Financial markets

Financial market setting

Financial markets reflect monetary policy decisions and global economic uncertainty

Developments in the international financial markets in recent months were shaped by the monetary policy decisions of the central banks of the major currency areas. For instance, the Eurosystem – and later, the Bank of Japan – took further expansionary monetary policy measures, while the Federal Reserve unwound its monetary easing somewhat by making the first interest rate hike in seven years. The respective institutions' measures had been expected to varying degrees. In the bond markets this was reflected in the, in part, considerable yet largely short-lived market reactions. Equities, by contrast, which had previously received a marked boost from friendly economic indicators worldwide, came under pressure from December onwards. The drop in equity prices continued at an accelerated pace in the new year, when uncertainty emanating from China about the robustness of global growth increasingly took hold of the financial markets (for more on the global and European setting, see pages 11 to 22). These concerns were aggravated by the slump in prices in the commodity and oil markets, which some financial market participants saw as evidence of an economic slowdown rather than as a stimulus to consumption growth in the consumer countries. What is more, low commodity prices erode the revenue and, therefore, the growth potential of major emerging market economies and put pressure on enterprises of the commodity-producing and energy sector, which are often saddled with substantial US dollar debt. Hence, there were shifts towards safe haven investments. Yields on government bonds and share prices in the major currency areas dropped overall from end-September 2015 onwards. The decline in bank share prices was especially sharp. Funding conditions for enterprises changed only slightly and remain favourable. On the foreign exchange markets, the euro appreciated on balance in effective terms, despite substantial volatility.

Exchange rates

Euro up against the US dollar, …

Foreign exchange market rates were driven primarily by market participants' expectation that the monetary policy stance on either side of the Atlantic was likely to diverge further. Against this background, from mid-October, the euro lost ground to the US dollar, and at the end of November fell to its lowest level since March 2015 at just under US$1.06. Clear signals sent out by the ECB that it intended to ease monetary policy further put the euro under pressure during that period. The strain on the euro against the US dollar was compounded by surprisingly upbeat US labour market data.

Within a short time, however, the single currency again appreciated significantly against the dollar to around US$1.09 after the measures adopted by the ECB Governing Council in early December fell short of market expectations. Thereafter, the euro-dollar exchange rate moved within a corridor of US$1.07 to US$1.10 on the back of mixed economic data from the euro area and the United States. Market participants had largely priced the Fed's mid-December interest rate hike into their expectations, so that it did not have a lasting effect on the euro-dollar rate. Surprisingly weak US economic data in early February gave the euro a further significant lift. Thus, the euro appreciated 1.3% on balance against the US dollar compared with the end of September, and stood most recently at around US$1.13.

… down against the yen and …

Despite unexpectedly weak economic data from Japan, the euro initially continued to lose value against the yen, dropping to an exchange rate of around ¥130 by the end of November. Market participants' disappointment over the

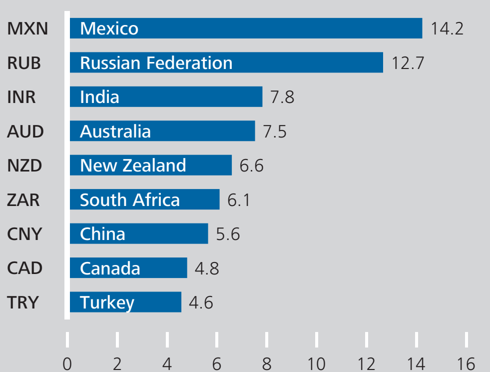
Exchange rate of the euro

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.
Deutsche Bundesbank

Euro exchange rate against selected currencies

Percentage change against end of 2015[1]
As at: 11 February 2016



1 Positive figures indicate an appreciation of the euro.
Deutsche Bundesbank

scope of the ECB's measures to loosen monetary policy caused only a short-lived countermovement. However, a surprisingly positive economic outlook (Tankan report) and cautious words from the Japanese central bank's Governor Kuroda regarding further measures to ease monetary policy quickly led to a continuation of the euro's depreciation. At the beginning of January, the euro slipped to around ¥127. When the Japanese central bank unexpectedly introduced negative interest rates towards the end of the reporting period, the euro briefly made distinct gains against the yen. As this report went to press, the euro was trading at around ¥127, which is 5.5% below its value at the end of September.

... stronger against the pound sterling

The euro's performance against the pound sterling in the past few months was characterised by two phases. Initially, market expectations regarding the expansion of quantitative easing in the euro area shaped market activity and pushed the euro down to around £0.70 by mid-November. Isolated weak economic figures from the United Kingdom and the Bank of England's reticence about raising interest rates then spurred the euro. Moreover, the euro-sterling exchange rate was buoyed by uncertainty about whether the United Kingdom will remain in the European Union. All in all, the single currency rose to a value of £0.79. The euro is therefore trading 6.6% higher against the pound sterling than at the end of the third quarter of 2015.

Focus on currencies of emerging economies and commodity-exporting countries

After the turn of the year, market participants also shifted their focus towards the currencies of emerging market economies and commodity-exporting countries. Worries over the development of China's economy and the drop in oil prices heightened investor uncertainty with regard to these countries. Although the euro had already appreciated against these currencies over the last two years – in some cases, considerably – it has posted further, relatively strong gains from the beginning of the year. These gains have been particularly pronounced against the Mexican peso (14.2%).

Effective euro exchange rate up on balance

Measured against the currencies of 19 major trading partners, the euro appreciated by 2.4% overall compared with the end of September 2015. The single currency was thus latterly trading 6.8% below its level at the launch of monetary union. Viewed in real terms, ie taking into account the inflation differentials between the euro area and the major trading partners, the effective euro exchange rate fell by about 2% in the period under review.

Securities markets and portfolio transactions

Yields in international bond markets shaped first by monetary policy, …

Yields in the international bond markets experienced major fluctuations from the end of September 2015 onwards. On balance, they fell somewhat less heavily in the euro area than in the USA. However, interest rates on US ten-year Treasuries quickly advanced by 40 basis points to just under 2.4% by mid-November before moving sideways amid fluctuations until the end of the year. The main reason for this development was that market participants considered a first interest rate hike to be increasingly likely following the meeting of the Federal Open Market Committee at the end of October. Subsequently, their expectation became entrenched given the, in some cases, surprisingly upbeat indicators on the state of the US economy. Factors that served to drive down interest rates, such as the expectation of further monetary policy steps by the Eurosystem, proved to be somewhat short-lived and were largely restricted to the euro area. When, on 16 December 2015, the Federal Reserve raised its policy rate target range for the federal funds rate for the first time in seven years – as had been widely anticipated –, the response in bond markets around the world was tempered.

… then by global factors

At the turn of the year, global factors returned to centre stage. This was triggered by poorer-than-expected economic data from China, which caused prices to fall first in Chinese stock markets then on a number of other stock exchanges. Investors were less concerned about

Bond yields in Germany and the USA

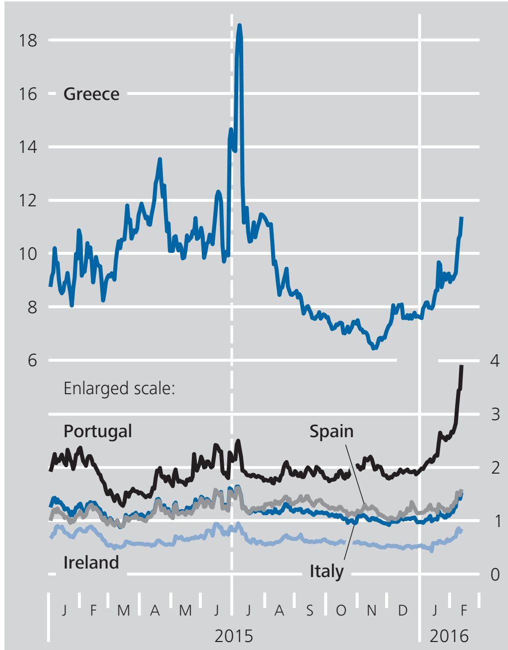
Monthly data

1 Source: Thomson Reuters.
Deutsche Bundesbank

the actual slump in Chinese stock prices, however. China's equity capital markets are too insignificant as instruments for corporate financing or for investment. What worried market participants most was the economic state of the emerging markets as a whole, particularly as the plunging commodity and oil prices put a severe strain on general government and enterprises in a large number of these countries. The high level of uncertainty prompted investors to shift funds into safe assets, with highly rated bonds in the major currency areas the main beneficiaries. Towards the end of the observation period, yields fell once again, this time after the Bank of Japan unexpectedly eased its monetary policy stance. Following the announcement, the interest rate on ten-year Japanese government bonds dropped by 15 basis points and for a while stood at an all-time low of below zero basis points. Yields on US ten-year Treasuries shed 40 basis points on balance from the end of the third quarter of 2015, while yields on Japanese ten-year sovereigns

Yield spreads between euro-area government bonds with ten-year residual maturities and comparable German Bunds

Percentage points, daily data



Sources: Thomson Reuters and Bundesbank calculations.
Deutsche Bundesbank

contracted by a further 35 basis points from a very low level.

Federal bond yields fall, too

All in all, yields on ten-year Bunds likewise fell from the end of September 2015, by 45 basis points. Up to the beginning of November, the rather close interest rate linkage with the United States had meant that, despite expectations that the very loose monetary policy stance in the euro area would continue, they largely mirrored the increase in US interest rates. In November, expectations gradually grew that the ECB Governing Council would decide in December to greatly expand the expansionary measures already in place. As a result, ten-year yields fell sharply in Germany and moved away somewhat from US interest rates. The diverging development of yields is also reflected in the spread between same-maturity Treasuries and Bunds, which widened briefly to 180 basis points. It was therefore just short of 40 basis points higher than at the end of the third quarter of 2015. Following the announcement on 3 December 2015 of the Governing Council's decisions regarding the bundle of expansionary measures (explained on page 23), yields on Bunds rapidly rose by 20 basis points to over 0.6%. Market participants' expectations about the Eurosystem's additional expansionary stimuli had clearly been overblown, and their correction produced a considerable market reaction. The subsequent decline in German yields was somewhat weaker than that in US interest rates. The high degree of uncertainty surrounding yield developments was also reflected in the implied volatility of options on Bund futures, which at times was well above the five-year average (6.1%).

Wider yield spreads in the euro area

Yields on bonds issued by other euro-area countries dropped less significantly than those on Bunds. For example, as this report went to press, GDP-weighted ten-year euro-area bonds (excluding Germany) were yielding 1.4%; this was 10 basis points below their level at the end of September. In contrast to the general decline, yields on Greek government bonds climbed by 330 basis points to stand most recently at 11.6%. This was due to the fact that the Greek parliament had not yet passed the reforms negotiated in connection with the third assistance programme. For this reason, a loan tranche of €1 billion under the ESM rescue package could only be paid with a delay in December, and subject to the provision that the measures were actually implemented. It is crucial to the sustainability of public finances in Greece that the agreed pension reform is adopted by parliament. Risk premiums also rose substantially in Portugal, with Portuguese ten-year government bonds yielding 4.1%. This was attributable, on the one hand, to worries about the political stability of the country after it was only possible to form a minority government. On the other hand, support being given to a financial institution is putting a burden on the Portuguese government budget.

Yield curve of Bunds shifted downwards

The German yield curve derived from yields on Federal securities shifted downwards from the end of September. Short-term yields, which

react more strongly to monetary policy decisions, were squarely in negative territory and below the deposit facility rate, which had been cut to -30 basis points on 3 December. Most recently, two-year paper yielded -55 basis points, an all-time low, and negative yields were again recorded for maturities up to eight years. This would suggest that market participants are expecting the expansionary monetary policy with negative interest rates to persist over the longer term. Moreover, they are not ruling out the possibility of a further deposit rate cut.

Financing conditions for enterprises remain favourable

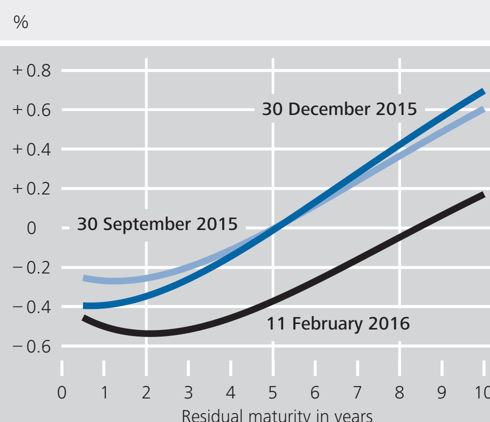
At mid-February 2016, yields on European corporate bonds were, on balance, at a level similar to that at the end of September. European BBB-rated bonds with a residual maturity of seven to ten years most recently yielded around 2.8%. But because of the decline in safe interest rates, the yield spread over Bunds rose by 50 basis points. The increase was much greater in the case of financial corporations than for non-financial corporations. The larger spreads are likely to be a reflection of portfolio shifts in favour of safe Bunds, pointing to heightened risk aversion among market participants. However, the financing conditions for enterprises remain significantly more favourable than the five-year average.

Declining forward inflation rates in major currency areas

In the euro area, the five-year forward inflation rate in five years derived from inflation swaps fell slightly on balance from the end of September 2015 and last stood at just over 1.4%, although it had briefly risen to 1.8%. However, it decreased again, particularly from the end of December 2015, on the back of safe haven flows and the drop in oil prices. Market-based inflation expectations in other major currency areas developed in much the same way. This suggests that global factors (such as the slump in oil prices) are more likely the main drivers behind the recent renewed fall in market-based inflation measures. However, survey-based measures of inflation expectations in the euro area for six to ten years ahead were most recently somewhat higher at 2.0%. The infla-

Yield curve on the German bond market*

%



* Interest rates for (hypothetical) zero-coupon bonds (Svensson method), based on listed Federal securities.

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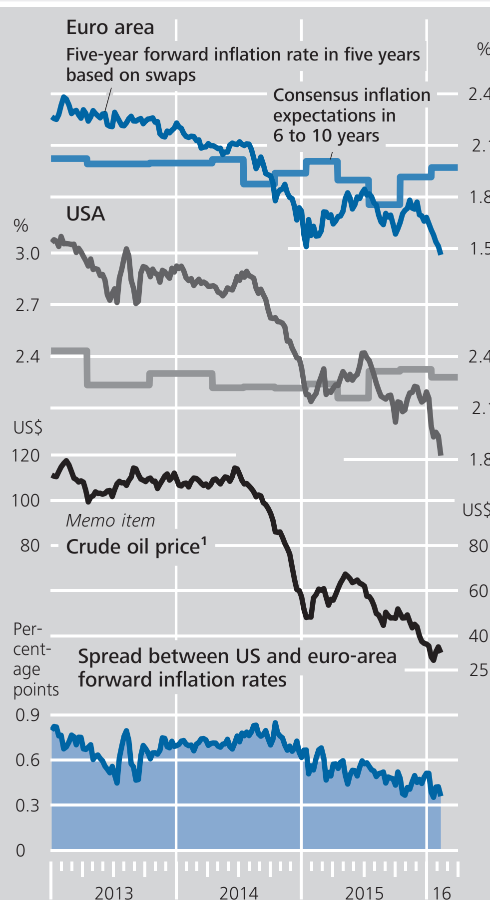
Forward inflation rates* and expectations in the euro area and the USA

Weekly averages



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 USA) realised over the next five or ten years. 1 Barrel of Brent (for delivery in one month).

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Investment activity in the German securities markets

€ billion

Item	2014 Q4	2015 Q3	2015 Q4
Debt securities			
Residents	12.3	76.5	2.1
Credit institutions	– 12.8	12.4	– 48.4
of which			
Foreign debt securities	7.4	3.8	– 1.1
Deutsche Bundesbank	– 1.6	35.8	36.6
Other sectors	26.7	28.3	13.8
of which			
Domestic debt securities	7.5	5.4	3.6
Non-residents	– 10.2	– 18.2	– 54.6
Shares			
Residents	6.9	7.1	7.0
Credit institutions	4.9	– 14.5	1.6
of which			
Domestic shares	4.7	– 7.0	0.3
Non-banks	2.0	21.6	5.4
of which			
Domestic shares	– 5.8	13.9	– 2.7
Non-residents	2.8	– 5.3	5.0
Mutual fund shares			
Investment in specialised funds	40.4	14.7	30.6
Investment in retail funds	– 1.6	7.3	11.0
of which			
Equity funds	– 4.4	2.9	6.4

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tion risk premiums, which can be approximated by estimating the difference between the survey-based and the market-based inflation expectations, have been in negative territory for some time now.

Net redemptions of domestic debt securities

Gross issuance on the German bond market in the fourth quarter of 2015 was well down on the previous quarter. Overall, German borrowers issued paper worth €314 billion, compared with €358½ billion in the previous three months. Net of redemptions and changes in issuers' own holdings, domestic issuers scaled back their capital market borrowing by €61½ billion. Foreign debt instruments totalling €9 billion were sold on the German bond market in the fourth quarter. On balance, the volume of bonds circulating in Germany therefore shrank by €52½ billion.

Credit institutions' capital market debt on the decline

In the quarter under review, domestic credit institutions reduced their capital market debt (€63½ billion), as they usually do towards the end of the year. In particular, other bank debt securities, which can be structured flexibly, were redeemed (€51 billion), and the volume of debt securities issued by specialised credit institutions likewise saw a decline (€11½ billion). There were also net redemptions of public Pfandbriefe and mortgage Pfandbriefe (€½ billion in each case).

Net redemption of corporate bonds

In the fourth quarter of 2015, domestic enterprises redeemed bonds worth €7 billion net. On balance, this applied, above all, to long-term paper. In particular, other financial institutions trimmed their borrowing in the capital market (€6 billion).

Net public sector issuance

The public sector issued debt instruments totalling €9½ billion net in the quarter under review. The Federal government and the resolution agency classified as part of central government mainly issued ten-year bonds (€22 billion). This contrasted with net redemptions of five-year Federal notes (€9 billion), Federal Treasury discount paper (€6 billion) and two-year Federal Treasury notes (€1½ billion). State governments issued debt securities with a value of €3 billion net.

Purchases of debt securities

In the fourth quarter of 2015, debt securities were mainly purchased by the Bundesbank, which added debt securities worth €36½ billion net to its portfolio under the Eurosystem purchase programmes; the majority of these were German government bonds. Domestic non-banks bought bonds worth €14 billion net; they stepped up their acquisition of foreign securities. By contrast, foreign investors and domestic credit institutions disposed of fixed-income securities amounting to €54½ billion and €48½ billion net respectively.

Global equity markets upbeat at first, …

In the fourth quarter, the international equity markets were upbeat until the end of November; they then declined significantly, however. Positive sentiment indicators gave rise to optimism among investors in the euro area at the beginning of the fourth quarter. The expectation of many market participants – which later

proved to be excessive – with regard to the further loosening of the Eurosystem's monetary policy stance in December helped push up stock market prices further. Export-oriented European enterprises also benefited from the depreciation of the euro. At the same time, equity prices were bolstered by better-than-expected US labour market data. The widely anticipated US policy rate hike was largely interpreted as a sign of confidence in the US economy.

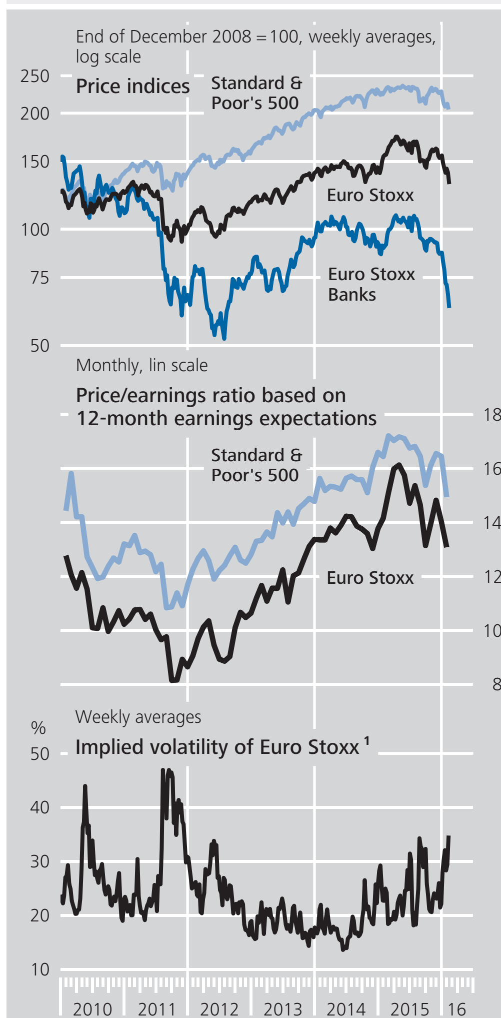
… then experience sharp price losses

But from December onwards, stock markets subsequently experienced – with a slight time lag – sharp equity price losses. Euro-area equity prices already came under pressure following the ECB Governing Council's decision on 3 December. The drop in prices was probably partly attributable to the – at least, briefly – simultaneous rise in government bond yields, which increased the discount factor and reduced the present value of future corporate earnings, making exposure to equities less attractive. After the turn of the year, the steep slide in Chinese equity prices put international stock markets under pressure. In addition to the weak economic indicators mentioned above, growing uncertainty among Chinese investors is also likely to have contributed to the slump in equity prices, causing stock market trading to be suspended temporarily by a protection mechanism which has since been removed again. Aggravated in part by the plummeting oil and commodity prices, equity prices plunged on the stock markets of other major emerging economies as well. As prices fell in the international stock markets, uncertainty among market participants – as gauged by the implied volatility of options – rose appreciably and almost reached levels previously seen in August 2015, when the global equity markets also underwent a correction.

Heavy price losses for bank share prices

Overall, European equities as measured by the broad-based Euro Stoxx were most recently trading 12.3% below the level at the end of September. US (S&P 500) and Japanese shares (Nikkei) fell by 4.7% and 9.6% respectively.

Equity market



Sources: Thomson Reuters and Bundesbank calculations. 1 Expected future volatility calculated using the prices of options on the Euro Stoxx.
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Bank shares sustained heavy losses in the euro area in particular, but also in the United States (-31.7% and -18.2% respectively). The weak performance of financials was probably also due to investors' fears that loans to the energy sector and to key emerging market economies might be at risk. Moreover, growing uncertainty in the euro area about the volume of non-performing loans put downward pressure on a number of banks in the periphery.

Equity risk premium down slightly

The price-earnings ratio, based on 12-month earnings expectations, was latterly at roughly the same level as the end of September, at 13.1 for the Euro Stoxx and 14.9 for the S&P 500,

Major items of the balance of payments

€ billion

Item	2014 Q4	2015 Q3	2015 Q4p
I Current account	+ 65.0	+ 62.5	+ 72.9
1 Goods[1]	+ 58.6	+ 66.9	+ 64.8
2 Services[2]	− 7.3	− 16.4	− 5.7
3 Primary income	+ 24.7	+ 18.9	+ 23.8
4 Secondary income	− 11.0	− 6.8	− 10.1
II Capital account	− 0.7	+ 0.7	− 0.8
III Financial account (increase: +)	+ 57.9	+ 62.5	+ 69.8
1 Direct investment	+ 22.4	+ 6.0	+ 25.1
Domestic investment abroad	+ 16.5	+ 17.6	+ 31.0
Foreign investment in the reporting country	− 6.0	+ 11.6	+ 5.9
2 Portfolio investment	+ 46.2	+ 51.8	+ 70.0
Domestic investment in foreign securities	+ 35.5	+ 32.0	+ 20.9
Shares[3]	+ 3.3	+ 1.4	+ 7.6
Investment fund shares[4]	+ 6.1	+ 4.6	+ 4.6
of which Money market fund shares	+ 1.5	+ 0.3	− 1.7
Long-term debt securities[5]	+ 28.8	+ 31.8	+ 9.3
of which Denominated in euro[6]	+ 20.5	+ 25.8	+ 5.6
Short-term debt securities[7]	− 2.7	− 5.8	− 0.6
Foreign investment in domestic securities	− 10.7	− 19.8	− 49.1
Shares[3]	+ 2.9	− 5.3	+ 4.9
Investment fund shares	− 3.5	+ 3.6	+ 0.6
Long-term debt securities[5]	+ 6.4	− 23.4	− 32.6
of which Issued by the public sector[8]	+ 7.8	− 23.1	− 18.8
Short-term debt securities[7]	− 16.7	+ 5.2	− 21.9
3 Financial derivatives[9]	+ 7.0	+ 2.4	+ 5.5
4 Other investment[10]	− 16.1	+ 3.8	− 30.6
Monetary financial institutions[11]	+ 31.2	+ 17.9	− 11.2
Enterprises and households[12]	− 20.6	− 14.3	− 23.2
General government	+ 8.7	+ 3.4	− 1.1
Bundesbank	− 35.4	− 3.2	+ 4.9
5 Reserve assets[13]	− 1.7	− 1.5	− 0.3
IV Errors and omissions[14]	− 6.4	− 0.7	− 2.2

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** Long-term: original maturity of more than one year or unlimited. **6** Including outstanding foreign D-Mark bonds. **7** Short-term: original maturity up to one year. **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** Excluding allocation of special drawing rights and excluding changes due to value adjustments. **14** 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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and somewhat exceeded the respective five-year average. However, any comprehensive assessment of valuations needs to look beyond short-term earnings expectations and include expected long-term real interest rates as well. A dividend discount model that takes these variables into account reveals that the equity risk premium for the Euro Stoxx latterly stood at 9.0%, which is somewhat below its level at the end of September. Compared with the five-year average (8.8%), this indicates a moderate aversion to risk on the part of stock market participants.

Low level of stock market funding

In the quarter under review, €2½ billion net was raised in the German stock market. The volume of foreign shares in the German market rose by €9½ billion over the same period. On balance, equities were purchased mainly by resident non-banks (€5½ billion) and foreign investors (€5 billion). Domestic credit institutions increased their exposure to equities by €1½ billion. Both categories of domestic buyer invested predominantly in foreign shares.

Sales and purchases of mutual fund shares

In the final quarter of 2015, domestic investment companies recorded a net inflow of €41½ billion, compared with €22 billion in the previous quarter. The vast majority of the new funds went, on balance, to specialised funds reserved for institutional investors (€30½ billion). Of the various asset classes, it was above all mixed security-based funds (€15 billion) which attracted inflows of funds, although equity funds (€9 billion), bond funds (€7½ billion), funds of funds (€6 billion) and open-end real estate funds (€4 billion) were also in demand. Only money market funds redeemed their own shares, to the tune of €½ billion net. The outstanding volume of foreign mutual fund shares in Germany rose by €4½ billion in the period under review. German non-banks, which include insurers, for example, were virtually the sole net buyers of mutual fund shares, adding shares worth €46 billion net to their portfolios. The lion's share of this paper was issued by domestic mutual funds. Non-resident investors acquired mutual fund shares for €½ billion net,

while domestic credit institutions sold shares for €½ billion net.

Direct investment

Capital exports in direct investment

As with cross-border portfolio investment, which saw net outflows totalling €70 billion in the fourth quarter of 2015, net capital exports were likewise recorded in the field of direct investment; these amounted to €25 billion.

German direct investment abroad

This was chiefly prompted by resident owners providing a relatively high level of funding to affiliated enterprises abroad (€31 billion) during that period, bolstering their equity capital in particular (€23 billion). On top of this, intragroup lending rose by €8 billion over the same period. Direct investment originating in Germany in the fourth quarter of 2015 was mainly focused on European enterprises, key target countries being the Netherlands (€6½ billion), the United Kingdom (€5 billion), Luxembourg (€4 billion), Sweden (€2 billion) and Belgium (€2 billion).

Foreign direct investment in Germany

Foreign investors for their part augmented their direct investment in Germany by €6 billion between October and December 2015; this increase was primarily the result of higher direct investment loans (€4 billion). Moreover, they provided domestic enterprises with additional equity capital of €2 billion. The largest inflow of funds originated from the Netherlands (€14½ billion), Switzerland (€5 billion) and the United Kingdom (€4 billion).