

Financial markets

Financial market setting

Financial markets assessing economic repercussions of the coronavirus pandemic

Developments in international financial markets over the past few weeks have been dominated by the assessment of the economic and financial fallout from the coronavirus pandemic. While market participants' outlook for the economy was still fairly positive as 2020 began and equity markets reached new highs in many places, market activity was increasingly shaped by the coronavirus pandemic from the end of February. The stock markets saw a surge in

volatility and sharp price drops. At the same time, bonds with high credit quality (safe haven assets) were heavily in demand, in spite of intermittent tensions even in these highly liquid markets. Federal securities were delivering historically low yields in the first half of March. The announcement of fiscal and monetary policy support measures stabilised the markets in mid-March: the central banks of major currency areas loosened their monetary policy stance, in some cases using new monetary policy instruments. In March, the Governing Council of the ECB announced that it would be scaling up its asset purchase programme (APP) with a temporary envelope of additional net purchases totalling €120 billion. It also decided to launch an additional purchase programme (the pandemic emergency purchase programme – PEPP). Under the PEPP, €750 billion worth of private and public sector securities are to be purchased up until the end of 2020. At the same time, additional issuance of government bonds are on the cards, intended to help finance the fiscal burden posed by the coronavirus pandemic. All in all, these measures are set to transfer a portion of the costs and risks associated with the pandemic from the private to the public sector. In the equity markets, this was reflected by subsiding volatility and a significant price recovery. Sovereign bond market yields saw mixed developments, however. In the euro area, they picked up again somewhat after reaching their lows. The yield spreads between ten-year Federal bonds (Bunds) and ten-year government bonds of other euro area countries widened initially but narrowed again slightly in response to the new PEPP. Given the elevated level of uncertainty, participants in the foreign exchange markets increasingly sought currencies that are considered to be relatively safe. In effective terms, the US dollar, the euro, the yen and the Swiss franc appreciated. By contrast, mainly the currencies of commodity exporters as well as of emerging market economies and former transition countries fell on a



broad basis. In keeping with this, extensive outflows from investment funds which invest in emerging markets were observed in March.

■ Exchange rates

Coronavirus pandemic bolsters safe currencies

In recent months, the foreign exchange markets were shaped by the global spread of the novel coronavirus as well as market participants' assessments of the strain it is placing on economies and the economic policy measures designed to combat the crisis. After the virus had spread from Asia to other continents in February and early negative ramifications for the global economy became apparent, uncertainty on the financial markets rose dramatically. This tended to work in favour of currencies which are considered relatively safe.

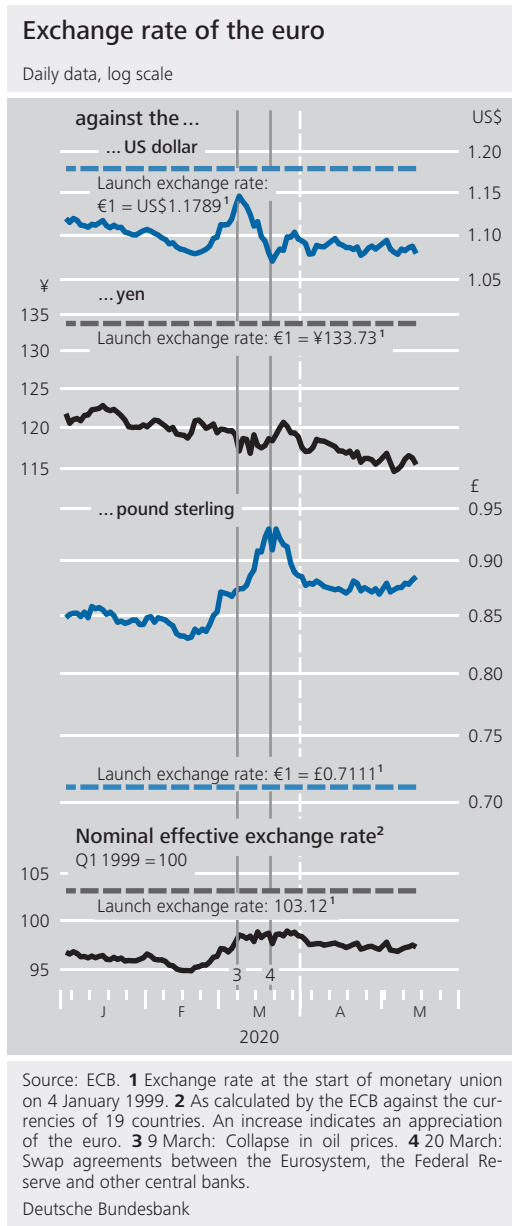
Euro down against the US dollar, ...

From mid-February to the second week of March the euro initially recorded marked gains against the US dollar, which was weighed down by speculation that the Federal Reserve System (the Fed) could cut policy rates to counter a crisis-induced downturn in the US economy. While the Eurosystem had also signalled its readiness to combat the crisis, the US policy rate's higher level meant that the Fed had greater monetary policy leeway. In early March, even before its regularly scheduled meeting, the Fed then indeed made a policy rate cut, which – at 50 basis points – was also larger than expected. Both the size and timing of this move came as a surprise for market participants, leading the euro to record additional gains against the US dollar. Subsequently, nascent speculation around potential further rate cuts by the Fed also contributed to the euro's appreciation to begin with.

The start of the second week in March brought a dramatic slump in oil prices after an agreement between the OPEC member countries and Russia on scaling back oil production had initially broken down. This heightened investors' risk aversion and generated considerable turbulence on the financial markets. Key euro

exchange rates also became substantially more volatile as a result. While the euro initially climbed to \$1.15 – a value not matched in over a year – sentiment subsequently reversed, favouring the US dollar. Market participants' demand for currencies considered particularly safe, such as the US dollar, grew as the turmoil in financial markets persisted and the World Health Organisation classified the spread of the coronavirus as a pandemic. At the same time, the euro was weakened by the climbing number of new infections in the euro area, the lockdown of parts of northern Italy and the foreseeable economic strains unfolding as a result. An extraordinary rate cut by the Fed of a further 100 basis points had no lasting impact on the development of exchange rates, nor did the PEPP asset purchase programme agreed on by the ECB Governing Council. Ultimately, the euro fell to US\$1.07 in the second half of March, its lowest level since April 2017.

It took a coordinated action of the Eurosystem, the Fed and the central banks of Canada, the United Kingdom, Japan and Switzerland to halt the US dollar's soaring trajectory. It was agreed that in order to further enhance provision of US dollar liquidity, seven-day maturity US dollar swaps would be offered on a daily basis, as opposed to the existing weekly offering. These swaps enable the participating central banks to buy US dollars from the Fed against their own currency and keep the domestic banking system supplied with US dollars. The coordinated action evidently alleviated market participants' concerns as to the provision of US dollar liquidity for the banking system and the prospect of a shortage of the US currency. The hitherto negative dollar basis of the euro, the yen and the Swiss franc, which is an indicator of tension in the foreign exchange market, rapidly dwindled thereafter and the high level of volatility



gining of the year likely encouraged currency carry trades; but the growing uncertainty mentioned above meant that the exchange rate risk associated with these transactions increased too. At the same time, financial market participants became more risk averse. Taken by themselves, these developments tend to lead to an unwinding of currency carry trades and rising demand for the yen. By contrast, the monetary policy easing measures adopted by the Bank of Japan with a view to tackling the economic burdens emanating from the present crisis made no discernible impression on developments in the foreign exchange markets. The euro closed the period under review trading at ¥115, down 5.3% on its value at the start of the year.

The euro's performance against the pound sterling during the period under review was shaped by the UK government's shifting strategy for containing the coronavirus. In contrast to the governments of severely affected countries in the euro area, the United Kingdom's government had initially rejected taking measures to curb the spread of the virus that would place heavier restrictions on the economy and citizens. Driven by market participants' scepticism regarding this policy and the impression that little progress was being made in negotiations on the future trade relationship with the European Union, which are subject to a tight timeframe, the euro rose into the second half of March to £0.93, its highest level in 11 years.

... but up against the pound sterling

exhibited by exchange rates fell markedly.¹ The measure thus helped to calm the market. The euro was then able to recoup some of its prior losses. Since then, the euro has been hovering with no discernible trend in a narrow band of between US\$1.08 and US\$1.10. At the end of the reporting period, it was trading at US\$1.08, down 3.9% on its level at the start of the year.

... and against the yen

The euro also depreciated against the yen on balance. Part of the reason for this was that the use of the yen as a financing currency for carry trades tends to trigger net capital flows to Japan in times of mounting uncertainty. The low level of exchange rate volatility at the be-

¹ The term "dollar basis" refers to the difference between the costs of direct US dollar funding and "synthetic" US dollar funding. Direct funding means borrowing US dollars in the interbank market; synthetic funding involves borrowing in euro, for instance, with the loaned amount being exchanged for US dollars through a swap and, at the same time, exchanged back in a forward transaction upon maturity. The dollar basis is thus calculated as the difference between the USD LIBOR (London interbank offered rate), on the one hand, and the EUR LIBOR plus the swap rate on the other. The swap rate is computed on the basis of the forward rate and the spot rate of the euro against the US dollar. A negative dollar basis implies that direct US dollar funding is cheaper than the synthetic variant – i.e. US dollar funding constituted from a swap with the euro. However, in phases of market tension, direct US dollar funding is often not available to foreign commercial banks or its availability is limited.

Only once the UK government introduced comprehensive protective measures to combat the spread of the virus did the pound sterling embark on a marked recovery. As this report went to press, the single currency was nevertheless trading at £0.88, which was around 4.0% stronger than at the beginning of the year.

Euro appreciation in effective terms

On a weighted average against the currencies of 19 major trading partners the euro nudged slightly higher on balance compared to the beginning of the year (+0.4%). Whilst it also depreciated against the renminbi (-2.0%) and the Swiss franc (-3.2%) in addition to falling against the US dollar and the Japanese yen, these losses were offset by some strong price gains against other currencies. For example, the euro rose considerably against the currencies of major partner countries in east-central Europe, from which risk-averse investors were pulling out capital; it appreciated 7.3% against the zloty, 8.5% against the Czech koruna and 7.3% against the forint. The euro also recorded marked gains against the currencies of Norway (+12.1%) and Canada (+4.3%), which faced broad-based downward pressure due to the collapse in oil prices. On balance, the price competitiveness of euro area suppliers deteriorated somewhat over the period under review but, looking at the long-term average, their competitive position can currently still be considered neutral.

Securities markets and portfolio investment

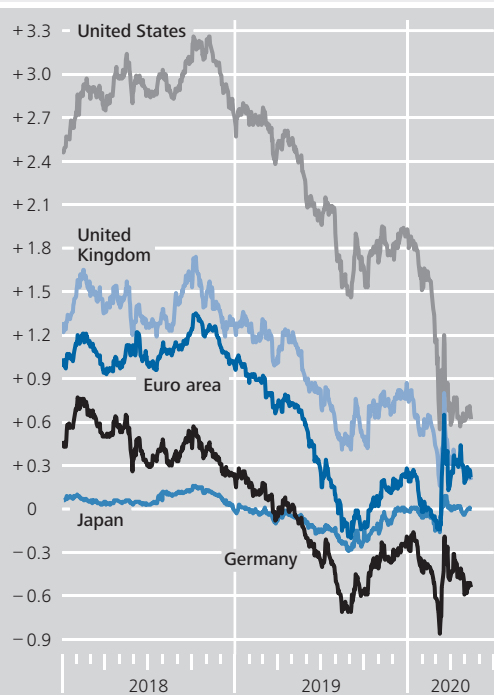
Bond market

Ten-year US Treasury yields significantly lower

Government bond yields in the major currency areas showed volatile and mixed developments during the period under review. In the United States, yields on ten-year US Treasuries declined by 131 basis points, closing the period under review at 0.6% and thus still in the region of the historical low they also reached in March. The considerable fall in yield is due, in part, to

Bond yields* in the euro area and selected countries

% p. a., daily data

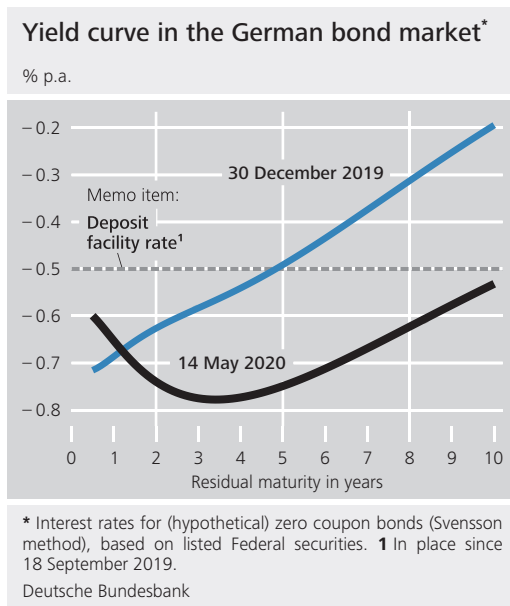


Source: Bloomberg. * Government bonds with a residual maturity of ten years.

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a series of comprehensive measures to ease monetary policy undertaken by the US central bank. The first set of decisions came at the beginning of March and others followed. Among other moves, the US Federal Reserve lowered the target range for its policy rate, the Federal Funds Rate, by a total of 150 basis points in two stages. It also announced securities purchases without a pre-defined limit.² The monetary policy measures brought down both the expectations of short-term interest rate developments in the United States contained in long-term yields as well as – and most notably – the term premium. The latter compensates investors for taking on the risk of unexpected changes in short-term rates. The term premium is currently negative, meaning that, at present, investors receive a higher yield in terms of expected value if they invest papers with a

² See <https://www.federalreserve.gov/covid-19.htm> for an overview compiled by the Federal Reserve of its measures and publications in relation to the coronavirus pandemic.



short maturity on a revolving basis. This reflects the fact that investors demand a premium for bearing the risk that the short-term rate may be unexpectedly low in future. US yields are also typically dampened in times of crisis by the fact that US Treasury bonds are seen as a safe-haven asset. Nevertheless, yields did show a marked rise for a time in the first half of March. According to an analysis by the Bank for International Settlements, a number of institutional investors sold US Treasuries in early March to cover their liquidity needs.³ These liquidity needs arose from trading strategies aiming to exploit small yield differences, such as between bonds and derivatives.

Yield on ten-year Bunds down

Amid strong fluctuations, the yield on ten-year Bunds dropped 33 basis points on balance from the beginning of the year, to -0.6%; it was thus back above its historical low recorded in March 2020 (-0.85%). The upward impulses from the United States mentioned above likely served to push yields higher. The chief contributing factor behind the higher rates was, however, the announcement communicated by the Finance Agency in two press releases that the current year would see issuance of additional nominal interest-bearing Federal securities in the expected amount of €229 billion. The prospect of this fresh issuance on the horizon reduced the scarcity premium, i.e. the yield

spread between a ten-year Bund and an EONIA swap with the same maturity. By contrast, monetary policy measures, like those being implemented by the Eurosystem, are likely to have had a dampening effect on capital market yields in the period under review. Nevertheless, in the volatile market setting (exhibiting a higher level of volatility than on the long-term average), their announcement had no direct, measurable effect on the level of Bund yields. With the yields on ten-year US Treasury bonds falling considerably more strongly than those of ten-year Bunds, the yield spread narrowed significantly, shrinking by 92 basis points to 116 basis points.

As this report went to press, the term structure computed from yields on Federal securities was flatter than at the start of the year. Measured by the differential between ten-year and two-year yields, the spread stood at 21 basis points, which is a low yield spread by historical standards. The negative term premium observed for Federal securities is one factor that helps to explain the curve's relative flatness. As this report went to press, Bunds were exhibiting negative yields across the entire maturity spectrum.

Yield curve for Federal securities flatter

The yield spread between ten-year Bunds and ten-year government bonds of other euro area countries (GDP-weighted average) widened compared with the beginning of the year by 42 basis points to 108 basis points. In the period under review, this average yield spread reached a high on 18 March 2020, the day of the PEPP decision, but subsequently narrowed again. The Eurosystem's new purchase programme likely played a contributing role here. While the distribution among the Member States of cumulative purchases of sovereign debt under the PEPP will be guided by the national central banks' respective contribution to the ECB's capital (the capital key), fluctuations in terms of asset class and countries are permissible over the course of the programme. From the perspective of market participants, the risk at-

Higher yield spreads over Bunds

³ See Schrimpf et al. (2020).

tached to euro area government bonds with lower credit ratings has evidently decreased.

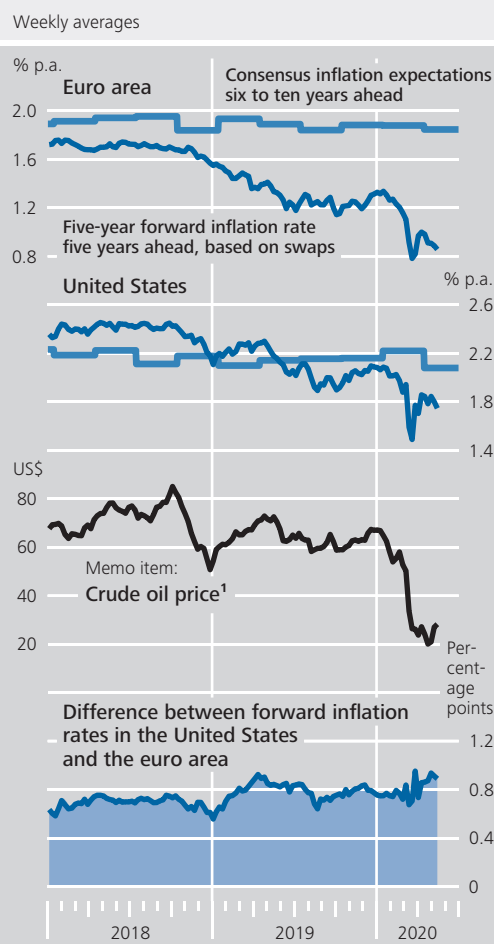
Yields down in the United Kingdom

Compared to the beginning of the year, yields on ten-year UK bonds (gilts) were down by 62 basis points at 0.2%. The Bank of England has also responded to the coronavirus crisis with a significant loosening of its monetary policy stance. It brought down its policy rate (the Bank Rate) in two stages, trimming a total of 65 basis points and taking it to a new historical low. It also significantly stepped up its asset purchase programme. Ten-year Japanese government bonds were yielding virtually the same as at the end of 2019, at 0.0%. Yields thus remained within the range in which market participants assume that the Bank of Japan wishes to keep interest rates as part of its policy to control the yield curve. The Bank of Japan also loosened its monetary policy stance, proceeding, in April, to remove the ceiling applying to its securities purchase programmes.

Forward inflation rate in the euro area significantly lower, survey-based inflation expectations down marginally

Euro area forward inflation rates derived from inflation swaps for a period of five years starting in five years' time latterly stood at 0.8%, putting them significantly down on balance in the reporting period (-49 basis points). Aside from long-term inflation expectations, the indicator also encompasses inflation risk premia and liquidity premia which, to a degree, spill over from the bond market to the swap market on account of an arbitrage relationship. These premia, which vary from bond to bond, played an enhanced role in the reporting period and are likely to have depressed the indicator value for forward inflation rates. In mid-March, in particular, market participants were demanding higher premiums in return for taking on liquidity risk. At that juncture, the indicator stood at an all-time low of 0.7%, due to the fact that the liquidity benefits offered by ten-year benchmark Bunds were particularly high compared with other bonds, not least against inflation-linked debt securities. During such phases, the forward inflation rate dips due to the varying liquidity of the bonds included in the calculation. Inflation risk and liquidity premia are a key

Forward inflation rates* and expectations in the euro area and the United States



Sources: Bloomberg, Thomson Reuters, Consensus Economics and Bundesbank calculations. * Derived from the fixed cash flow arising from inflation swaps which is swapped for the actual annual inflation rates (HICP excluding tobacco for the euro area and CPI Urban Consumers for the United States) realised over the next five or ten years. ¹ Brent blend (for delivery in one month).
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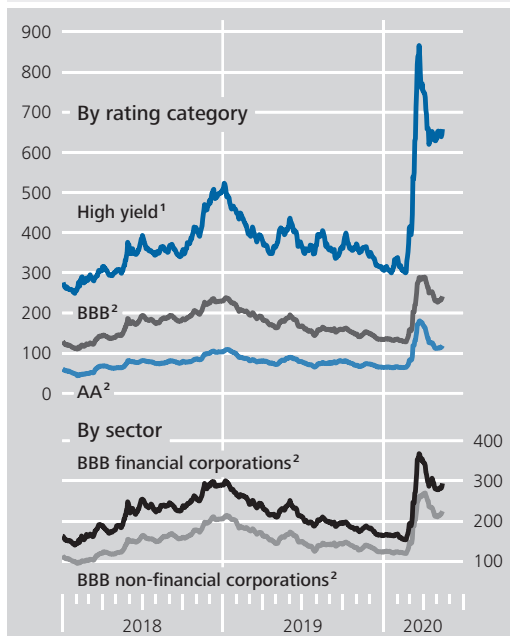
reason for the gap between market-based indicators and the higher inflation expectations computed from surveys. Long-term euro area inflation expectations collated by Consensus Economics in a survey likewise fell slightly to 1.8% during the period under review.

Yields on European corporate bonds went up sharply in March, given the looming economic impact of the coronavirus pandemic. Despite declining again since the end of March, yields have risen significantly over the reporting period overall. Bonds issued by BBB-rated financial corporations with a residual maturity of between seven and ten years were yielding

Corporate bond yields up

Yield spreads of corporate bonds in the euro area*

Basis points, daily data



Sources: Thomson Reuters and Bundesbank calculations.
 * Compared with Federal securities with a residual maturity of seven to ten years. **1** Merrill Lynch index across all maturities.
2 In each case, iBOXX indices with a residual maturity of seven to ten years.

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2.4% as this report went to press, 98 basis points above their level at the end of last year. Yields on non-financial corporate bonds of equivalent maturity rose by 70 basis points to 1.7%. In particular, heightened default risks played a pivotal role in pushing up yields. This was also reflected in higher CDS premia. Bond yields at lower-rated enterprises recorded particularly strong growth, as demonstrated by corporate bond yields in the high-yield paper sector, which increased by 255 basis points to 5.9%. In this market segment, enterprises either cancelled or postponed planned bond issuance in view of the significant market tension that began to emerge in March. In the meantime, however, the first few companies have resumed issuing bonds

With risk-free interest rates down, corporate bond spreads over Bunds widened more substantially than the increases in corporate bond yields. As a consequence, yield spreads currently lie above their respective five-year aver-

ages. That said, relative to the emerging risks, as outlined in the sometimes highly pessimistic assessments of the economic situation, spreads expanded by a comparatively small margin. During the financial crisis, interest rate spreads in the high-yield paper segment exceeded 2,200 basis points, compared with a peak of 866 basis points in mid-March. The monetary and fiscal policy measures that have been taken appear to be channelling some of the risks into the public sector.

Gross issuance in the German bond market in the first quarter of 2020 was well up on the preceding three-month period. This came on the back of the usual seasonal pattern seen at the beginning of each year, and was not primarily attributable to the economic impact of the pandemic. In March, however, the initial effects of a change in issuance behaviour were already discernible in sub-components. Overall, German borrowers issued paper to the tune of €394 billion, up from €293½ billion in the previous three months.⁴ Net of redemptions and changes in issuers' own holdings, domestic issuers ramped up their capital market borrowing by €67 billion. The outstanding volume of foreign debt securities in the German market grew by €15½ billion in the first quarter, with the result that, on balance, the total outstanding volume of bonds in Germany grew by €82½ billion in the period under review.

In the first three months of 2020, the public sector issued bonds worth €46½ billion net, compared with net redemptions totalling €22 billion in the previous quarter. Central government (including the resolution agency classified as belonging to it) enlarged its capital market debt by €23½ billion net, mainly by issuing Treasury discount paper (Bubills, €10 billion) and five-year Federal notes (Bobl, €8 billion), but also thirty-year Federal bonds (Bunds, €5

High net issuance of German debt securities

Rise in public sector capital market debt

⁴ The methodology used for issuing statistics has been revised. The data pool collected using the new methodology is now available from January 2020. Individual data for the period January to February 2020 have been revised. (See the box on p. 53).

Methodological changes in securities issues statistics

The Bundesbank regularly reports on the sale and purchase of securities issued by domestic issuers in its press releases and its reports on the economic situation. The reports are based, inter alia, on the issues statistics for debt securities, which record monthly data on the terms of such securities as well as on the volume of monthly sales, redemptions and amounts outstanding.

The securities issues statistics were restructured in January 2020. The Bundesbank has amended its statistical methodology to adhere to the optional international standards laid out in the most recent edition of the Handbook on Securities Statistics,¹ published in 2015. The Handbook focuses on the necessity of collecting statistics in a coherent and internationally comparable manner, as confirmed by the global financial crisis in 2008. The Handbook was jointly produced by the Bank for International Settlements, the European Central Bank and the International Monetary Fund.

The methodological adjustments affect the following:

- data on amounts outstanding and own holdings of debt securities, which are now reported including accrued interest;
- foreign currency bonds, which are now converted into euro at the current exchange rate;
- maturities, which are calculated following the actual day count convention;

- securities quoted in units, such as certificates and structured products, which are presented separately at market values.

Furthermore, reporting gaps have been closed. For example, commercial paper issued by non-banks and participation certificates are recorded in the securities issues statistics on a security-by-security basis. Securities issued by banks that do not have an international securities identification number (ISIN) are also included here.

The data collected using the new methodology are now available as of January 2020. Data from January and February 2020 have been revised. On account of the changes to and expansion of the statistics, the amount outstanding of all debt securities for January 2020 increased by a total of €66.4 billion to €3,233.2 billion. The debt securities quoted in units, which are presented separately in the Bundesbank's Statistical Series – Securities issues statistics, amounted to €101.1 billion at the time the changes were implemented (3% of the outstanding amount of all debt securities).

Overall, the data on the outstanding amount of debt securities and the sale of debt securities by banks and enterprises (non-MFIs) have been particularly affected by the changes. The aggregates can be found in the monthly Statistical Series – Securities issues statistics.² All methodological information can be found in the explanatory notes accompanying that publication.

Comparison of amounts outstanding and gross sales

As at January 2020, € million

Item	New procedure	Old procedure
Amounts outstanding	3,233,228	3,166,822
Gross sales	157,049	148,121

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¹ <https://www.imf.org/external/hp/sta/wgsd/pdf/hss.pdf>

² <https://www.bundesbank.de/en/publications/statistics/statistical-series/overview-of-the-statistical-series-821978>

Investment activity in the German securities markets			
€ billion			
Item	2019		2020
	Q1	Q4	Q1
Debt securities			
Residents	15.0	15.6	27.7
Credit institutions	7.0	-15.4	30.3
of which:			
Foreign debt securities	7.4	-8.0	19.3
Deutsche Bundesbank	-8.1	10.0	11.9
Other sectors	16.1	21.0	-14.5
of which:			
Domestic debt securities	-5.1	11.1	-8.7
Non-residents	63.5	-37.3	54.8
Shares			
Residents	5.8	22.3	13.1
Credit institutions	-1.4	3.1	-8.7
of which:			
Domestic shares	-0.6	3.0	-4.5
Non-banks	7.1	19.2	21.8
of which:			
Domestic shares	3.9	3.8	12.1
Non-residents	-1.5	-1.5	-5.8
Mutual fund shares			
Investment in specialised funds	20.0	52.1	33.7
Investment in retail funds	3.1	4.9	-0.8
of which:			
Equity funds	-0.4	0.7	-5.8

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billion) and two-year Federal Treasury notes (€2½ billion). Parallel to this, state and local governments issued debt securities worth €23 billion on balance. This heightened issuance activity was attributable to the actions of a number of federal states which, in some cases, placed a record volume of bonds on the market, presumably with a view to using the capital market to finance the fiscal burdens caused by the pandemic.

Domestic credit institutions increased their capital market debt by €14 billion in the months from January to March 2020, after having redeemed €8 billion net in the final quarter of 2019. Debt securities of specialised credit institutions and mortgage Pfandbriefe (€7½ billion and €5½ billion, respectively) constituted the lion's share of issues, followed on a smaller scale by other bank debt securities which can be structured flexibly (€2½ billion). In March, however, banks significantly scaled back their issuance activity, even reducing their capital

Net issuance by credit institutions

market debt. The volume of outstanding public Pfandbriefe continues to decline (-€1½ billion).

In the first quarter of 2020, domestic enterprises issued debt securities in the amount of €6½ billion net, which on balance reflects the customary seasonal pattern. It is striking, though, that other financial institutions, in particular, issued fewer instruments in March, opting to redeem bonds on balance. This may have been prompted by the poorer financing and access conditions prevailing in the corporate bond market in that month.

Net issuance of corporate bonds

On the demand side of the German bond market, foreign investors were the dominant buyers in the first quarter of 2020, adding €55 billion net worth of German debt securities to their portfolios. Domestic credit institutions expanded their bond portfolio by €30½ billion net, placing a particular emphasis on foreign securities (€19½ billion). The Bundesbank acquired debt securities in the amount of €12 billion net, first and foremost under the Eurosystem's asset purchase programmes. Domestic non-banks, by contrast, parted with bonds worth €14½ billion net, predominantly in the form of German securities (€8½ billion).

Purchases of debt securities

Equity market

Global equity indices recorded sharp price losses in the reporting period. At the beginning of the year, equity markets were initially buoyed by signs that several long-simmering political downside risks, such as the trade dispute between the United States and China, were weakening. However, initial price corrections set in at the end of February, which then intensified dramatically over the month of March. It was becoming increasingly clear that the negative economic impact of the pandemic was not just going to be confined to Asia, and that a global economic slump would follow. Stock markets reached their interim lows at the end of March, having shed between 30% and 40% of their value by that time. Though a sharp

Marked drop in equity prices worldwide

drop, this is not an unprecedented downturn. During the 2008 financial crisis, prices tumbled even more significantly – albeit over a longer period.

Since the end of March, stock prices have re-couped just under half of their lost value, not least because of the monetary and fiscal policy measures instigated to stabilise the economy, as outlined above. All in all, circumstances have caused the European EURO STOXX index to fall by 24.0% since the end of 2019, with the British FTSE All-Share index going down by 24.9% and the Japanese Nikkei 225 by 15.8%. Price losses in the United States proved comparatively benign, with the S&P500 dropping by 11.7%, putting it broadly back at its level of one year earlier.

Shares in airlines, leisure enterprises and banks particularly hard hit

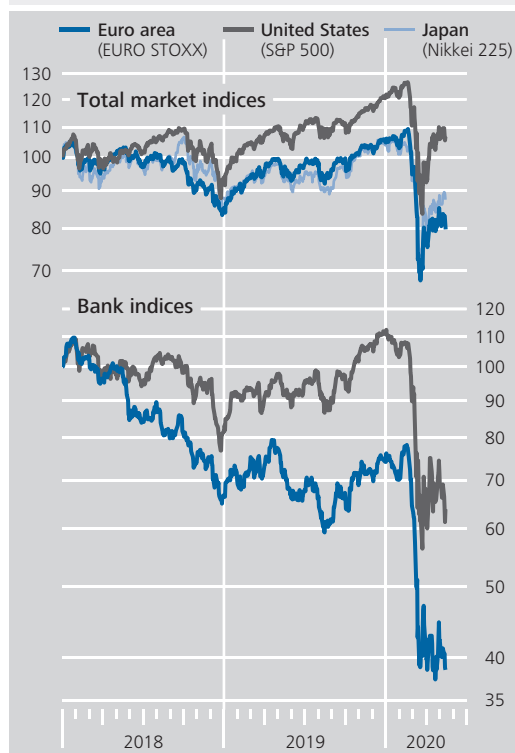
The share prices of companies whose operations have largely been brought to a halt by the coronavirus pandemic, e.g. airlines, hotels and restaurants, have fallen by a particularly large margin. Bank shares likewise recorded above-average price losses; in the euro area, for example, they forfeited 48.1% of their value. These losses were mainly attributable to two factors. First, given the sharp economic downturn, investors are expecting a significant increase in defaults on the part of borrowers, which may well have a knock-on effect on bank balance sheets. Second, from the perspective of market participants, the yield curve will remain flat for the foreseeable future. This scenario puts a strain on the banking sector's profits from maturity transformation.

Coronavirus unleashes sharp rise in uncertainty

Concerns about the economic consequences of Covid-19 unleashed a great deal of uncertainty among investors. Price uncertainty in the stock markets, as measured by implied volatility, rose sharply in both the euro area and the United States. In mid-March, this implied volatility reached levels last observed during the 2008 financial crisis. However, for the reasons given above, the recent spike in uncertainty soon receded again somewhat from the high levels of stress. Nevertheless, at last count, un-

Equity market

Daily data, beginning of 2018 = 100, log scale



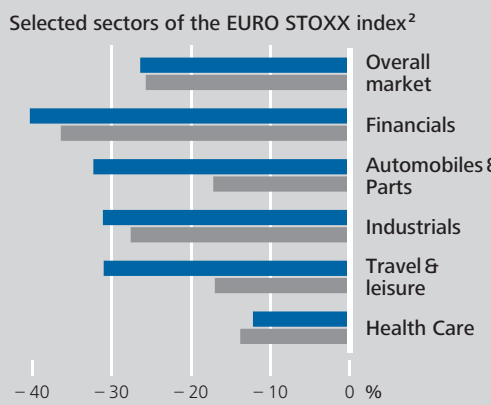
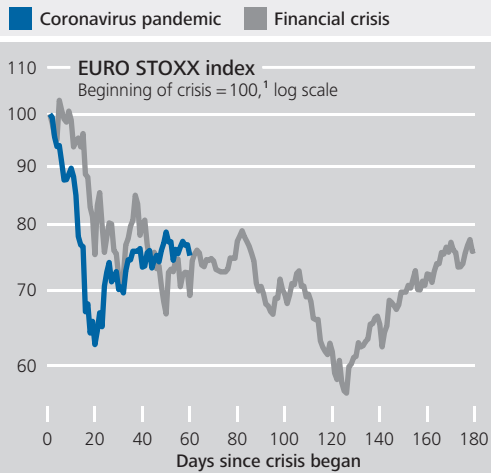
Sources: Thomson Reuters and Bundesbank calculations.
 Deutsche Bundesbank

certainty on both sides of the Atlantic remained well above its five-year average in each case.

Heightened uncertainty and an increase in the market price for risk led to a significant hike in the risk premia being demanded by market participants. A higher (expected) risk premium goes hand in hand with falling share prices. Moreover, market participants revised their profit expectations downwards significantly in some cases. The determinants of individual components can be quantified using a dividend discount model. According to this model, the declines seen in safe interest rates, which elevated the present value of future dividends, had the effect of boosting prices. Even so, the impact of falling interest rates was more than offset by higher risk premia and lower profit expectations. As regards the EURO STOXX index, the model in question identifies the lower profit expectations as the main driving factor behind the observed price losses, whereas the price losses suffered by the S&P500 index are mainly

Higher risk premia and falling profit expectations weigh on stock prices

Comparison of share price movements during the coronavirus crisis and the financial crisis



Source: Refinitiv Datastream. **1** Chosen starting points: Financial crisis: Insolvency of Lehman Brothers on 15 September 2008; Coronavirus: outbreak of the pandemic in Europe (chiefly in Italy): 20 February 2020 **2** Change in indices in periods of equal length during the financial crisis (from 15 September to 8 December 2008) and the coronavirus pandemic (from 20 February to 14 May 2020).
 Deutsche Bundesbank

attributed to higher risk premia. This has caused the previously comparatively high valuation of stock markets to decline somewhat on both sides of the Atlantic.

Equity market funding

Funding on the German stock market totalled €2 billion on balance in the reporting quarter, putting it well below the previous quarter's rather high level (€5½ billion). The volume of foreign shares circulating in the German market rose by €5½ billion over the same period. On balance, equities were purchased mainly by resident non-banks (€22 billion) which, for example, also include investment funds. By contrast, domestic credit institutions downsized

their equity portfolios by €8½ billion on balance. Foreign investors narrowed their equity exposure in Germany by €6 billion net.

Mutual funds

In the first quarter of 2020, domestic investment companies posted moderate inflows of €33 billion, compared with €57 billion in the previous quarter. In March, in the wake of the pandemic, investment funds experienced a marked decline in inflows, with individual fund categories also recording significant outflows. On balance, inflows were channelled exclusively to specialised funds reserved for institutional investors (€33½ billion). Of the various asset classes, mixed securities funds, in particular, registered significant net inflows of capital (€18½ billion), as did bond funds and open-end real estate funds, which enjoyed fairly large inflows of €9½ billion and €7 billion respectively. The outstanding volume of foreign mutual fund shares in Germany fell by €10 billion in the period under review. Outflows prevailed in March, tallying with reports of intermittent sizeable withdrawals of funds across the globe, particularly from funds specialising in emerging market economies. On balance, investment fund shares were bought almost exclusively by domestic non-banks, which added fund shares worth €23½ billion net to their portfolios, solely acquiring shares in domestic mutual funds on balance. German credit institutions bolstered their fund portfolio by €½ billion net, while non-resident investors disposed of domestic mutual fund shares worth €1 billion net.

Sales and purchases of mutual fund shares

Direct investment

Transactions in cross-border portfolio investment resulted in net capital imports totalling €37½ billion in the first quarter of 2020, whereas direct investment generated net outflows in the amount of €16½ billion.

Direct investment records net capital exports

Capital outflows arising from transactions by domestic enterprises

Firms domiciled in Germany increased their direct investment abroad by €49½ billion between January and March 2020 (compared with €4½ billion in the previous quarter). In particular, they augmented their equity capital abroad (€39½ billion), both through reinvested profits and through equity capital in the narrower sense. German firms furthermore engaged in intra-group lending to the tune of €9½ billion in order to provide affiliated enterprises abroad with additional funds. This lending took the form of financial credits while, by contrast, trade credits were mainly redeemed. In the first quarter of 2020, German enterprises, which invest in a large number of countries and regions throughout the world, engaged in relatively large net investments within the euro area (€22½ billion). At the same time, they also expanded their presence in other European countries through direct investment, most notably in the United Kingdom (€12 billion). Beyond Europe, they invested heavily in the United States (€3½ billion) and China (€2 billion).

FDI in Germany generates capital inflows

Foreign enterprises invested €33 billion net in Germany between January and March 2020, after having withdrawn funds in the region of around €21 billion in the fourth quarter of 2019. The lion's share of this investment (€21½ billion) took the form of intra-group loans, with financial credits serving to swell funds substantially. More than two-fifths of these constituted "reverse investments", i.e. loans channelled to German parent companies by their affiliates domiciled abroad, a typical way in which the latter pass on proceeds from the issuance of securities. By contrast, trade credits were mainly redeemed. Foreign enterprises' equity investment in Germany also expanded in the first quarter of 2020. Of this total amount (€11½ billion), most was accounted for by reinvested earnings. Relatively high inward FDI flows were recorded in particular from the Netherlands (€11½ billion) and Luxembourg (€9 billion), as well as from the United Kingdom and the United States (€3½ billion each).

Major items of the balance of payments

€ billion

Item	2019		2020
	Q1	Q4	Q1P
I. Current account	+ 64.3	+ 68.2	+ 65.0
1. Goods ¹	+ 56.8	+ 51.7	+ 53.3
2. Services ²	- 1.7	- 2.2	- 1.3
3. Primary income	+ 25.9	+ 31.1	+ 26.9
4. Secondary income	- 16.7	- 12.4	- 14.0
II. Capital account	+ 0.8	- 1.0	- 0.5
III. Financial account (increase: +)	+ 40.5	+ 91.9	+ 16.7
1. Direct investment	+ 35.9	+ 25.2	+ 16.5
Domestic investment abroad	+ 54.7	+ 4.3	+ 49.4
Foreign investment in the reporting country	+ 18.8	- 20.9	+ 32.9
2. Portfolio investment	- 15.4	+ 71.5	- 37.5
Domestic investment in foreign securities	+ 41.1	+ 32.8	+ 10.5
Shares ³	+ 1.5	+ 9.4	+ 4.8
Investment fund shares ⁴ of which:	+ 13.4	+ 20.9	- 10.0
Money market fund shares	- 2.0	+ 4.7	- 4.7
Short-term debt securities ⁵	+ 7.7	- 2.0	+ 0.7
Long-term debt securities ⁶ of which:	+ 18.4	+ 4.4	+ 14.9
Denominated in euro ⁷	+ 16.3	+ 3.8	+ 11.9
Foreign investment in domestic securities	+ 56.4	- 38.7	+ 48.0
Shares ³	- 3.1	- 2.8	- 6.0
Investment fund shares	- 3.9	+ 1.4	- 0.8
Short-term debt securities ⁵	+ 22.3	- 17.0	+ 26.6
Long-term debt securities ⁶ of which:	+ 41.2	- 20.3	+ 28.2
Issued by the public sector ⁸	+ 17.5	- 18.0	+ 1.1
3. Financial derivatives ⁹	+ 6.6	+ 1.8	+ 31.9
4. Other investment ¹⁰	+ 13.4	- 6.0	+ 5.7
Monetary financial institutions ¹¹	- 51.5	+ 61.9	- 82.2
Enterprises and households ¹²	- 22.4	+ 1.1	- 1.7
General government	- 5.6	- 0.0	+ 1.0
Bundesbank	+ 93.0	- 69.0	+ 88.7
5. Reserve assets	- 0.1	- 0.6	+ 0.1
IV. Errors and omissions ¹³	- 24.6	+ 24.6	- 47.7

¹ Excluding freight and insurance costs of foreign trade. ² Including freight and insurance costs of foreign trade. ³ Including participation certificates. ⁴ Including reinvested earnings. ⁵ Short-term: original maturity up to one year. ⁶ Long-term: original maturity of more than one year or unlimited. ⁷ Including outstanding foreign D-Mark bonds. ⁸ Including bonds issued by the former Federal Railways, the former Federal Post Office and the former Treuhand agency. ⁹ Balance of transactions arising from options and financial futures contracts as well as employee stock options. ¹⁰ Includes in particular financial and trade credits as well as currency and deposits. ¹¹ Excluding the Bundesbank. ¹² Includes the following sectors: financial corporations (excluding monetary financial institutions) as well as non-financial corporations, households and non-profit institutions serving households. ¹³ 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.

■ List of references

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