30,383	− 6,075	− 16,838	− 561	− 985	+ 4,188	+ 2,622	− 2,686	+ 719
Investment fund shares 3	− 6,364	− 4,923	+ 933	− 382	+ 1,835	+ 110	+ 811	+ 1,534	+ 281
Short-term 4 debt securities	+ 5,128	+ 15,902	+ 80,193	+ 49,024	− 33,494	+ 19,476	+ 13,734	− 3,373	+ 3,019
Long-term 5 debt securities	− 39,370	+ 58,539	+ 79,494	+ 85,982	− 72,175	+ 7,079	+ 818	− 5,295	+ 1,144
3. Other investment 7	+ 87,576	− 80,006	+ 235,017	− 263	+ 44,949	+ 119,010	+ 35,425	− 11,971	+ 34,602
MFIs 8	− 35,902	− 10,214	+ 108,397	+ 1,339	− 73,056	+ 248,352	+ 2,041	+ 30,973	+ 14,392
Short-term	− 27,469	− 20,978	+ 74,805	− 632	− 83,596	+ 218,851	− 200	+ 41,696	+ 15,124
Long-term	− 8,433	+ 10,764	+ 33,591	+ 1,971	+ 10,539	+ 29,501	+ 2,241	− 10,723	− 732
Enterprises and households 9	+ 18,949	+ 29,501	+ 26,267	− 22,556	− 8,854	+ 8,474	+ 5,431	− 1,997	+ 1,322
Short-term	+ 7,132	+ 9,988	+ 18,062	− 27,132	− 6,779	+ 11,480	+ 5,517	− 147	+ 1,848
Long-term	+ 11,816	+ 19,513	+ 8,206	+ 4,575	− 2,075	− 3,006	− 86	− 1,850	− 526
General government	+ 2,906	+ 262	− 10,521	− 10,345	− 4,993	− 3,760	− 2,962	+ 1,569	+ 1,903
Short-term	+ 2,230	+ 124	− 10,306	− 10,232	− 4,456	− 1,044	− 2,954	+ 1,565	+ 1,896
Long-term	+ 677	+ 138	− 216	− 113	− 537	− 2,716	− 8	+ 5	+ 7
Bundesbank	+ 101,623	− 99,554	+ 110,874	+ 31,300	+ 131,853	− 134,057	+ 30,915	− 42,516	+ 16,985
III. Net financial account (net lending: +/net borrowing: -)	+ 246,544	+ 203,799	+ 231,103	+ 68,302	+ 96,416	+ 127,511	+ 45,293	+ 21,070	+ 6,843

1 Estimated on the basis of the figures on the level of direct investment stocks abroad and in the Federal Republic of Germany (see 'Statistical series Direct investment statistics). **2** Including participation certificates. **3** Including reinvestment of earnings. **4** Short-term: original maturity up to one year. **5** Up to and including 2012 without accrued interest. Long-term: original maturity of more than one year or unlimited. **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

7. External position of the Bundesbank *

€ million

End of reporting period	External assets: Total	Reserve assets: Total	Reserve assets: Gold and gold receivables	Reserve assets: Special drawing rights	Reserve assets: Reserve position in the IMF	Reserve assets: Currency, deposits and securities	Other investment: Total	Other investment: of which: Clearing accounts within the ESCB 1	Portfolio investment 2	External liabilities 3, 4	Net external position 5
1999 Jan. 6	95,316	93,940	29,312	1,598	6,863	56,167	1,376	–	–	9,628	85,688
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	592,723	397,727
2017	1,142,845	166,842	117,347	13,987	4,294	31,215	923,765	906,941	52,238	668,527	474,318
2018	1,209,982	173,138	121,445	14,378	5,518	31,796	980,560	966,190	56,284	770,519	439,462
2019	1,160,971	199,295	146,562	14,642	6,051	32,039	909,645	895,219	52,031	671,202	489,769
2020	1,429,236	219,127	166,904	14,014	8,143	30,066	1,152,757	1,136,002	57,353	781,339	647,898
2019 Jan.	1,123,169	176,720	124,811	14,424	5,486	31,999	890,410	868,142	56,039	648,419	474,750
Feb.	1,127,455	178,016	125,793	14,496	5,510	32,217	894,226	872,698	55,214	633,884	493,572
Mar.	1,190,416	178,088	125,302	14,629	5,561	32,596	958,243	941,310	54,086	655,445	534,971
Apr.	1,167,188	177,378	124,046	14,622	6,228	32,482	935,563	919,696	54,247	627,089	540,098
May	1,186,394	180,073	126,092	14,637	6,150	33,193	952,038	934,640	54,283	618,639	567,754
June	1,201,041	187,401	134,470	14,473	6,081	32,377	960,158	942,319	53,482	649,792	551,249
July	1,134,349	193,244	139,163	14,613	6,391	33,077	888,584	870,903	52,521	621,971	512,378
Aug.	1,173,640	205,331	149,696	14,703	6,379	34,553	915,546	897,901	52,763	638,733	534,907
Sep.	1,185,142	202,285	147,611	14,831	6,396	33,447	930,892	915,342	51,965	626,236	558,906
Oct.	1,103,094	199,858	146,284	14,663	6,287	32,624	852,754	837,377	50,482	596,696	506,398
Nov.	1,134,129	197,047	143,253	14,799	6,116	32,879	885,524	870,520	51,558	590,333	543,797
Dec.	1,160,971	199,295	146,562	14,642	6,051	32,039	909,645	895,219	52,031	671,202	489,769
2020 Jan.	1,090,725	209,432	154,867	14,785	6,110	33,671	828,120	811,435	53,173	580,910	509,814
Feb.	1,106,033	215,748	159,889	14,857	5,989	35,014	836,782	821,562	53,503	577,033	529,000
Mar.	1,218,815	213,722	158,677	14,812	5,965	34,268	952,781	935,126	52,312	617,919	600,896
Apr.	1,214,851	226,903	170,359	14,935	6,857	34,753	934,333	918,814	53,615	616,319	598,532
May	1,209,328	223,125	167,780	14,650	6,787	33,908	931,521	916,145	54,682	612,403	596,925
June	1,294,167	226,135	170,728	14,603	6,955	33,849	1,012,982	995,083	55,050	618,825	675,342
July	1,323,691	233,547	180,400	14,179	7,465	31,503	1,034,282	1,019,214	55,862	599,189	724,503
Aug.	1,358,137	230,309	177,973	14,129	7,423	30,784	1,071,521	1,056,231	56,307	600,390	757,747
Sep.	1,414,933	227,150	173,979	14,293	7,632	31,246	1,131,686	1,115,189	56,097	649,781	765,151
Oct.	1,346,367	227,767	174,433	14,346	7,656	31,332	1,061,498	1,047,327	57,102	619,445	726,922
Nov.	1,347,202	212,286	159,737	14,193	7,535	30,820	1,078,270	1,060,263	56,647	625,921	721,282
Dec.	1,429,236	219,127	166,904	14,014	8,143	30,066	1,152,757	1,136,002	57,353	781,339	647,898
2021 Jan.	1,348,921	219,860	166,494	14,115	8,061	31,190	1,072,140	1,054,994	56,921	638,042	710,879
Feb.	1,328,303	210,619	157,313	14,119	8,047	31,140	1,060,378	1,043,746	57,306	616,473	711,830
Mar.	1,364,046	209,400	155,323	14,367	7,966	31,744	1,098,486	1,081,989	56,160	647,647	716,400
Apr.	1,307,161	210,799	158,143	14,085	7,836	30,735	1,041,472	1,024,734	54,890	604,863	702,299
May	1,370,231	221,201	168,678	14,037	7,809	30,677	1,093,721	1,076,918	55,309	621,827	748,404
June	1,384,834	213,600	159,995	14,326	8,094	31,184	1,115,447	1,101,897	55,787	670,632	714,202

* 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 (acc. 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** Difference between External assets and External liabilities. **6** Euro opening balance sheet of the Bundesbank as at 1 January 1999.

XII. External sector

8. External positions of enterprises *

€ million

End of reporting period	Claims on non-residents: Total	Balances with foreign banks	Claims on foreign non-banks: Total	from financial operations	from trade credits: Total	Credit terms granted	Advance payments effected	Liabilities to non-residents: Total	Loans from foreign banks	Liabilities to non-banks: Total	from financial operations	from trade credits: Total	Credit terms used	Advance payments received
Rest of the world														
2017	901,267	218,110	683,156	457,369	225,788	211,769	14,018	1,115,680	143,928	971,752	770,140	201,612	131,034	70,579
2018	934,837	234,595	700,241	468,418	231,823	217,561	14,262	1,225,989	146,105	1,079,884	873,977	205,907	134,897	71,010
2019	959,708	226,949	732,759	499,322	233,437	217,768	15,669	1,281,332	165,199	1,116,133	908,374	207,759	133,704	74,055
2020	1,007,574	250,320	757,254	529,154	228,099	211,800	16,300	1,360,348	167,766	1,192,582	984,663	207,919	129,171	78,748
2020 Dec.	1,007,574	250,320	757,254	529,154	228,099	211,800	16,300	1,360,348	167,766	1,192,582	984,663	207,919	129,171	78,748
2021 Jan.	1,051,501	253,575	797,927	577,275	220,652	204,064	16,588	1,392,392	160,885	1,231,507	1,027,859	203,649	122,983	80,665
Feb.	1,058,227	258,375	799,851	572,749	227,102	210,489	16,614	1,390,051	165,241	1,224,810	1,015,649	209,161	127,888	81,273
Mar.	1,095,969	272,111	823,858	580,283	243,575	226,725	16,850	1,392,419	165,522	1,226,897	1,006,373	220,524	138,236	82,288
Apr.	1,086,960	269,905	817,055	577,596	239,459	222,468	16,991	1,409,569	170,664	1,238,906	1,023,103	215,803	133,961	81,842
May	1,082,171	269,970	812,201	578,506	233,695	216,951	16,744	1,413,184	171,930	1,241,254	1,029,930	211,324	129,631	81,693
EU Member States (27 excl. GB)														
2017	522,279	166,645	355,634	263,631	92,003	83,509	8,494	720,770	93,932	626,838	544,462	82,376	62,137	20,239
2018	545,146	176,529	368,617	276,091	92,525	84,214	8,312	796,793	87,930	708,863	626,713	82,150	61,561	20,589
2019	569,888	176,258	393,630	302,654	90,976	82,454	8,522	824,390	89,604	734,787	650,172	84,615	62,534	22,081
2020	599,741	188,300	411,440	322,386	89,054	80,200	8,854	866,365	92,592	773,773	687,613	86,160	62,357	23,803
2020 Dec.	599,741	188,300	411,440	322,386	89,054	80,200	8,854	866,365	92,592	773,773	687,613	86,160	62,357	23,803
2021 Jan.	628,181	198,366	429,815	340,941	88,874	79,796	9,078	878,082	89,439	788,643	702,825	85,819	60,519	25,300
Feb.	634,002	201,694	432,308	339,621	92,687	83,659	9,028	878,026	88,866	789,159	698,276	90,883	65,255	25,629
Mar.	679,382	210,531	468,851	371,295	97,555	88,533	9,023	890,190	91,447	798,743	705,125	93,618	67,927	25,692
Apr.	676,258	211,565	464,692	368,731	95,961	86,771	9,190	912,592	90,962	821,630	730,073	91,557	65,794	25,763
May	635,498	211,483	424,015	330,589	93,427	84,435	8,992	887,455	96,482	790,973	702,160	88,813	63,258	25,555
Extra-EU Member States (27 incl. GB)														
2017	378,987	51,465	327,522	193,738	133,784	128,260	5,524	394,910	49,996	344,914	225,677	119,236	68,897	50,340
2018	389,691	58,066	331,625	192,327	139,298	133,347	5,950	429,197	58,175	371,021	247,265	123,757	73,335	50,422
2019	389,820	50,692	339,129	196,668	142,461	135,314	7,146	456,942	75,595	381,347	258,203	123,144	71,171	51,974
2020	407,833	62,020	345,814	206,768	139,046	131,600	7,445	493,983	75,175	418,809	297,050	121,758	66,813	54,945
2020 Dec.	407,833	62,020	345,814	206,768	139,046	131,600	7,445	493,983	75,175	418,809	297,050	121,758	66,813	54,945
2021 Jan.	423,321	55,209	368,112	236,334	131,778	124,267	7,511	514,310	71,446	442,864	325,034	117,830	62,465	55,365
Feb.	424,225	56,681	367,544	233,128	134,415	126,829	7,586	512,025	76,375	435,650	317,373	118,278	62,634	55,644
Mar.	416,587	61,579	355,007	208,987	146,020	138,193	7,827	502,229	74,075	428,154	301,249	126,906	70,309	56,596
Apr.	410,703	58,340	352,363	208,865	143,498	135,697	7,801	496,977	79,702	417,275	293,030	124,246	68,167	56,078
May	446,673	58,487	388,186	247,918	140,268	132,516	7,752	525,729	75,448	450,281	327,770	122,511	66,372	56,138
Euro area (19)														
2017	454,033	149,685	304,348	232,178	72,170	64,683	7,487	654,278	75,669	578,609	512,786	65,823	50,442	15,381
2018	468,699	156,351	312,348	240,676	71,672	64,427	7,245	730,553	68,747	661,806	596,496	65,310	49,555	15,755
2019	492,090	157,829	334,261	263,830	70,431	62,939	7,492	751,076	69,464	681,612	615,369	66,243	49,609	16,634
2020	515,425	167,497	347,928	279,213	68,715	61,150	7,565	783,041	71,423	711,617	645,409	66,208	48,316	17,891
2020 Dec.	515,425	167,497	347,928	279,213	68,715	61,150	7,565	783,041	71,423	711,617	645,409	66,208	48,316	17,891
2021 Jan.	541,180	179,279	361,901	293,469	68,431	60,704	7,727	794,556	69,462	725,094	659,052	66,043	46,851	19,191
Feb.	545,961	183,136	362,825	291,685	71,141	63,485	7,656	791,694	69,618	722,076	652,594	69,482	50,143	19,339
Mar.	581,812	188,072	393,740	319,435	74,305	66,689	7,616	805,118	71,996	733,122	662,265	70,858	51,489	19,369
Apr.	574,874	188,396	386,478	313,279	73,199	65,469	7,730	823,642	71,163	752,479	682,989	69,490	50,038	19,452
May	544,092	191,609	352,483	281,362	71,121	63,472	7,649	807,080	76,269	730,810	662,177	68,633	48,913	19,720
Extra-Euro area (19)														
2017	447,234	68,425	378,809	225,191	153,618	147,087	6,531	461,402	68,259	393,143	257,354	135,789	80,592	55,197
2018	466,138	78,244	387,894	227,743	160,151	153,134	7,017	495,436	77,358	418,078	277,482	140,597	85,342	55,255
2019	467,618	69,120	398,498	235,492	163,006	154,829	8,176	530,256	95,735	434,521	293,005	141,516	84,095	57,421
2020	492,149	82,823	409,326	249,941	159,385	150,650	8,735	577,307	96,343	480,965	339,254	141,711	80,854	60,856
2020 Dec.	492,149	82,823	409,326	249,941	159,385	150,650	8,735	577,307	96,343	480,965	339,254	141,711	80,854	60,856
2021 Jan.	510,322	74,296	436,026	283,806	152,220	143,359	8,861	597,836	91,424	506,413	368,807	137,606	76,132	61,474
Feb.	512,266	75,240	437,026	281,064	155,962	147,004	8,958	598,357	95,623	502,733	363,054	139,679	77,745	61,934
Mar.	514,157	84,039	430,118	260,848	169,270	160,036	9,234	587,301	93,526	493,775	344,109	149,666	86,747	62,919
Apr.	512,086	81,509	430,577	264,317	166,260	156,999	9,261	585,927	99,501	486,426	340,113	146,313	83,923	62,390
May	538,079	78,361	459,718	297,144	162,574	153,480	9,094	606,104	95,660	510,444	367,753	142,691	80,718	61,973

***** 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 XII.7.

XII. External sector

9. 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
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
2019	1.6109	1.4855	7.7355	7.4661	122.01	9.8511	10.5891	1.1124	0.87777	1.1195
2020	1.6549	1.5300	7.8747	7.4542	121.85	10.7228	10.4848	1.0705	0.88970	1.1422
2020 Feb.	1.6356	1.4485	7.6302	7.4713	120.03	10.1327	10.5679	1.0648	0.84095	1.0905
Mar.	1.7788	1.5417	7.7675	7.4703	118.90	11.2943	10.8751	1.0591	0.89460	1.1063
Apr.	1.7271	1.5287	7.6858	7.4617	116.97	11.3365	10.8845	1.0545	0.87547	1.0862
May	1.6724	1.5219	7.7482	7.4577	116.87	10.9862	10.5970	1.0574	0.88685	1.0902
June	1.6322	1.5254	7.9734	7.4548	121.12	10.7298	10.4869	1.0712	0.89878	1.1255
July	1.6304	1.5481	8.0352	7.4467	122.38	10.6544	10.3538	1.0711	0.90467	1.1463
Aug.	1.6433	1.5654	8.1954	7.4460	125.40	10.5797	10.3087	1.0767	0.90081	1.1828
Sep.	1.6307	1.5586	8.0333	7.4418	124.50	10.7769	10.4279	1.0786	0.90947	1.1792
Oct.	1.6521	1.5559	7.9225	7.4424	123.89	10.9220	10.3967	1.0739	0.90741	1.1775
Nov.	1.6266	1.5472	7.8152	7.4459	123.61	10.7453	10.2311	1.0785	0.89605	1.1838
Dec.	1.6166	1.5595	7.9602	7.4412	126.28	10.6008	10.1736	1.0814	0.90624	1.2170
2021 Jan.	1.5764	1.5494	7.8730	7.4387	126.31	10.3661	10.0952	1.0794	0.89267	1.2171
Feb.	1.5605	1.5354	7.8136	7.4367	127.49	10.2791	10.0887	1.0858	0.87268	1.2098
Mar.	1.5444	1.4970	7.7465	7.4363	129.38	10.1469	10.1692	1.1065	0.85873	1.1899
Apr.	1.5544	1.4975	7.8051	7.4367	130.49	10.0376	10.1620	1.1031	0.86527	1.1979
May	1.5653	1.4732	7.8109	7.4362	132.57	10.0931	10.1471	1.0968	0.86258	1.2146
June	1.5761	1.4713	7.7391	7.4364	132.63	10.1444	10.1172	1.0940	0.85872	1.2047

* 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 Series Exchange rate statistics.

10. 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

11. Effective exchange rates of the euro and indicators of the German economy's price competitiveness *

Q1 1999 = 100

Period	Effective exchange rates of the euro vis-à-vis the currencies of the group: EER-19 [1]: Nominal	EER-19: In real terms based on consumer price indices	EER-19: In real terms based on the deflators of gross domestic product [3]	EER-19: In real terms based on unit labour costs of national economy [3]	EER-42 [2]: Nominal	EER-42: In real terms based on consumer price indices	Indicators of the German economy's price competitiveness: Based on the deflators of total sales [3] vis-à-vis: 26 selected industrial countries [4]: Total	of which: Euro area countries	of which: Non-euro area countries	37 countries [5]	Based on consumer price indices vis-à-vis: 26 selected industrial countries [4]	37 countries [5]	60 countries [6]
1999	96.2	96.1	96.1	96.1	96.6	96.0	97.9	99.5	95.9	97.7	98.2	98.1	97.8
2000	87.1	86.8	86.1	85.5	88.1	86.1	91.9	97.4	85.5	91.1	93.0	92.2	91.2
2001	87.6	87.1	86.8	84.5	90.2	86.9	91.7	96.5	86.1	90.5	92.9	91.6	91.0
2002	89.8	90.2	89.9	88.0	94.5	90.5	92.4	95.6	88.6	91.1	93.4	92.1	91.9
2003	100.4	101.3	101.1	99.1	106.4	101.5	95.9	94.7	97.7	95.3	97.0	96.6	96.8
2004	104.2	105.2	104.1	102.3	110.9	105.3	96.2	93.5	100.2	95.6	98.4	98.1	98.4
2005	102.8	103.8	102.1	100.6	109.0	102.9	94.8	91.9	99.0	93.3	98.4	97.0	96.7
2006	102.8	103.8	101.5	99.5	109.1	102.2	93.6	90.3	98.4	91.6	98.5	96.6	96.0
2007	106.3	106.8	103.7	101.1	112.7	104.4	94.5	89.5	102.2	92.0	100.8	98.2	97.3
2008	110.1	109.7	105.9	104.9	117.4	106.9	94.9	88.3	105.3	91.3	102.3	98.3	97.6
2009	111.6	110.5	107.0	108.6	120.5	107.9	95.2	89.1	104.8	92.0	101.8	98.5	97.9
2010	104.4	102.8	98.8	100.9	111.9	99.0	92.6	88.7	98.3	88.2	98.7	94.2	92.5
2011	104.2	101.9	97.0	99.2	112.7	98.5	92.2	88.5	97.7	87.4	98.1	93.4	91.9
2012	98.5	96.7	91.4	93.5	107.5	93.7	90.1	88.3	92.6	84.8	95.8	90.5	88.9
2013	102.0	99.7	94.5	96.5	112.2	96.7	92.4	88.8	97.6	86.7	98.1	92.2	90.9
2014	102.3	99.1	94.4	96.5	114.5	97.1	92.9	89.6	97.8	87.4	98.1	92.4	91.5
2015	92.5	89.4	85.8	85.9	106.1	88.6	89.8	90.3	88.9	83.6	94.3	87.7	86.9
2016	95.2	91.4	88.1	p 87.1	110.1	90.6	90.6	90.7	90.4	84.9	94.9	88.7	88.1
2017	97.4	93.3	89.2	p 87.7	112.4	91.8	91.8	90.7	93.2	85.6	96.3	89.8	88.9
2018	99.9	95.5	90.6	p 89.2	117.3	94.9	92.8	90.7	96.0	86.4	97.6	91.1	90.8
2019	98.1	93.1	88.8	p 86.6	115.4	92.3	91.9	91.0	93.2	85.6	96.3	89.8	89.4
2020	99.6	93.4	p 89.2	p 87.5	119.4	93.8	91.9	91.1	92.9	86.0	96.4	90.0	90.2
2018 July	100.1	95.7			117.4	95.1					97.3	91.0	90.7
Aug.	99.8	95.3	90.5	p 89.4	117.8	95.3	92.7	90.6	95.6	86.4	97.2	90.9	90.9
Sep.	100.2	95.8			119.1	96.2					97.6	91.4	91.7
Oct.	99.6	95.3			117.8	95.1					97.2	91.0	91.0
Nov.	99.1	94.7	90.0	p 88.4	116.8	94.3	92.5	90.9	94.7	86.2	97.3	91.0	90.8
Dec.	99.2	94.6			116.9	94.2					97.1	90.7	90.5
2019 Jan.	98.7	94.1			116.3	93.6					96.8	90.4	90.1
Feb.	98.3	93.6	89.0	p 87.1	115.6	92.9	91.9	90.6	93.8	85.5	96.5	90.0	89.6
Mar.	97.7	93.0			115.2	92.4					96.3	89.7	89.3
Apr.	97.6	92.8			115.0	92.2					96.4	89.7	89.3
May	98.1	93.2	88.7	p 86.7	115.7	92.6	92.1	91.0	93.6	85.5	96.5	90.0	89.7
June	98.7	93.7			116.2	93.0					96.6	90.1	89.7
July	98.3	93.2			115.3	92.2					96.6	90.0	89.4
Aug.	98.8	93.7	89.2	p 87.0	116.2	92.8	92.0	91.1	93.1	85.8	96.4	90.1	89.6
Sep.	98.1	92.9			115.3	92.0					96.0	89.8	89.2
Oct.	98.0	92.7			115.2	91.7					96.0	89.7	89.1
Nov.	97.4	92.0	88.5	p 85.8	114.6	91.1	91.6	91.2	92.1	85.5	95.9	89.4	88.8
Dec.	97.3	91.9			114.6	91.0					95.9	89.4	88.8
2020 Jan.	96.9	91.3			114.1	90.4					95.9	89.1	88.4
Feb.	96.2	90.5	88.0	p 86.7	113.5	89.7	91.5	91.4	91.6	85.4	95.6	88.8	88.2
Mar.	98.8	92.9			117.8	93.0					96.5	90.1	90.1
Apr.	98.1	92.4			117.5	92.9					96.1	90.0	90.2
May	98.3	92.5	88.6	p 87.5	117.5	92.8	91.3	91.1	91.3	85.7	96.2	90.0	90.2
June	99.7	93.8			119.1	93.9					96.8	90.6	90.7
July	100.4	94.3			120.3	94.7					95.9	89.8	90.1
Aug.	101.5	94.9	90.0	p 87.9	122.4	95.8	92.3	91.1	94.0	86.6	96.9	90.6	91.2
Sep.	101.5	94.8			122.4	95.7					96.7	90.5	91.1
Oct.	101.3	94.7			122.4	95.6					96.5	90.3	90.9
Nov.	100.6	94.2	p 90.2	p 87.8	121.6	95.1	92.4	90.8	94.8	86.4	96.5	90.0	90.5
Dec.	101.8	95.2			122.9	95.9					97.0	90.5	91.0
2021 Jan.	101.3	95.3			122.4	96.1					98.0	91.4	91.8
Feb.	100.6	94.5	p 89.8	p 87.5	121.5	p 95.2	93.3	91.8	95.5	87.0	98.0	91.2	p 91.5
Mar.	100.3	p 94.1			121.2	p 94.8					97.7	p 91.1	p 91.5
Apr.	100.6	p 94.1			121.9	p 95.1					97.9	p 91.2	p 91.7
May	100.8	p 94.2	...	...	122.3	p 95.1	...	...	...	...	p 98.0	p 91.2	p 91.7
June	100.2	p 93.8			121.5	p 94.6					p 98.0	p 91.1	p 91.5

* 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 to compute the effective exchange rates of the euro. A decline in the figures implies an increase in competitiveness. The weights are based on trade in manufactured goods and services. For more detailed information on methodology and weighting scale, see the website of the Deutsche Bundesbank (https://www.bundesbank.de/content/796162). **1** The 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 and additionally Algeria, Argentina, Brazil, Chile, Colombia, Iceland, India, Indonesia, Israel, Malaysia, Mexico, Morocco, New Zealand, Peru, Philippines, the Russian Federation, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, Ukraine and United Arab Emirates. **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-42.

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 printed publications are available free of charge to interested parties and may be obtained through the Bundesbank's order portal. Up-to-date figures for selected statistical datasets are available on the Bundesbank's website. In addition, the new Statistical Series provide a new basic structure and advanced options for using data and are also available on the Bundesbank's website.

Annual Report

Financial Stability Review

Monthly Report

A list of the articles published in the period from 2010 to 2020 is available on the Bundesbank's website.

Monthly Report articles

October 2020
– Developments in the German banking system during the negative interest rate policy period
– Patterns of international business cycles
– The protracted rise in residential property prices in Germany from a macroeconomic perspective: transmission channels and fundamental determinants
– State government budgets: results for 2019

November 2020
– The current economic situation in Germany

December 2020
– Outlook for the German economy for 2021 to 2023
– The informative value of national fiscal indicators in respect of debt at the European level
– Risk Reduction Act – the national implementation of the European banking package
– German enterprises' profitability and financing in 2019

January 2021
– The slowdown in euro area productivity growth
– Methodology and analytical options for the expanded statistics on banking groups' securities holdings
– The two-tier system for reserve remuneration and its impact on banks and financial markets

February 2021
– The current economic situation in Germany

March 2021
– German balance of payments in 2020
– A new European prudential framework for investment firms

April 2021

– The impact of monetary policy depending on the debt situation in the non-financial private sector: Evidence for the euro area
– Assessments and expectations of firms in the pandemic: findings from the Bundesbank Online Panel Firms
– Digital money: options for payments

May 2021

– The current economic situation in Germany

June 2021

– Outlook for the German economy for 2021 to 2023
– Government finances: Central bank bond purchases increase sensitivity to interest rate changes
– Federal debt: allocate premia on accruals basis in budgetary interest expenditure
– Local government finances: how cash advances can be limited and budget imbalances avoided

July 2021

– Cross-border corporate takeovers: the impact of internationalisation on enterprises in Germany
– Crypto tokens and decentralised financial applications
– Digital risks in the banking sector
– Macroprudential policy and growth-at-risk

Statistical Series*

Banks

– Banking statistics, monthly
– Statistics on payments and securities trading, September

Corporate financial statements

– Consolidated financial statement statistics, June/December
– Financial statement statistics (extrapolated results), December
– Financial statement statistics (ratios), May
– Financial statement statistics (ratios – provisional data), May

Economic activity and prices

– Seasonally adjusted business statistics, monthly

Exchange rates

– Exchange rate statistics, monthly

External sector

– Balance of payments statistics, monthly
– Direct investment statistics, April
– International investment position and external debt, monthly

Macroeconomic accounting systems

– Financial accounts, June

Money and capital markets

– Capital market indicators, monthly
– Investment funds statistics, monthly
– Securities issues statistics, monthly

Special Statistical Publications

1 Banking statistics guidelines, January 2021[2]

2 Banking statistics, customer classification, January 2021[2]

For footnotes, see p. 88•.

3 Aufbau der bankstatistischen Tabellen, July 2013[1,2]

7 Notes on the coding list for the balance of payments statistics, September 2013

Special Publications

Makro-ökonometrisches Mehr-Länder-Modell, November 1996[1]

Europäische Organisationen und Gremien im Bereich von Währung und Wirtschaft, May 1997[1]

Die Zahlungsbilanz der ehemaligen DDR 1975 bis 1989, August 1999[1]

The market for German Federal securities, May 2000

Macro-Econometric Multi-Country Model: MEMMOD, June 2000

Bundesbank Act, September 2002

Die Europäische Union: Grundlagen und Politikbereiche außerhalb der Wirtschafts- und Währungsunion, April 2005[1]

Die Deutsche Bundesbank – Aufgabenfelder, rechtlicher Rahmen, Geschichte, April 2006[1]

European economic and monetary union, April 2008

Weltweite Organisationen und Gremien im Bereich von Währung und Wirtschaft, March 2013[1]

Discussion Papers°

05/2021
Toothless tiger with claws? Financial stability communication, expectations, and risk-taking

06/2021
Quantifying bias and inaccuracy of upper-level aggregation in HICPs for Germany and the euro area

07/2021
The role of information and experience for households' inflation expectations

08/2021
Liquidity in the German corporate bond market: has the CSPP made a difference?

09/2021
Synthetic leverage and fund risk-taking

10/2021
Inter-cohort risk sharing with long-term guarantees: Evidence from German participating contracts

11/2021
Precision-based sampling with missing observations: A factor model application

12/2021
What drives the German TARGET balances? Evidence from a BVAR approach

13/2021
Do exchange rates absorb demand shocks at the ZLB?

14/2021
Banks' complexity-risk nexus and the role of regulation

15/2021
Contagious zombies

16/2021
Banks fearing the drought? Liquidity hoarding as a response to idiosyncratic interbank funding dry-ups

For footnotes, see p. 88•.

17/2021
Covid-19 and capital flows: The responses of investors to the responses of governments

18/2021
The effect of unemployment insurance benefits on (self-)employment: Two sides of the same coin?

19/2021
System-wide and banks' internal stress tests: Regulatory requirements and literature review

20/2021
The impact of borrower-based instruments on household vulnerability in Germany

21/2021
Lighting up the dark: Liquidity in the German corporate bond market

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 Gesetz über das Kreditwesen, January 2008[1]

2a Solvency Regulation and Liquidity Regulation, February 2008[2]

* The Statistical Series replace the Statistical Supplements and, in part, the Special Statistical Publications; they will be provided exclusively on the Bundesbank's website under Publications/Statistics.
o Discussion papers published from 2000 are available online.
1 Publication available in German only.
2 Available only as a download.