Securities markets

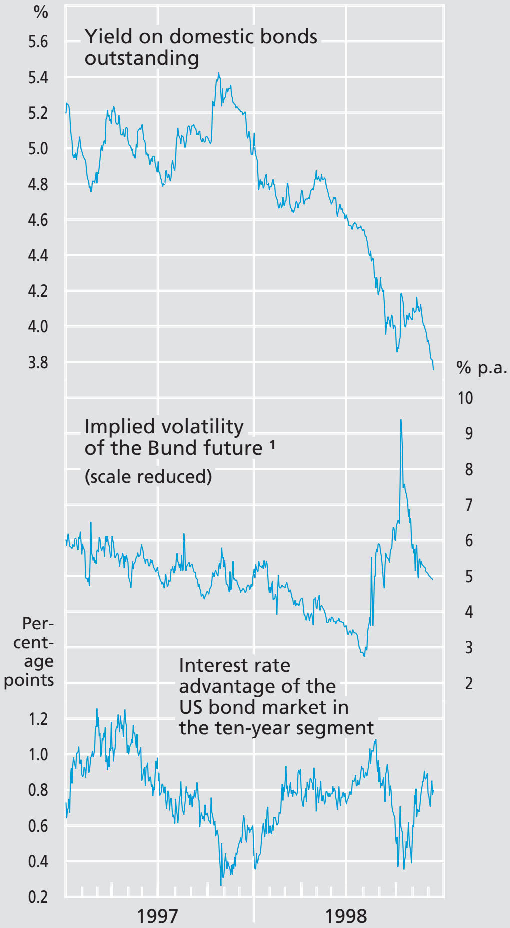
Bond market

Interest rate movements ...

During the autumn months German capital market rates fell to new all-time lows. In mid-September the yield on domestic bonds outstanding fell below the 4 % mark for the first time and dropped to almost 3 ¾ % by the beginning of October. Thereafter, it temporarily edged upwards – initially with pronounced daily fluctuations, which were mainly a reflection of the unstable condition of the international financial markets. From mid-November, however, yields began to fall again, and the decline strengthened slightly after the coordinated interest rate cut by the European central banks at the beginning of December, so that the yield outstanding came to a new record low of less than 3 ¾ % in mid-December. Although the decline in the German capital market rates also affected the short end, it was at first more pronounced in the case of longer-term maturities. Thus the yield on ten-year Federal bonds fell by more than ¾ percentage point between the end of July and beginning of October, which was about twice as great as the decrease in the case of one-year paper. The yield curve has thus flattened further; the yield spread between ten-year and one-year Federal bonds observed in the market narrowed to not quite ⅓ percentage point. However, the decline in US bond market prices in mid-October, which only affected the long end of the market in Germany, and the lowering of central bank interest rates at the beginning of December widened this interest rate differential somewhat; of late it came to ⅔ percentage point.

Interest rate movements in the bond market

Daily values



1 Calculated from the price of the respective at-the-money option on the Bund future; it is the expected standard deviation of the daily change rates of the futures price over the life of the option.

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... affected by international influences

In the autumn interest rate movements continued to be affected by the worldwide turmoil in the financial markets. The persistent crises in east Asia, Russia and other emerging markets dampened inflation and economic expectations in Germany and in the other industrial countries and thus tended to lower the interest level in the German capital market, too. At the same time, interest rate movements remained quite volatile over a longer period as they continued to be dominated by cross-border portfolio operations, which fluctuated strongly in line with the degree of uncertainty in the financial markets. Until well into September, therefore, the German bond market was the "target haven" for sizeable amounts of foreign resources in search of a secure investment. The associated marked decline in the yield level was reversed in October, when the situation in most of the crisis countries and in the international financial markets calmed down. Investors' pronounced risk aversion and their extremely pessimistic assessment of the credit risk connected with exposures in the emerging markets appear to have slackened at least a little. One indication of this is that in October foreign investors withdrew resources from the German bond market for the first time in a long while. Furthermore, the default risk premia for Deutsche Mark bonds issued by foreign borrowers have narrowed; the interest rate differentials relative to German issues have fallen by ½ percentage point. Finally, the more stable market condition was reflected in a decline in interest rate uncertainty in the German bond market; thus the implied volatility of options on futures contracts for long-term Federal bonds (Bund futures) fell from almost 8½% in mid-October to less than 5% by the beginning of December – which is slightly lower than the long-term average.

Linkage with yields in the US market virtually unchanged

The temporary very high volatility of German capital market rates was connected in part with the massive yield upsurges in the United States which, as usual, were transmitted to the German bond market to a large extent.

As the US bond market also served as "safe haven", the recent turmoil in the financial markets had virtually no affect on the interest rate pattern between Germany and the United States. The interest rate advantage of ten-year US Treasury paper against comparable Federal bonds, at ¾ percentage point of late, corresponds to its average value of the last two years.

Greater yield spread of bank bonds ...

Like the situation of Deutsche Mark bonds issued by foreign borrowers, the yield spread of German bank bonds over comparable Federal bonds widened substantially during the summer. Whereas the yield spread of bank bonds over ten-year Federal bonds had amounted to just over 20 basis points on average before the outbreak of the international financial market turbulence, it quickly rose to almost 60 basis points from mid-August as the yields on Federal bonds dropped much more sharply. With the recent stabilisation of the market this "spread" declined to about 45 basis points.

... owing to their lesser liquidity in the spot market ...

Unlike the situation of foreign Deutsche Mark bonds, however, the increased interest rate advantage of bank bonds seems to be far less due to higher premia for the default risk of the issuers concerned. There is much evidence to suggest that it rather reflects a considerable liquidity bonus on the part of public bonds. If investors intend to "lodge" money only temporarily until market uncertainty has dissipated, they look for an alternative investment vehicle which not only enjoys a first-class rating but which is also highly liquid. Consequently, it was primarily large-volume Federal securities which benefited from the "safe haven effect" in the German bond market: between July and September non-residents invested about DM 60 billion in Federal bonds *(Bunds)* and five-year special Federal bonds *(Bobls)*, but only about DM 17 billion in bank bonds denominated in Deutsche Mark. A further indication of a liquidity bonus on the part of Federal bonds is that the interest rate spreads of communal bonds *(Öffentliche Pfandbriefe)* and bonds of publicly-owned specialised credit institutions over Federal bonds have likewise increased markedly even though their counterparty risk is hardly greater.

Yield differential between selected bank bonds and Federal bonds

Daily values

1 Yield on communal bonds outstanding and on bonds issued by specialised credit institutions less the unweighted yield on Federal bonds outstanding deliverable on Eurex with a residual maturity of nine and ten years.

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... and in the futures market

Another "quality advantage" of Federal bonds is the existence of a very liquid futures market through which purchases in the spot market or open derivative positions can be

Sales and purchases of bonds

DM billion

Item	1998 Aug. to Oct.	1998 May to July	1997 Aug. to Oct.
Sales			
Domestic bonds [1]	55.2	98.4	27.1
of which			
Bank bonds	43.0	81.4	31.4
Public bonds	12.0	15.8	– 4.4
Foreign bonds [2]	13.8	35.2	19.3
Purchases			
Residents	42.1	86.4	27.4
Credit institutions [3]	50.3	64.0	23.2
Non-banks [4]	– 8.1	22.5	4.2
of which			
Domestic bonds	– 6.2	10.5	– 1.5
Non-residents [2]	26.9	47.2	18.9
Total sales/purchases	69.0	133.6	46.4

1 Net sales at market values plus/less changes in issuers' holdings of their own bonds. — **2** Transaction values. — **3** Book values, statistically adjusted. — **4** Residual.

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hedged or built up quickly and at low cost. In the autumn this factor seems to have played a particularly significant role because the observed yields on Federal bonds with residual maturities of nine and ten years – which are the deliverable underlying for the Bund futures contract – fell distinctly below the yield on paper with residual maturities of eight years. By contrast, investors with bank bond positions hedged by Bund futures suffered losses caused by the unexpected widening of the spreads. This negative experience may have contributed to the fact that market participants are now demanding a higher yield premium for bank bonds for the imperfect hedging opportunity through the futures market than before the turmoil.

Sales of bonds

Amount raised

Selling in the German bond market remained comparatively buoyant between August and October. At a market value of DM 240.7 billion, gross sales were roughly on the same scale as in the previous three months (DM 247.8 billion), but perceptibly higher than between August and October 1997 (DM 182.6 billion). But net sales, after deducting redemptions and taking into account changes in issuers' holdings of their own bonds, were far lower, at DM 55.2 billion, in the period under review than between May and July (DM 98.4 billion); a year earlier domestic borrowers had issued bonds to the tune of DM 27.1 billion (net) during the same period. German investors showed little interest in buying foreign bonds between August and October; sales of such paper in the German market came to DM 13.8 billion net, compared with DM 35.2 billion in the previous period and DM 19.3 billion a year before. On balance, only foreign currency bonds were sold (DM 15.6 billion). In the period under review, however, domestic investors reduced their holdings of Deutsche Mark bonds issued by non-residents by DM 1.8 billion, after having purchased such paper during the previous three months to the extent of DM 13.7 billion net. The combined net sales of domestic and foreign bonds came to 69.0 billion between August and October 1998, compared with DM 133.6 billion in the previous period and DM 46.4 billion a year earlier.

Bank bonds

About four-fifths of the amount raised by sales of domestic bonds accrued to credit institutions. Between August and October they issued own bonds to the tune of DM 43.0 billion net, compared with DM 81.4 billion in the previous period. DM 27.4 billion of this sum was accounted for by communal bonds *(Öffentliche Pfandbriefe)* and DM 7.2 billion by other bank bonds. The outstanding amount of mortgage bonds *(Hypothekenpfandbriefe)* and bonds of the specialised credit institutions rose by DM 4.2 billion each.

Public sector bonds

During the period under review the public sector obtained DM 12.0 billion net from its own issues in the bond market; that was slightly less than between May and July (DM 15.8 billion). Among the public issuers, only the Federal Government raised funds in the bond market on a major scale – as has been the case for quite some time. It sold bonds to the tune of DM 23.4 billion net, predominantly longer-term paper. In particular, it sold ten-year and 30-year Federal bonds to the extent of DM 14.5 billion and DM 8.2 billion, respectively, and five-year special Federal bonds in the amount of DM 5.6 billion. Two-year Treasury notes were sold for DM 1.1 billion (net). The outstanding amount of four-year Treasury notes, which the Federal Government had dropped from its range of issues quite a long time ago, declined by DM 4.0 billion; moreover, a twelve-year bond was redeemed to the same extent. The indebtedness in the form of Federal savings bonds was also reduced by DM 1.0 billion.[1] The Länder Governments' bonded debt rose by DM 0.3 billion between August and October. Bonds issued by the Treuhand agency were repaid to the tune of DM 7.8 billion. The outstanding amount of bonds issued by the former Federal Post Office and the Federal Railways Fund fell by DM 3.2 billion and DM 1.2 billion, respectively. The bonded debt of other public issuers changed only marginally.

Foreign Deutsche Mark bonds

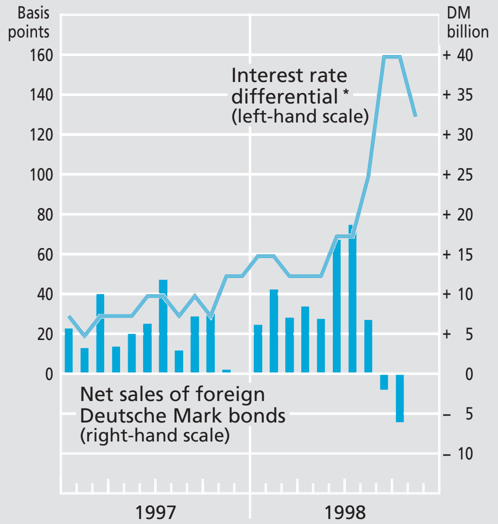
Between August and October foreign borrowers issued bonds denominated in Deutsche Mark to the extent of only DM 14.2 billion gross (nominal value). At DM 4.3 billion, a major part of this sum consisted for the first time of asset-backed securities. The outstanding amount of foreign Deutsche Mark bonds actually declined by DM 1.3 billion in the period under review, compared with an increase of DM 42.3 billion between May and July and DM 17.6 billion a year earlier. These figures clearly reflect the sales problems and the worsened financing conditions confronting most private issuers, but also public borrowers outside the major industrial countries, especially since Russia's moratorium in August. On balance, foreign Deutsche Mark bonds were sold to non-residents to the extent of DM 0.5 billion, while German investors sold such paper to the tune of DM 1.8 bilion.

Short-dated bonds issued by domestic non-banks

The outstanding amount of short-dated bonds issued by domestic non-banks (with an agreed maturity of up to and including one year) – which are generally not included in the above-mentioned sales figures for the bond market – increased marginally in the period under review; at the end of October it came to DM 35.2 billion, compared with

1 The individual items for the Federal Government are shown at nominal values, rather than at market values, and without taking due account of the changes in its own holdings. The sum-total of these individual figures therefore mostly does not match the figures for the net sales of the Federal Government given above.

Sales of foreign Deutsche Mark bonds and their interest rate differential against public bonds



* Yield on foreign Deutsche Mark bonds outstanding less yield on public sector bonds outstanding.

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DM 33.6 billion at the end of July. This increase was due first and foremost to domestic enterprises' increased recourse to Deutsche Mark commercial paper. At the end of October the outstanding volume of such paper was DM 12.0 billion, compared with DM 10.6 billion in July. The outstanding amount of public sector securities running for less than one year rose by DM 0.2 billion to DM 23.0 billion in the period under review.

Purchases of bonds

Credit institutions' bond purchases still high

Between August and October domestic credit institutions continued to predominate on the buyers' side of the German bond market; they purchased bonds to the extent of DM 50.3 billion (May to July: DM 64.0 billion). Bonds issued by domestic banks alone accounted for DM 42.1 billion of this sum. Credit institutions added bonds issued by foreign borrowers to their portfolios in the amount of DM 15.7 billion net; purchases were concentrated on October and on balance consisted entirely of foreign currency bonds (DM 16.4 billion). Banks further reduced their holdings of public bonds by DM 8.2 billion.

Non-residents' declining interest

Non-residents' purchases in the German bond market declined markedly during the period under review. After foreign investors had purchased German bonds worth DM 47.2 billion net between May and July and DM 28.8 billion in August, their demand declined noticeably in September, and in October they sold domestic bonds for the first time in a long while (– DM 10.5 billion). Their net purchases between August and October came to only DM 26.9 billion. This change is presumably due to the waning of the financial market turmoil, which had increased in the summer months and so made the German bond market a popular "safe haven" for foreign investments on a considerable scale. Foreign investors' willingness to exchange German paper – predominantly bonds issued by the Federal Government – for bonds issued by foreign borrowers has apparently increased.

Reduction in non-banks' bond portfolios

Domestic non-banks reduced their bond portfolios between August and October by DM 8.1 billion on balance, compared with net purchases of DM 22.5 billion in the previous period. They sold exclusively domestic bank bonds (– DM 9.7 billion) and foreign bonds (– DM 1.9 billion); by contrast, they purchased public bonds to the tune of DM 4.0 billion net. These changes in the investment structure are mainly due to shifts which occurred in October, when non-banks purchased public sector bonds for DM 16.5 billion (net) and at the same time sold bank bonds and foreign paper worth DM 11.7 billion and DM 8.1 billion, respectively. Part of the resources released by their resales of bonds were probably reinvested in the equity market, as non-banks – presumably institutional investors in the main – abandoned their previous restraint in purchasing equities, particularly in October.

Equity market

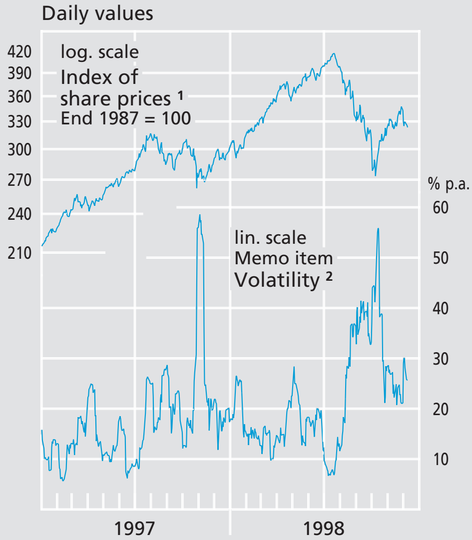
Slide in share prices stopped ...

The slide in share prices in the German equity market which had begun in mid-July continued for a time during the autumn months. At the beginning of October the comprehensive CDAX share price index was 34 % below its peak of July 20, 1998 and about 9 % below its level of the end of 1997. Against the background of falling interest rates in the United States, the ensuing increase in share prices there, mergers and take-overs in the business sector and the restoration of a certain degree of calm in the crisis-ridden regions, with consequent portfolio shifts into equities, share prices recovered somewhat in Germany, too. In mid-December the CDAX share price index was still distinctly lower (23 %) than in mid-July, but nevertheless 8 % higher than at the end of 1997.

... but volatility still high

When this Report went to press, however, equity prices remained subject to strong fluctuations. Share price volatility (measured by the standard deviation of the daily percentage changes over the last ten days) increased sixfold during the slide in equity prices up to the beginning of October. With the ensuing recovery of the share prices the volatility abated somewhat; however, when this Report went to press it was still more than 50 % higher than on average during the first half of the year and twice as high as on average of the last four years.

Price movements in the equity market



1 CDAX share price index. — 2 Measured by the standard deviation of the daily percentage changes of the CDAX share price index over the last ten days. Source: Deutsche Börse AG, calculations by the Bundesbank.

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Share sales

Sales in the German equity market slackened perceptibly during the period under review. Between August and October domestic enterprises issued new shares to the market value of DM 9.0 billion, compared with DM 18.2 billion between May and July and DM 9.0 billion between August and October

Sales and purchases of shares

DM billion

Item	1998 Aug. to Oct.	1998 May to July	1997 Aug. to Oct.
Sales			
Domestic shares 1	9.0	18.2	9.0
Listed	7.6	17.2	8.0
Unlisted	1.5	1.0	1.0
Foreign shares 2	27.9	54.5	9.8
Portfolio purchases	25.4	48.3	2.1
Direct investment	2.4	6.2	7.6
Purchases			
Residents	46.0	14.1	8.4
Credit institutions 3	– 6.9	– 25.9	– 13.6
Non-banks 4	52.9	40.0	22.0
of which Domestic shares	28.7	– 18.2	11.2
Non-residents 2	– 9.1	58.5	10.4
Total sales/purchases	36.9	72.7	18.7

1 Market values. — 2 Transaction values. — 3 Book values, statistically adjusted. — 4 Residual.

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1997. In the period under review foreign equities were sold in the German market to the tune of DM 27.9 billion, compared with DM 54.5 billion in the previous three months. The bulk of these were portfolio investments by German residents. The total amount raised by sales of domestic and foreign equities between August and October came to DM 36.9 billion, compared with DM 72.7 billion in the preceding period and DM 18.7 billion in the corresponding period of 1997.

Share purchases

On balance domestic non-banks were the sole buyers in the German equity market between August and October; they purchased shares to the market value of DM 52.9 billion (net), consisting of domestic and foreign paper in roughly equal proportions. Credit institutions sold equities to the extent of DM 6.9 billion (net), which was due to portfolio shifts out of domestic paper (– DM 10.6 billion) and into foreign paper (DM 3.7 billion). Foreign investors sold German equities in the amount of DM 9.1 billion net between July and October, compared with net purchases of DM 58.5 billion in the previous period and DM 10.4 billion a year earlier.

Investment funds

Amount raised

The amount raised from sales of domestic investment fund certificates between August and October, at DM 33.5 billion, was slightly lower than in the previous period (DM 36.4 billion) but higher than a year earlier (DM 25.8 billion). Net sales of foreign certificates came to DM 3.5 billion. The aggregate amount raised by sales of domestic and foreign investment fund certificates thus came to DM 37.0 billion, compared with DM 41.5 billion between May and July.

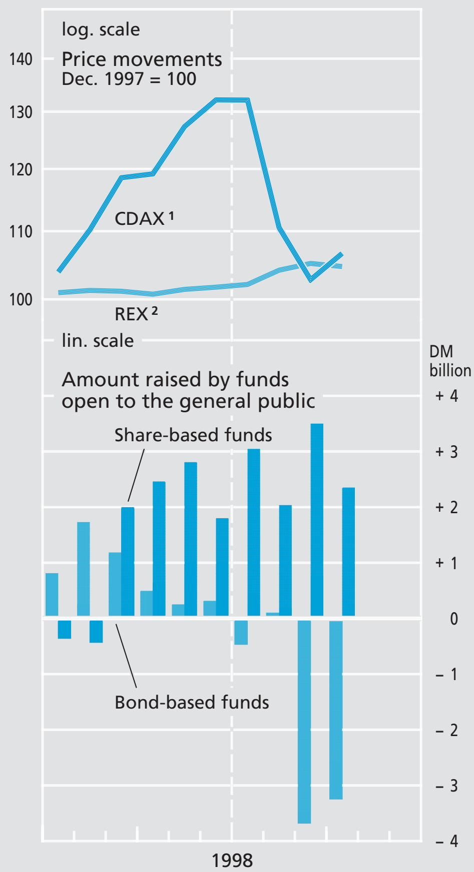
Specialised funds

The domestic specialised funds, which are reserved for institutional investors, received new resources amounting to DM 28.8 billion net between August and October. They thereby slightly exceeded the amount raised in the previous period (DM 26.8 billion). The bulk of this sum again accrued to the mixed funds, at DM 19.4 billion. The bond-based funds and the share-based funds obtained DM 7.1 billion and DM 2.3 billion, respectively.

Funds open to the general public

By contrast, the amount raised by the domestic funds open to the general public in the period under review, at DM 4.7 billion (net), was only about half the total realised by the

Price movements in the equity and bond markets and amount raised by German funds open to the general public



1 The CDAX share price index reflects the average price movements of a wide range of German equities. — **2** The German bond index (REX) reflects the average price movements of Federal bonds.

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sale of such certificates in the previous period (DM 9.6 billion). The decline was almost entirely due to the fact that bond-based funds had to repurchase certificates to the tune of DM 6.8 billion net. One factor in this, however, was that bond-based funds with limited maturities matured on a large scale. With equity prices well down, share-based funds again recorded a larger inflow of resources amounting to DM 7.9 billion (net). Money market funds and mixed funds yielded DM 1.9 billion and DM 1.0 billion, respectively. Open-end real estate funds received DM 0.4 billion; certificates in the same amount were sold by private old age pension funds, which were launched for the first time in October.

Purchases of investment fund certificates

Investment fund certificates were purchased entirely by domestic investors on balance between August and October. Domestic non-banks predominated – as usual – with net purchases amounting to DM 28.3 billion. They mostly bought German certificates (DM 24.5 billion); they increased their holdings of foreign fund certificates by DM 3.7 billion. Non-banks increased their shares in domestic and foreign money market funds by DM 2.7 billion (net). Domestic credit institutions purchased investment fund certificates for DM 9.7 billion (net) in the period under review, on balance solely domestic paper. Foreign investors resold certificates of German funds to the tune of DM 1.0 billion.