Financial markets

Financial market setting

Financial markets shaped by uncertainty surrounding the pandemic and real economic developments

The economic repercussions of the coronavirus pandemic and the extensive policy measures taken to contain them dominated events in the international financial markets in the second and third quarters of 2020. Market participants' assessments of global economic developments were closely tied to the current infection rates and medical research outcomes at the time as well as reports on containment measures. Uncertainty remained high throughout the entire period. At the same time, monetary and fiscal policy support measures stabilised expectations on both sides of the Atlantic. Faced with prospects of lower inflation, the Governing Council of the ECB announced at the beginning of June that, amongst other measures, the envelope for net purchases under the pandemic emergency purchase programme (PEPP) would be increased by €600 billion. Furthermore, at the end of July, the EU Heads of State or Government agreed on a recovery fund totalling €750 billion to tackle the economic repercussions of the coronavirus pandemic (see the box on pp. 78 ff.). In the United States, the Federal Reserve reaffirmed its expansionary monetary policy stance and the continuation of its market stabilisation programmes, but refrained from implementing additional monetary policy measures. With the above factors at play, yields on government bonds fluctuated markedly. In a number of euro area countries with tight public finances, yields dropped considerably in net terms. Furthermore, the interest spreads between corporate bonds and benchmark bonds narrowed. Equity markets saw a continuation of the recovery observed since the end of March, even though uncertainty about future equity market developments remains heightened compared with previous years. An overall resurgence in investors' risk appetite was the main factor driving the recovery in prices. Foreign exchange markets once again experienced marked shifts in exchange rates between individual currencies, which partly reflected the differing infection rates in the respective economies. Measured as a weighted average against the currencies of 19 major trading partners, the euro appreciated on balance compared with the end of the first quarter of 2020.

Exchange rates

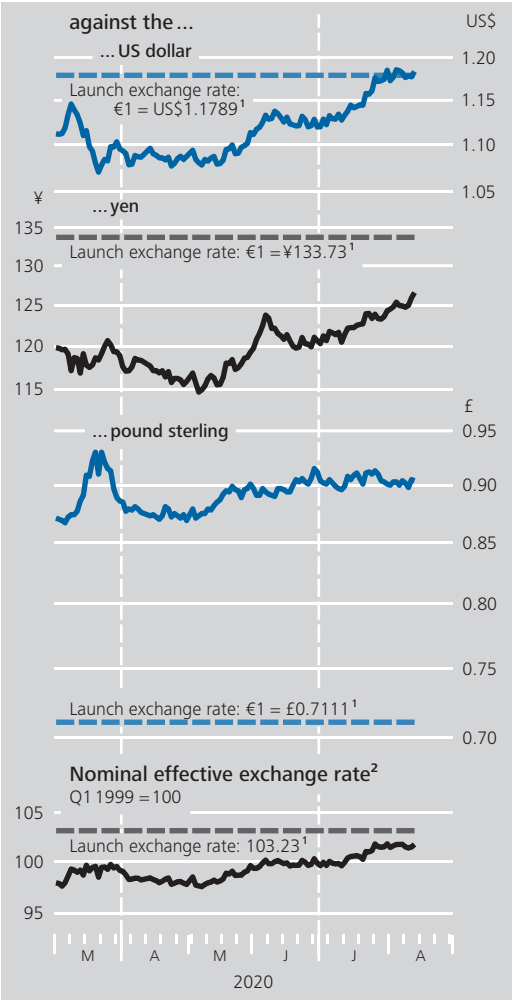
Euro up considerably against the US dollar …

In net terms, the euro made gains against the US dollar in particular. Previously, the global spread of the coronavirus pandemic had triggered a significant rise in risk aversion worldwide, which led to increased demand for the US dollar especially around mid-March, thus causing it to appreciate markedly. Thereafter, the situation gradually turned around; from the second half of May, the growing risk appetite in the markets was even reflected in a noticeable depreciation of the US dollar. The considerable decline in the number of new coronavirus infections in the euro area as well as the joint Franco-German proposal for a large-scale EU recovery package gave the euro an additional boost. The decision made by the ECB Governing Council at the start of June to expand asset purchases under the PEPP was the main reason for the narrowing of spreads between German and both Greek and Italian bonds. In the foreign exchange markets, the monetary policy measures were assessed to be a hedge against the economic repercussions of the coronavirus crisis culminating in an extremely adverse scenario, ultimately causing the euro to profit. Shortly thereafter, the euro traded at US$1.14 before the meeting of the Federal Open Market Committee.

At that meeting, it was communicated that the United States would be faced with a low interest environment for a longer period of time and that its economic outlook was highly depressed. The implications for the US dollar were

Exchange rate of the euro

Daily data, log scale



Source: ECB. **1** Exchange rate at the start of monetary union on 4 January 1999. **2** As calculated by the ECB against the currencies of 19 countries. An increase indicates an appreciation of the euro.

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conflicting: on the one hand, the dollar was pushed down by falling US yields; on the other hand, the considerable rise in risk aversion was beneficial for the US dollar as a safe haven. The latter effect appeared to predominate and was amplified by the renewed acceleration in the global spread of coronavirus. This brought an end to the US dollar's downward trend and, as of mid-June, the exchange rate between the dollar and the euro initially moved sideways. However, this phase quickly proved to be temporary, as the rate of new coronavirus infections in the United States again rose sharply, reaching their highest point so far in mid-July. As a result, plans to ease lockdown measures were suspended in many US states. This uncertainty surrounding the recovery in the US economy was also reflected in foreign exchange markets in July, causing further depreciation of the US dollar. In addition to this combination of factors, renewed tensions between the United States and China as well as weak economic data also weighed on the US dollar. By contrast, on the other side of the Atlantic, the agreement on the proposed EU recovery package strengthened the euro. At the beginning of August, the euro reached its highest value against the US dollar since mid-2018 and traded most recently at US$1.18, representing an 8.0% increase over its value at the end of March.

… and against the yen …

Due to its impact on market sentiment, the rapid spread of coronavirus around the world also played a key role in the development of the exchange rate between the euro and the yen. In the event of heightened risk aversion in the financial markets, the yen generally tends to appreciate as a result of net capital inflows. Conversely, however, investors withdraw some of their money from the yen again as risk appetite rises. On this basis, the yen's weakness from mid-May can, similarly to that of the US dollar, be attributed to returning risk appetite in the markets. Following the June meeting of the ECB Governing Council, the euro reached its highest value against the yen up to that point in 2020, trading at 124 yen. While the slight dip in the euro/yen exchange rate thereafter was in line with the resurgence in risk aversion, it was not to last: rising numbers of new coronavirus infections in Japan depressed the outlook for the Japanese economy, which was slowly beginning to stabilise again. Against the backdrop of the broadly based strength of the euro in the second half of July, this even caused the euro to reach its highest value against the yen since April 2019, peaking at 127 yen at the end of the reporting period. This represented a gain of 6.5% against the yen compared with the exchange rate at the end of the first quarter.

Recalculated weights for indicators of the German economy's price competitiveness

To compare the price competitiveness of a country with that of an individual trading partner, it is the relative price or cost developments of the two countries – after conversion using the bilateral exchange rate – that are contrasted. The picture of a country's price competitiveness can be made more representative by determining the corresponding weighted average against a larger number of trading partners. The Bundesbank regularly calculates and publishes such indicators for Germany. Both conceptually and in terms of the calculation procedure used, these indicators are in line with the real effective exchange rates published by the European Central Bank for the euro.[1] The weights are measured using trade links[2] and adjusted every three years to take account of current developments in foreign trade. Chain-linking the weighted index series ensures that there are no breaks in the time series when calculating effective nominal and real exchange rates. Weights based on data from 2013 to 2015 have been used to date. By contrast, the new weight matrix is derived from trade links over the period from 2016 to 2018 and applies retroactively as of 2016.

In contrast to the old weighting, for the first time the recalculated weights also include trade in services. In recent years, the volume of this item in foreign trade has risen, not only in absolute terms but also in proportion to the total trade in goods. However, this share can fluctuate sharply from country to country.[3] Cross-border trade in services is much more difficult to capture; the corresponding raw data are therefore subject to more intricate pre-processing. For instance, here the reported bilateral flows account for only around 55% of the actual trade in services,[4] whereas almost all of the trade in goods is recorded. The bilateral nature of trade relations, however, allows for improved coverage by mirroring flows that have been recorded only on one side. Thus, if there is no information on country B's imports of services from country A, country A's exports of services to country B can be used on a provisional basis instead – assuming these figures are available. Such a workaround improves coverage of service flows by a further 24 percentage points. Using other minor adjustments boosts coverage levels to just under 87%. The values that are still outstanding are then estimated using a gravity model.[5]

Expanding the calculation of trade weights to include trade in services was not the only change. The composition of the broad group of countries, which previously comprised 57 countries, was also adjusted. On the one hand, owing to data problems, Venezuela is no longer considered. On the other hand, five new countries were added: Colombia, Peru, Saudi Arabia, Ukraine and the United Arab Emirates. The broad group

1 The calculation procedure is described in Schmitz et al. (2012).
2 Trade links include not only direct trade flows but also competitive relationships in third markets (third-market effects). While direct trade flows refer to direct bilateral trade between two given countries, third-market effects capture the fact that those two countries compete against one another not just in their respective markets but on a global level.
3 Trade in services is particularly important in Luxembourg, Cyprus, Ireland and Malta.
4 Coverage is much higher for the euro area countries. However, the calculation of third-market effects requires the matrix of trade flows across all considered trading partners to be complete.
5 Gravity models are based on Tinbergen (1962). The underlying idea is that bilateral trade flows are, to a considerable extent, dependent on the distance between two countries and their respective economic size. By including additional explanatory variables, the gravity model estimated for the weight matrix achieves a high degree of explanatory power for flows of trade in services.

Weighting scheme for the price competitiveness indicator of the German economy against a broad group of countries

In thousandths

	Calculation period for the weights			
	2013 to 2015	2013 to 2015	2016 to 2018	2016 to 2018
	Including trade in services?			
	no	no	no	yes
	Number of countries			
Group of countries/country	57	61	61	61
Narrow group of countries	624.3	618.1	609.5	638.7
Austria	39.2	39.3	39.2	43.0
Belgium	46.1	45.3	44.6	40.5
Canada	7.5	7.6	7.1	7.3
Cyprus	0.2	0.3	0.3	0.8
Denmark	11.0	11.6	11.1	12.6
Estonia	1.1	1.1	1.2	1.2
Finland	8.0	7.9	8.2	8.2
France	80.6	80.5	71.9	74.0
Greece	2.6	2.6	2.6	4.2
Ireland	10.1	9.8	12.2	16.2
Italy	57.9	56.9	57.6	52.8
Japan	27.0	28.2	27.6	25.6
Latvia	1.0	1.0	1.1	1.0
Lithuania	2.1	2.1	2.2	2.2
Luxembourg	3.4	3.1	3.1	8.3
Malta	0.4	0.4	0.4	1.1
Netherlands	67.8	68.3	71.5	70.2
Norway	4.7	5.0	4.3	4.8
Portugal	6.7	6.8	7.1	7.0
Slovakia	14.4	14.3	14.5	12.2
Slovenia	5.2	5.2	5.6	5.0
Spain	32.2	31.3	33.1	33.7
Sweden	17.9	17.1	17.1	16.7
Switzerland	37.1	36.1	35.1	39.3
United Kingdom	56.1	54.6	50.8	57.6
United States	84.0	81.6	80.0	93.0
Medium-sized group	265.7	264.2	277.2	247.6
Australia	3.8	3.8	3.7	4.2
Bulgaria	2.9	2.9	3.3	3.2
China	117.4	114.8	115.8	98.1
Croatia	1.7	1.8	2.1	2.8
Czech Republic	33.2	33.8	37.3	32.4
Hong Kong SAR	10.9	11.1	10.4	9.7
Hungary	19.6	19.8	21.1	18.6
Korea, Republic of	18.5	17.5	17.5	15.5
Poland	39.6	40.2	45.2	41.6
Romania	11.4	11.5	13.7	12.8
Singapore	6.6	7.0	7.0	8.6
Countries additionally included in broad group	110.0	117.7	113.3	113.7
Algeria	0.8	0.8	0.7	0.7
Argentina	1.8	1.8	1.5	1.9
Brazil	7.2	6.9	5.6	6.1
Chile	1.7	1.5	1.2	1.4
Colombia		0.9	0.7	0.9
Iceland	0.3	0.3	0.4	0.5
India	12.7	11.9	12.0	12.4
Indonesia	3.9	3.9	3.6	3.9
Israel	3.2	3.2	3.1	3.6
Malaysia	6.7	6.7	6.7	5.9
Mexico	9.2	9.0	9.9	9.5
Morocco	1.6	1.5	1.7	1.7
New Zealand	0.7	0.7	0.7	0.9
Peru		0.6	0.5	0.6
Philippines	2.6	2.8	2.8	2.8
Russia	16.8	15.6	12.7	12.8
Saudi Arabia		4.2	3.0	2.8
South Africa	5.7	5.2	5.4	5.8
Taiwan	9.5	9.1	9.9	8.5
Thailand	6.7	6.4	6.6	7.1
Turkey	18.8	17.6	17.2	15.9
Ukraine		2.6	2.5	2.6
United Arab Emirates		4.8	5.1	5.5
Venezuela	0.3			
Total	1,000.0	1,000.0	1,000.0	1,000.0

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now comprises a total of 61 countries, of which 19 have the euro as their currency. However, in its Monthly Report, the Bundesbank will also continue to publish effective exchange rates of the euro area and Germany for the 38 country-strong medium-sized group, and, in addition, rates of Germany for a narrow group comprising 27 countries.

The table on p. 50 shows Germany's trade weights for four different calculations: first, for the method used to date excluding trade in services and for the old 2013-2015 calculation period; second, after adjusting this method to reflect the extended group of countries; third, after extrapolating the previous method to the new calculation period with trade figures from 2016 to 2018 and the extended group of countries; and, finally, for the new method taking into account trade in services, the extended group of countries and the new calculation period.

It should initially be noted that the adjustment of the broad group of countries has no major impact on the distribution of weights as the five new countries in this group account for barely over 1% of Germany's trade links. However, the more up-to-date data obtained from using the 2016-2018 instead of the 2013-2015 calculation period have a notable impact on the weights of individual countries. The importance of France, the United States, the United Kingdom and Russia for German foreign trade has fallen considerably; by contrast, that of central European countries, such as Poland and the Czech Republic, as well as of the Netherlands, has risen.

As far as the inclusion of trade in services is concerned, it can be observed in general that there are very few euro area countries in which the share of foreign trade is as low as in Germany.[6] This means that, in the case of Germany, including trade in services in the calculation of trade weights has a negligible impact for many trading partners. A more marked increase in weights can be observed, above all, for those major trading partners that are strongly service-oriented (mainly the United States, but also the United Kingdom and Switzerland). The opposite is true for those major trading partners that are heavily dependent on manufacturing (mainly China, but also Italy and Belgium).

Price competitiveness indicator of the German economy*

* Against 37 countries, based on consumer price indices. **1** Inverted scale: a rising curve (decline in values) indicates an increase in price competitiveness.

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6 These include, in particular, Slovenia, Slovakia, Italy and Belgium.

The comparatively low volume of services in German foreign trade is also reflected in the impact of the recalculated trade weights on Germany's price competitiveness (based on consumer price indices; see the chart on p. 51). Overall, Germany's price competitiveness is currently down by less than 1 percentage point compared with the old calculation. The much larger share of this contraction is attributable to the inclusion of trade in services, while the extrapolation of the weight matrices to the 2016-2018 period plays a smaller role. The deterioration means that the weights of those countries over which Germany has a competitive edge in terms of prices tend to decrease and – vice versa – the weights of those countries that have a competitive edge over Germany tend to increase. A considerable part of the deterioration is due to the weighting of China. According to the calculation based on consumer indices, Germany has clear competitive advantages over China, but China's weight has declined by a total of almost 2 percentage points. Even if the overall impact of taking account of trade in services is rather small in Germany's case, this may be different for individual trading partners, such as China. The effect is likely to be much greater for the price competitiveness of countries with a strong service-oriented focus, in particular. This is the case for the United States, for example.

… but only makes moderate gains against the pound sterling

From mid-May, the euro also recorded gains against the pound sterling. Alongside the strength of the euro, the disappointing round of negotiations on the future trade relationship between the EU and the United Kingdom played a major role in this. In June, the UK Government definitively ruled out the possibility of extending the transition period following the UK's departure from the EU beyond the end of 2020. This weighed on the pound, as did speculation surrounding a potential cut in the Bank Rate by the Bank of England. By contrast, the pound experienced a broadly based recovery in July that was driven, amongst other things, by unexpected positive developments in the economy as well as additional fiscal measures in the UK. Due to its concurrent strength, however, the euro most recently traded at £0.90, which was 2.0% higher than its level at the end of March.

Euro appreciation in effective terms

Measured as a weighted average against the currencies of 19 major trading partners, the euro appreciated on balance compared with the end of the first quarter of 2020 (+2.6%). Alongside the three currencies already discussed, the euro mainly recorded gains against the renminbi (+5.7%). To some extent, the renminbi was dragged down by the most recent weakness of the US dollar, which traditionally has a strong influence on the renminbi's exchange rate. By contrast, the euro recorded losses against the Swedish krona (-7.1%), the Norwegian krone (-8.6%), and the Australian dollar (-8.0%), with the latter two currencies benefiting primarily from the rebound in commodity prices. Outside the group of 19 partner currencies, the euro made noteworthy gains over the Turkish lira (+20.4%). It was not only the coronavirus pandemic that had a negative impact on the lira, but also Turkey's monetary policy stance – which has been highly expansionary for some time now – as well as the steeply rising volume of loans and macrofinancial risks. On balance, the euro recently traded at an all-time high against the lira.

Securities markets and portfolio investment

Bond market

Ten-year US Treasury yields up slightly

During the reporting period, interest rates on government bonds in the major currency areas saw quite significant fluctuations. This also held true for the United States, where yields on ten-year US Treasuries rose slightly on balance by 5 basis points to 0.7%. The pronounced movements in yields reflected the high degree of uncertainty among market participants about future economic developments, which are chiefly shaped by infection rates and the policy measures taken. In addition, renewed tensions in the trade dispute between the United States and China depressed market sentiment. However, new economic data that were interpreted positively have recently spread optimism.

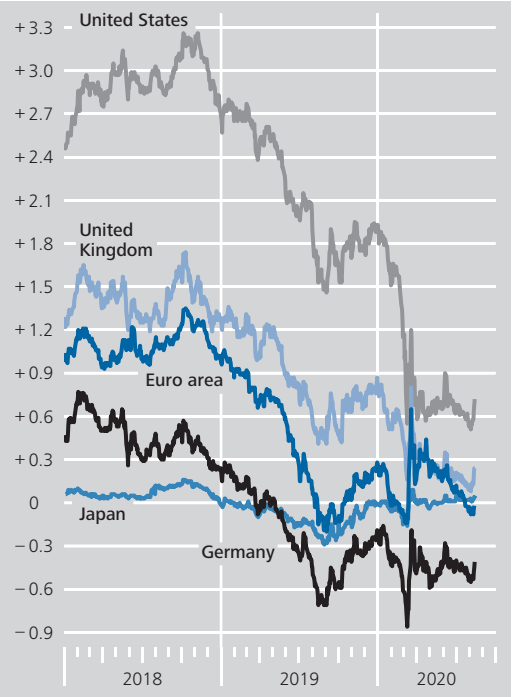
This uncertainty had a particular impact on the term premiums of US Treasuries, which fluctuated heavily over the reporting period. The term premiums remained negative over the reporting period, meaning that, at present, investors receive a higher yield in terms of expected value if – instead of longer-term investments – they invest in papers with short maturities on a revolving basis. This was an expression of the concern that short-term interest rates could be unexpectedly low in the future as a result of the pandemic. Furthermore, the Federal Reserve struck a more pessimistic tone at its monetary policy meeting at the end of July, assuming that macroeconomic developments would get going more sluggishly than previously expected. In addition, the Federal Reserve confirmed that it would be prepared to stabilise the financial system and – if necessary – provide more monetary policy accommodation.

Ten-year Bund yield slightly higher on balance

Yields on ten-year Federal bonds (Bunds) have also fluctuated fairly significantly since the end of March, moving within a range of -0.6% to -0.3%. At -0.4%, the yield was most recently 6 basis points higher than the level at the end of March. During the period under review, the

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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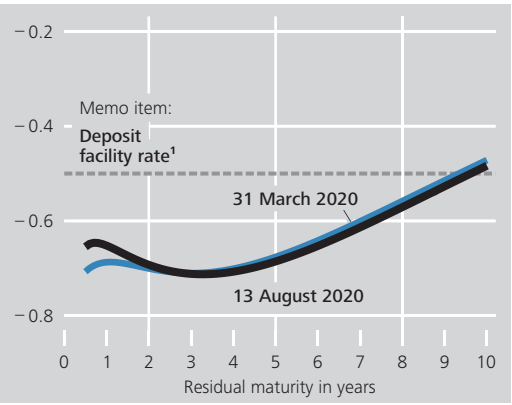
Yield curve in the German bond market*

% p.a.



* Interest rates for (hypothetical) zero coupon bonds (Svensson method), based on listed Federal securities. **1** In place since 18 September 2019.
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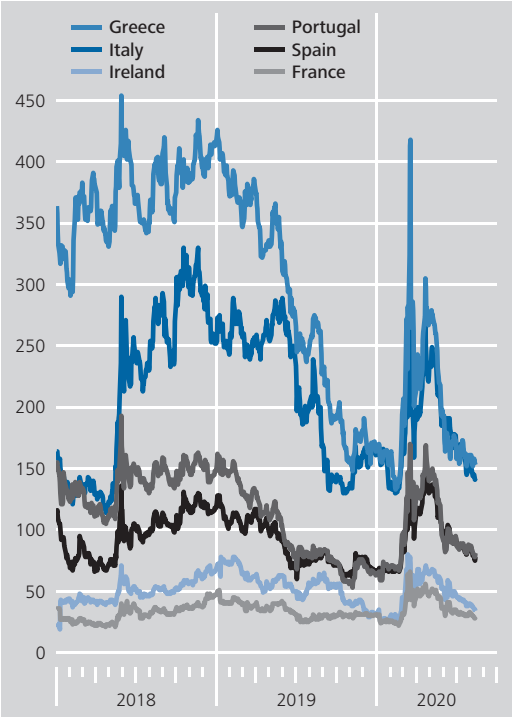
ECB Governing Council decisions contributed to a temporary drop in interest rates. For instance, on 30 April – the day of the ECB Governing Council's monetary policy meeting – the yield on ten-year Bunds fell by 10 basis points. One factor that had a countervailing effect was that the Finance Agency issued a record vol-

Spreads of ten-year government bonds over German Bunds

Basis points, daily data



Sources: Bloomberg and Bundesbank calculations.
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ume of Federal securities in the second quarter of 2020 (see also p. 85). Overall, at a total of €112½ billion in the second quarter (the latest period for which figures from the securities issues statistics are available), the volume of net public issuance in Germany significantly exceeded the Eurosystem's purchase amount of €74½ billion for the same period. As a result, there was a considerable rise in the aggregate interest rate risk (duration risk) taken on to the balance sheets of private market participants. Typically, when greater duration risk is taken on to the balance sheets of private market participants, it is accompanied by rising yields. Due to the high volume of issuance, the scarcity premium of Bunds – the yield spread between ten-year Federal securities and an EONIA swap with the same maturity – decreased from its 2020 peak in March, falling to less than 20 basis points. The interest rate spread over ten-year US Treasuries, which had narrowed significantly in the first quarter, widened only temporarily around the time of the ECB Governing Council decision at the end of April; most recently, it stood at 113 basis points and thus just under its level at the end of March.

Yield curve of Federal securities somewhat flatter

On balance, the yield curve derived from the yields on Federal securities flattened somewhat compared to the end of March. Here, yields were negative across the entire maturity spectrum. At 21 basis points, the yield spread between ten-year and two-year maturities was recently marginally (-2 basis points) below its value at the end of March and thus at a very low level. It had only been lower for a short time in 2008. The term premium, which continued to fall in the reporting period, was the decisive factor behind this development.

Lower yield spreads on euro area government bonds

The yield spread between ten-year Bunds and ten-year government bonds of other euro area countries (GDP-weighted average) narrowed compared to the end of March, falling by 32 basis points to 63 basis points. Countries with tight public finances experienced especially steep declines in yields and saw their yield spreads – having previously widened in March – narrow relatively sharply. This was partly attributable to the monetary policy decisions discussed above as well as the assistance measures approved by the EU Council. For instance, immediately following the announcement of the ECB Governing Council decisions on 4 June, yields on Italian bonds fell by 13 basis points, while yields on German bonds rose by 3 basis points. From the markets' perspective, the spreads were also reduced by the EU summit decisions that included high transfer payments and loans at favourable financing conditions. In this vein, the interest rate spread between ten-year Italian government bonds and ten-year Bunds narrowed by around 20 basis points at the time of the EU summit. According to the decisions reached at the summit, Italy will receive the largest payments. Nevertheless, the credit default premiums for these countries most recently remained above their pre-pandemic levels.

Yields down in the United Kingdom

In the reporting period, yields on ten-year UK bonds (gilts) were down by 12 basis points in net terms, at 0.2%. This was because the Bank of England loosened its monetary policy stance further and decided to expand its asset purchases. It kept its key rate at a historically low level of 0.1%.

No change in yields on Japanese government bonds

At 0.0%, yields on ten-year Japanese government bonds hovered around their level from the end of March and thus remained within what market participants believe to be the Bank of Japan's target range for interest rates. Market participants' assessments of the economy, which are currently in a constant state of flux in Japan, had essentially no impact on Japanese yields.

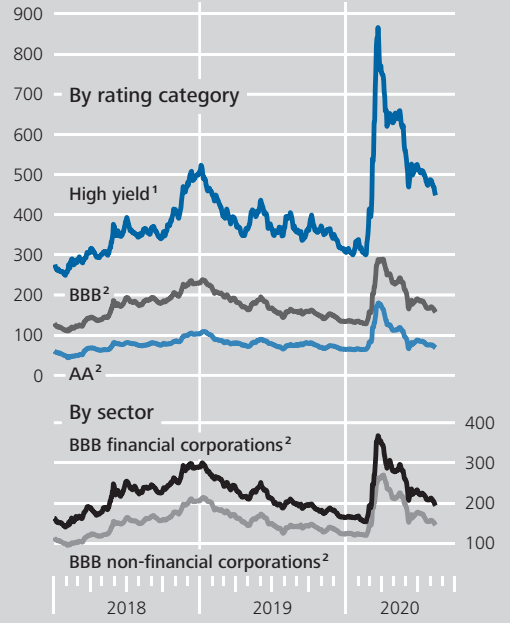
Market-based forward inflation rate rises markedly in the euro area

Euro area forward inflation rates derived from inflation swaps for a period of five years starting in five years' time most recently stood at just under 1.3% and thus 30 basis points above their value at the end of March. This meant that forward inflation rates again hovered around their pre-pandemic level. At times during the reporting period, this indicator stood at less than 1%. In particular, liquidity premiums that can also be transmitted to the swap market through arbitrage relationships are likely to have been a cause of this low value during the tense situation in the financial markets at the start of the pandemic. A frequently used measure of liquidity is the yield spread between bonds issued by the Federal Government and bonds issued by the state-owned Kreditanstalt für Wiederaufbau (KfW), as these bonds have the same credit rating. As measured by this indicator, the liquidity premium has fallen by 24 basis points since the end of March. Alongside the liquidity premium, rising crude oil prices have likely increased the market-based forward inflation rate, as has frequently been observed in the past. The risk-neutral density functions derived from inflation options for the five-year inflation expectations in the euro area revealed that the probability of deflation fell considerably compared to the end of March, dropping to 6%. The risk-neutral probability of inflation rates lower than 1% declined from 94% to 65% during the reporting period. Inflation risk premiums and liquidity premiums appeared to be largely responsible for the disparity between market-based inflation expectations and the expectations reported in surveys. At 1.9%, survey-based inflation expectations for the horizon of six to ten years (Consensus Forecast), which are captured once per quarter, stood marginally above their April value in July (+5 basis points). Furthermore, Bundesbank studies revealed that unexpected developments in inflation during the reporting period had no influence on the (market-based) forward inflation rate. According to this methodology, these inflation expectations are considered to be anchored, meaning that market participants see no reason to revise their inflation expectations in light of the low actual inflation rate at present.

Yields on European corporate bonds declined significantly during the period under review.

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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Investment activity in the German securities markets

€ billion

Item	2019 Q2	2020 Q1	2020 Q2
Debt securities			
Residents	24.9	28.7	116.4
Credit institutions	5.8	30.3	24.5
of which:			
Foreign debt securities	7.7	19.3	8.5
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Other sectors	15.5	– 13.5	13.3
of which:			
Domestic debt securities	5.6	– 10.1	– 2.3
Non-residents	13.8	56.1	67.2
Shares			
Residents	13.6	13.6	30.0
Credit institutions	0.5	– 8.7	1.6
of which:			
Domestic shares	0.4	– 4.5	1.7
Non-banks	13.1	22.2	28.4
of which:			
Domestic shares	2.9	12.2	13.3
Non-residents	– 1.6	– 5.9	– 9.0
Mutual fund shares			
Investment in specialised funds	12.8	33.4	1.2
Investment in retail funds	4.7	– 1.2	7.5
of which:			
Equity funds	– 0.6	– 5.8	4.8

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Corporate bond yields down markedly

They had earlier seen rapid increases from around the beginning of the coronavirus pandemic until the end of March. Bonds issued by BBB-rated financial corporations with residual maturities of between seven and ten years were yielding 1.4% as this report went to press, down 152 basis points from the end of March. Yields on non-financial corporate bonds of equivalent maturity fell by 117 basis points to 0.9%. On balance, the decline in yields was due, in particular, to the lower default risk resulting from monetary and fiscal policy support measures as well as the indications of economic recovery. This was also reflected in declining CDS premiums. The yields on bonds issued by enterprises with poorer credit ratings fell especially sharply; in the high-yield segment, bond yields have dropped by 289 basis points to 4.1% since the end of March.

Yield spreads of corporate bonds narrowing

Given that safe interest rates experienced a moderate overall rise during the reporting period, the yield spreads of corporate bonds over Bunds contracted somewhat more sharply than the yields on corporate bonds. At present, the yield spreads for BBB-rated bonds have thus again dipped below their respective five-year averages. In light of the continuing intrinsic economic risks, the spreads can be classified as comparatively small. This is presumably attributable to the monetary and fiscal policy support measures that have been adopted, which have mitigated some of the risks borne by the private sector. By way of example, in April 2020 the Governing Council of the ECB decided to maintain the eligibility of marketable assets that can be used as collateral for Eurosystem loans in the event of a rating downgrade. Given the marked improvement in financing conditions, coupled with the simultaneous increased need for liquidity, the volume of non-financial corporate bonds issued in the euro area rose sharply. The bulk of these newly issued instruments took the form of investment-grade bonds, in particular BBB-rated bonds.

Bond market records high net sales

Gross issuance in the German bond market reached a new record high of €518½ billion in the second quarter of 2020. It thus again significantly exceeded the already high figure achieved in the first quarter (€394 billion). After deducting redemptions and taking account of changes in issuers' holdings of their own bonds, the resulting figure of €158 billion shows that considerably more such bonds were issued than in the buoyant previous quarter (€67 billion), also in net terms. In addition, foreign borrowers placed debt securities worth €25½ billion in the German market. As a consequence, funds totalling €183½ billion net were raised in the German bond market in the reporting period, thus setting a new record.

Record public sector issuance

The public sector issued own debt securities in the net amount of €112½ billion in the quarter under review. This unprecedented volume was primarily brought about by the increased financing needs of the government resulting from the COVID-19 pandemic. Central government mainly issued Treasury discount paper (Bubills: €56½ billion), but also Federal bonds with ma-

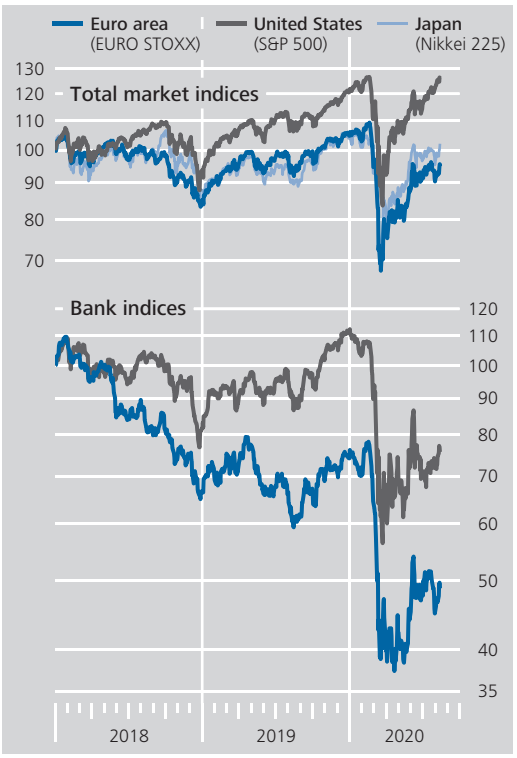
turities of 10 and 30 years (Bunds: €13 billion and €12 billion, respectively) and, for the first time, bonds with maturities of 15 and 7 years (€9½ billion and €2½ billion, respectively). Meanwhile, state and local government issued debt securities to the tune of €23½ billion net.

Similarly high net issuance of corporate bonds

In the course of the second quarter, domestic enterprises placed debt securities worth €38 billion net in the market, up from €6½ billion in the previous quarter. In doing so, they took advantage of the improved market access and the prevailing significantly more favourable financing conditions. This strong issuance activity was largely due to the fact that many enterprises were keen to secure liquidity in an environment of great uncertainty and declining sales. A further probable cause was the decision taken by the Governing Council of the ECB at the end of April to expand the corporate sector purchase programme (CSPP) to include commercial paper issued by non-financial corporations and to lower the requirements for eligible collateral.

Equity market

Daily data, beginning of 2018 = 100, log scale



Sources: Thomson Reuters and Bundesbank calculations.
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Slight rise in credit institutions' capital market debt

German credit institutions increased their capital market debt by €7½ billion net in the quarter under review. Overall, issuance was confined to debt securities issued by specialised credit institutions (€12½ billion), while other bank debt securities and mortgage Pfandbriefe saw net redemptions (€4 billion and €1½ billion, respectively).

Purchases of debt securities

In the second quarter of 2020, the Bundesbank was the predominant buyer in the domestic bond market, acquiring paper in the net amount of €78½ billion, for the most part under the Eurosystem's asset purchase programmes. Foreign investors added German debt securities worth €67 billion net to their portfolios, mainly in the form of public sector paper. This unusually high volume of German debt securities sold to non-residents arose from the vibrant issuance activity in the public sector, which was able to place the lion's share of the new issues with established investor structures located abroad. Domestic credit institutions added debt securities worth €24½ billion to their portfolios, in most instances acquiring domestic paper on balance. Domestic non-banks purchased debt securities for €13½ billion in net terms, solely acquiring foreign instruments.

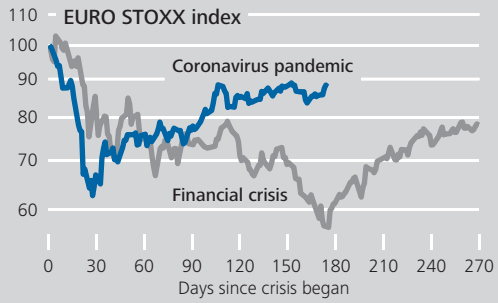
Equity market

Marked rise in equity prices worldwide

Global equity indices made significant gains in the reporting period. The recovery in prices kicked off in early April and continued apace almost until the end of the reporting period. This was due, not least, to the monetary and fiscal policy measures mentioned above and to a resumed increase in risk appetite. However, stock prices also benefited from some surprisingly positive economic data, after several countries severely affected by the pandemic had relaxed the restrictive measures taken to protect their populations from contagion.

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

Beginning of crisis = 100,[1] log scale



Source: Refinitiv Datastream. **1** Chosen starting points: Financial crisis: Insolvency of Lehman Brothers on 15 September 2008; Coronavirus: outbreak of the pandemic in Europe on 20 February 2020.

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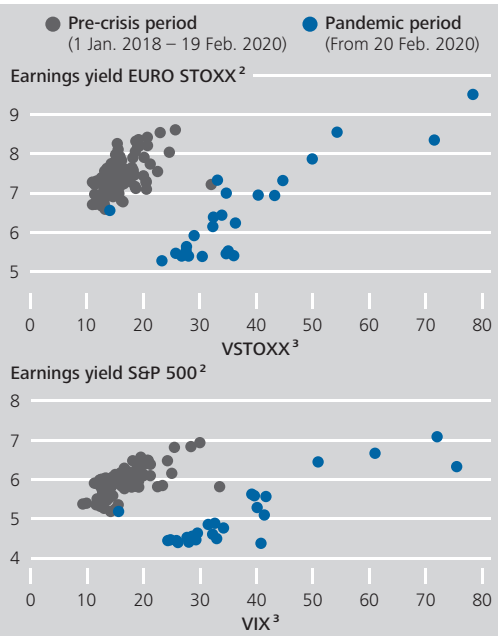
Earnings yield and volatility in the equity market

Thursday weekly values[1]



Sources: I/B/E/S, Refinitiv Datastream and Bundesbank calculations. **1** Survey reporting day and publication of earnings estimates by I/B/E/S. **2** Inverse price-earnings ratio based on annual earnings estimates. **3** Implied volatility calculated using the prices of index options with a maturity of 30 days.

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Large chunk of COVID-induced price losses offset

On balance, the US S&P 500 saw a 30.5% rise on its end-March level. The rebound recorded by the Japanese Nikkei 225 was somewhat weaker (+22.9%). Continental European stock markets likewise recorded a significant increase, with the European EURO STOXX index going up by 21% and Germany's CDAX recording an even stronger price hike of 28.5%.[1] In the international equity markets, these shifts served to offset a large chunk of the price losses caused by the coronavirus pandemic in February and March. Latterly, the EURO STOXX index was 12.1% down on its level at the start of the coronavirus crisis,[2] while the US S&P 500 has managed to return to its pre-crisis level. The S&P 500 thus veered quite close to its all-time high, which had been reached just before the crisis began. At the same point during the 2008-09 financial crisis, significant price losses were being seen on both sides of the Atlantic (EURO STOXX: -43.2%, S&P 500: -43.3%), and the price recovery did not set in until later.

Price gains vary across sectors, with banks performing below average

The recent pick-up in equity prices was especially pronounced in the technology and automotive sectors (+32.9% and +32.8%). In addition, share prices of European industrial enterprises[3] rose at an above average rate of 30.7%. Stock prices of companies whose lines of business have been particularly hard hit by the coronavirus pandemic – for example, companies operating in the travel and leisure industry, such as airlines and hotels – also bounced back after enduring massive losses in the previous quarter (+29.8%). By contrast, financial stocks performed below average. On both sides of the Atlantic, higher credit default rates were anticipated, which might burden banks' balance sheets going forward. Moreover, the persistently flat yield curve is putting a strain on the banking sector's expected earnings from maturity transformation.

High valuation level due to falling risk premia and lower safe interest rates

The driving factor behind the stock market gains was that market participants recently reduced the risk premia they demanded, despite the still heightened degree of stock price un-

1 The price losses incurred by Wirecard AG after it filed for insolvency, which came in at over 95%, depressed the overall index by no more than around 1 percentage point, viewed in isolation.
2 In this instance, the crisis is regarded as having commenced upon the outbreak of the coronavirus pandemic in Europe (notably Italy) on 20 February 2020.
3 The sub-index EURO STOXX Industrials encompasses such entities as transport and removal enterprises, building materials companies and mixed industrial groups.

certainty.[4] At the same time, they revised their earnings expectations downward, sometimes significantly so. In a dividend discount model framework, this downward revision tends to weigh on equity prices. However, earnings expectations have recently stabilised at a low level, given the latest economic data. From the model's perspective, the lower earnings expectations for both the S&P 500 and the EURO STOXX index were more than offset by the reduction in risk premia. To a minor extent, lower safe interest rates contributed to higher equity prices. In effect, the implied cost of equity and earnings yields on both sides of the Atlantic stood close to multi-year lows, resulting in a comparatively high valuation of stock markets.

Stock market funding

In the second quarter of 2020, domestic enterprises placed new shares worth €6 billion net in the German equity market, somewhat up on the first three months of the year (€2 billion). The outstanding volume of foreign shares in the German market rose by €15 billion over the same period. On balance, equities were acquired almost exclusively by German non-banks (€28½ billion). Domestic credit institutions bought such paper for €1½ billion net, while foreign investors reduced their equity exposure in Germany by €9 billion on balance.

Mutual funds

Sales and purchases of mutual fund shares

Domestic investment companies recorded rather meagre inflows of €8½ billion in the reporting period, after posting an above average result in the first quarter, in which they raised funds totalling €32 billion. Most of these fresh funds were channelled to retail funds (€7½ bil-

4 Market participants' uncertainty about future stock price developments – as measured by the implied volatility of equity indices calculated on the basis of options – waned over the reporting period after having surged at the end of March. At last count, however, the level of uncertainty remained heightened on both sides of the Atlantic due to the aforementioned concerns and was well above its respective five-year averages. On top of this, the price of gold per fine ounce reached a new all-time high at the beginning of August, which can be interpreted as a further indication of continued uncertainty among market participants

Major items of the balance of payments

€ billion

Item	2019 Q2	2020 Q1	2020 Q2p
I. Current account	+ 53.4	+ 65.4	+ 38.5
1. Goods[1]	+ 53.0	+ 53.6	+ 29.7
2. Services[2]	− 4.0	− 1.1	+ 3.5
3. Primary income	+ 10.7	+ 27.0	+ 14.8
4. Secondary income	− 6.2	− 14.0	− 9.5
II. Capital account	− 0.4	− 0.5	+ 0.3
III. Financial account (increase: +)	+ 42.6	+ 33.9	+ 41.9
1. Direct investment	+ 6.3	+ 21.6	+ 3.3
Domestic investment abroad	+ 29.6	+ 51.7	+ 5.5
Foreign investment in the reporting country	+ 23.3	+ 30.1	+ 2.2
2. Portfolio investment	+ 17.1	− 40.5	+ 0.3
Domestic investment in foreign securities	+ 28.1	+ 8.7	+ 58.8
Shares[3]	+ 3.6	+ 5.0	+ 18.9
Investment fund shares[4]	+ 7.8	− 14.2	+ 14.3
of which: Money market fund shares	+ 2.1	− 4.7	+ 0.7
Short-term debt securities[5]	− 0.9	+ 2.1	+ 2.0
Long-term debt securities[6]	+ 17.6	+ 15.8	+ 23.6
of which: Denominated in euro[7]	+ 14.3	+ 12.1	+ 17.9
Foreign investment in domestic securities	+ 11.0	+ 49.2	+ 58.4
Shares[3]	− 1.6	− 6.1	− 9.0
Investment fund shares	− 1.2	− 0.8	+ 0.2
Short-term debt securities[5]	− 6.4	+ 26.9	+ 33.1
Long-term debt securities[6]	+ 20.2	+ 29.3	+ 34.2
of which: Issued by the public sector[8]	+ 1.0	+ 1.7	+ 21.0
3. Financial derivatives[9]	+ 11.1	+ 32.1	+ 31.5
4. Other investment[10]	+ 7.7	+ 20.6	+ 6.5
Monetary financial institutions[11]	− 0.4	− 77.6	− 45.2
Enterprises and households[12]	+ 0.4	− 1.7	− 7.0
General government	+ 0.1	+ 0.9	− 0.3
Bundesbank	+ 7.5	+ 99.0	+ 59.1
5. Reserve assets	+ 0.4	+ 0.1	+ 0.2
IV. Errors and omissions[13]	− 10.4	− 31.0	+ 3.2

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 of 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.

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lion). Of the various asset classes, mixed securities-based funds (€9½ billion) and open-end real estate funds (€3 billion) proved the most active in issuing new shares. By contrast, funds of funds and equity funds redeemed their own shares (€4 billion and €1 billion, respectively). Foreign funds operating in the German market attracted fresh funds totalling €14½ billion net in the second quarter of 2020. Domestic non-banks were the main buyers, adding fund shares worth €25½ billion to their portfolios. On balance, they showed a slight preference for foreign-issued paper. Non-resident investors bolstered their fund portfolios only marginally, while domestic credit institutions disposed of €2½ billion worth of fund shares.

Direct investment

Direct investment sees net capital exports

Transactions in cross-border portfolio investment resulted in net capital exports of €½ billion in the second quarter of 2020. Direct investment likewise generated net outflows of funds, in this instance amounting to €3½ billion. There was a striking throttling of intra-group lending by enterprises in the light of the coronavirus pandemic, but this was more than offset in both directions by additional equity capital.

German direct investment abroad sees capital outflows

German-based enterprises stepped up their direct investment abroad by €5½ billion in the second quarter (following an increase of €51½ billion in the first three months of 2020). Parallel to this, they augmented their equity capital by €23½ billion. Conversely, the value of new loans granted by them to affiliated enterprises remained €18 billion below the amount being repaid, presumably in order to preserve their own liquidity. In this regard, both loans and trade credits were affected. German enterprises invest in a large number of countries and regions throughout the world. In the second quarter of 2020, they invested relatively large sums in the Netherlands (€21½ billion) and France (€3½ billion). By contrast, there were significant return flows of funds from the United States (€10 billion), the United Kingdom (€6 billion) and Ireland (€3½ billion).

FDI in Germany generates capital inflows

Direct investment funds flowing into Germany from foreign enterprises were up by €2 billion on balance between April and June; in the first quarter of 2020, the level of foreign investment had stood at €30 billion. These investors boosted their equity capital in Germany by €5½ billion, with reinvested earnings also playing a role here. With respect to their level of lending to affiliated enterprises based in Germany, however, repayments on existing loans outstripped the granting of new loans by €3½ billion. In this regard, the blow dealt to trade credits mirrored the collapse in international trade in goods. By contrast, foreign firms were willing to grant additional loans, albeit to a modest extent. This was mainly possible thanks to loans from branches located abroad to their German parent companies ("reverse investment"). This is a typical way in which special financing vehicles pass on proceeds from securities issuance. Additional direct investment came mainly from the Netherlands (€10½ billion), France (€3 billion) and the United States (€2½ billion). The largest outflows were recorded to the United Kingdom (€3 billion) and Malta and Belgium (€2½ billion each).

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