

International integration of German securities markets

Recent decades have witnessed a rapid growth in the financial markets. At the same time, there has been an increase in their international integration. In Europe this integration process has been further accelerated by European monetary union. This article looks at the extent to which the German securities markets are integrated internationally and the implications that this may have. A look at securities prices suggests that integration is well advanced. However, the relatively limited holdings of foreign securities indicate that there is still scope for further diversification. Integrated securities markets broaden the range of investment opportunities, reduce capital costs and help to boost market liquidity, price efficiency and risk sharing. However, they also increase international contagion risks. Measures to restrict the movement of capital are nonetheless unacceptable. Since the integration of the financial markets increases welfare, it should not be impeded. Rather, market players should take appropriate account of market risks. They need to accept responsibility for their own losses and mature risk management systems must be developed.

Introduction

It is difficult to find a better illustration of economic globalisation than that provided by the rapid growth of the international financial

*Rapid growth in
international
financial
markets...*

markets. The figures say it all. For example, the annual volume of cross-border securities transactions¹ in Germany increased from 4½ % of gross domestic product (GDP) in the early 1970s to 450 % of GDP in 2000. German investors now hold a wide range of securities of various origins. Conversely, non-residents are investing in virtually every sector of the German capital market.

... not necessarily synonymous with market integration

Extensive international capital movements are, however, not necessarily synonymous with integrated financial markets. Before the outbreak of World War I the ratio of net capital flows to economic performance was far higher than in the 1990s. It would nonetheless be difficult to talk of global financial markets having existed at that time – with the exception of one or two sectors. Owing to the high information barriers in place at the time, international transactions focused mainly on government bonds and debt securities issued by railway companies or public utilities; the “tangibility” of their assets made it comparatively easy to monitor the use of the funds.² Today, by contrast, international capital movements cover a far broader range of securities, including equities and derivatives. The transfer of capital is less significant than risk spreading. This is reflected in large gross capital flows which far exceed net flows.

Still wide-open spaces on the globalisation map

In one respect, however, the present-day globalisation of the financial markets is scarcely any different from the pre-1914 situation. At that time, the international flows of capital were restricted to relatively few countries. Most funds flowed into countries with similar legal systems or to a country's own colonies.

Nowadays, investments are focused mainly on the industrial countries and a small, but increasing, number of emerging economies. From 1992 to 1997, for instance, more than one-half of all investments made outside the industrial countries (excluding development assistance) were channelled to five countries – China, Brazil, Mexico, Argentina and Korea. From this perspective, global integration of the financial markets has not yet been achieved.

This article deals with the effects of market integration on the capital market in Germany. First, however, the actual degree of integration of the international financial markets is examined. The empirical results of this analysis are then taken as the basis from which to determine the impact on the various capital market players as well as on monetary policy and the stability of the financial system.

Financial market integration: definition and empirical evidence

Financial markets are said to be integrated if there are no obstacles to capital movements. In fully integrated markets the transaction costs (in the broadest sense) of moving capital from one country to another are the same as those for capital movements within one country. The same types of securities are therefore traded at the same prices, irrespective of where the transactions take place or

“Law of one price” as a measure of market integration...

¹ Securities purchases plus securities sales by German investors abroad and foreign investors in Germany.

² See M. D. Bordo, B. Eichengreen and J. Kim (1998), Was There Really an Earlier Period of International Financial Integration Comparable to Today?, NBER Working Paper 6738.

*... not readily
applicable in
practice*

who is trading. Deviations from this "law of one price" may therefore be able to shed light on obstacles to international capital movements and their significance. However, empirical studies on this subject are handicapped by the fact that only very few securities denominated in the same currency with the same maturity and the same risk are traded in different countries. One example would be equities listed on the stock exchanges of different countries. Yield differentials of investments that are denominated in different currencies or different price movements on the equity markets in two countries may not, however, be taken unquestioningly as indicative of limited capital mobility as they can just as easily be attributed to expected exchange rate movements, different risk evaluations or profit potential. Before yields on paper denominated in different currencies can be compared, all payments in a foreign currency need to be converted into a reference currency at the relevant forward exchange rate. For instance, in accordance with covered interest rate parity, the interest rate on an investment denominated in euro ought to be the same as the corresponding dollar rate adjusted by the euro-dollar forward rate. However, tests based on covered interest rate parity can be carried out only for short maturities of up to one year as there is no liquid forward exchange market for longer maturities.

*Very little
divergence
from the "law
of one price"*

Studies of the "law of one price" all report interest rate differentials in the interbank market and divergences, albeit very small, from covered interest rate parity. It is therefore safe to say that the markets are largely integrated, at least at the short end. Within

the euro area, rates for long-term interest rate swaps hardly vary at all, although there are differences in the prices of bonds with longer maturities. However, these differences are probably attributable to other factors – in particular, the different credit ratings awarded to borrowers and the existence of liquid futures markets – and are therefore not necessarily an indication of market segmentation. There is no consistent evidence of the integration of the equity markets.³

Close international co-movements in prices, as might be expected in integrated markets, do not mean that national factors cease to play any role at all – at least not as long as national or regional influences, such as economic policy, continue to exist. Consequently, small price correlations between different markets do not necessarily indicate that markets are segmented. However, a sort of "law of one price" should be applicable here, too. The valuation of the price component that can be traced back to common influences should be the same if markets are integrated. A further test of market integration can be formulated on this basis. First, a statistical procedure is used to identify a common price factor. Then the impact of this factor on pricing is assessed. The results of this kind of test indicate that financial markets are becoming increasingly integrated but do not rule out a certain amount of segmentation. In any case, it must be remembered that there are slight differences in the valuation of common factors even within the different segments of a given market. The tests therefore

*Close
co-movements
in interest rates
no measure
of market
integration*

*Same valuation
of common
factors as an
indicator of
market
integration*

³ See European Central Bank, The euro equity markets, August 2001.

tend to be "too strict" and reject the hypothesis of full market integration even when the divergences are minor.⁴

*Marked
increase in
cross-border
securities
transactions*

The degree of integration of international financial markets can also be determined by looking at trading volumes. In the case of equities, the value of domestic investors' purchases and sales of foreign paper has increased more than tenfold in the past five years, to € 1.5 trillion in 2000. The same volume of German shares was traded by foreign investors in 2000. The development in bonds and notes was less marked. Owing to the start of monetary union, Germany probably lost some of its appeal for international investors as the introduction of the single currency meant that interest rate advantages of bonds issued in other euro-area countries could be achieved without having to run the risk of depreciation. The purchase of German fixed-interest securities by non-residents has remained steady in recent years. At the same time, however, domestic investors have purchased three times the amount of foreign debt securities. Investment funds also report an increase in amounts being invested in securities issued by non-residents.

*International
distribution
of securities
holdings as a
measure of
integration*

The size of the flows can, however, be influenced by investors trading for liquidity reasons and by short-term transactions. The long-term development of the size of holdings is a better way of measuring changes in investment behaviour. The international distribution of securities portfolios is therefore frequently taken as a yardstick for the integration of the financial markets. In Germany the proportion of foreign securities in domestic private customers' secur-

ities deposits at the end of 2000 was 41 %. Although this meant that it was 20 percentage points up on 1987, it was still far below the kind of figures which would be considered optimal for conventional portfolio structures if markets were integrated. If the global market share of German and foreign securities is taken as the reference value for the distribution of an internationally diversified portfolio, last year a maximum of 5 % of the equities held and less than 15 % of the bonds in safe custody deposits would have come from domestic issuers.⁵ Calculations which take account of the largest industrial countries only and assume some degree of risk aversion still show an "optimal" share of domestic stocks and bonds of between 20 % and 30 %.⁶ The comparatively very strong domestic orientation – the home bias – of private investors' securities portfolios, taken *per se*, would initially appear to suggest that there are all kinds of impediments to the international movement of capital.⁷

*Home bias
in private
securities
deposits...*

A differentiated analysis shows, however, that, at one-quarter, the share of foreign securities

⁴ See A. Naranjo and A. Protopapadakis (1997), Financial Market Integration Tests: An Investigation Using U.S. Equity Markets, *Journal of International Financial Markets, Institutions and Money*, 7, pages 93–135.

⁵ Germany's share in the world market has been calculated as the ratio of the market capitalisation of all domestic listed enterprises to the market capitalisation of all enterprises listed on stock exchanges worldwide and as the market value of all domestic debt securities in relation to the market value of all exchange-traded bonds in the world, respectively. The optimal foreign share is derived by deducting Germany's share of the world market from 100. Sources: FIBV, Deutsche Börse AG and the Bundesbank's capital market statistics.

⁶ See L. L. Tesar and I. M. Werner (1992), Home bias and the globalization of securities markets, NBER Working Paper No. 4218, Cambridge MA.

⁷ For an broad overview of the literature on the "home bias", see K. Lewis (1999), Trying to Explain the Home Bias in Equities and Consumption, *Journal of Economic Literature*, 37, pages 571–608.

... partly
caused by
investor-specific
transaction
costs

held in the form of direct investment was far smaller than in the case of indirect investment via domestic investment funds open to the general public, which, in any case, invested just under two-thirds of their assets abroad. There therefore seem to be a declining number of obstacles to cross-border trading for institutional investors, who manage a far larger volume of investments than most private investors. However, there are variations here, too. Although insurance companies, as a further institutional investor group, frequently hold a considerable volume of securities, their share of foreign holdings is far smaller than is the case for investment company funds, which include funds open to the general public and specialised funds (see the chart on page 20). Insurance companies are affected to some extent by currency restrictions imposed by national prudential law. Impediments to a more marked internationalisation of the securities markets appear to be related to features of individual investors or investor groups, such as their size or their legal form. With the elimination of foreign exchange risk within Europe and the increasing institutionalisation of investments, however, the significance of some of these impediments is waning. A further obstacle in Germany was that the corporate taxation imputation system could be applied only to disbursements made by domestic corporations. Tax reform and the related changeover to the "half-income procedure" have done away with this discrimination.

Integration
accelerated
by EMU

The trend towards the internationalisation of securities portfolios has accelerated further since the start of monetary union. This applies to all investor groups, but especially to investment funds. At the end of 1998 foreign secur-

International spread of securities deposits of individuals resident in Germany *

Data in %

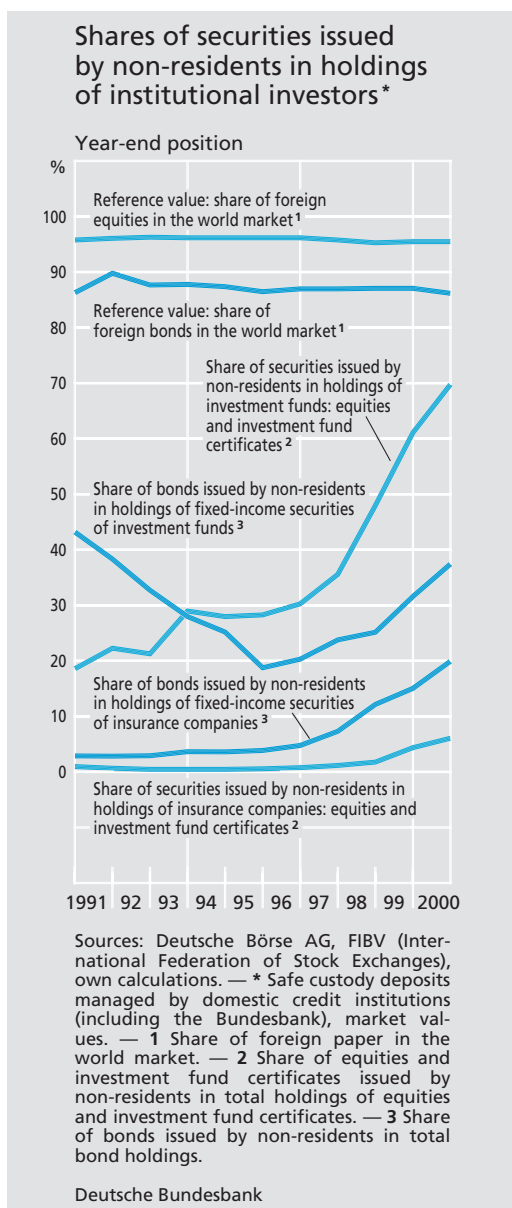
Item	Total	Direct investment	Funds open to the general public ¹
End-2000			
Securities issued by residents	59	75	34
Securities issued by non-residents	41	25	66
End-1987			
Securities issued by residents	79	83	61
Securities issued by non-residents	21	17	39

* Safe custody deposits managed by domestic credit institutions, market values. — ¹ Aggregate of the assets of funds open to the general public and domiciled in Germany. Fund units held by non-residents have been recorded as direct investment.

Deutsche Bundesbank

ities accounted for well below one-half of the total equity and bond assets of domestic investment funds open to the general public. By the end of 2000 the holdings of foreign shares by domestic investment funds, in particular, had risen to 70 %, i. e. to a level indicative of the virtual lack of any "home bias".⁸ There was a noteworthy development in bonds and notes. From 1 January 1999, for instance, resident investors had been purchasing a large volume of debt securities issued by non-residents and denominated in euro only. The widening distribution of securities holdings did not therefore go hand in hand with a further diversification of currency risks as, in return, these resident investors sold bonds denominated in currencies other than the euro.

⁸ The share of foreign bonds was just under 40 %.



Correlations of investment and savings and consumption smoothing as a measure of integration

The macroeconomic implications of capital mobility lay the foundations for a further type of test for market integration. Such tests assume that investment decisions in an economy offset the effects of shocks to savings or investment and permit the smoothing of consumption over time.⁹ For instance, integrated financial markets should ensure that local investment can be easily financed from the worldwide pool of savings, i.e. without trig-

gering large fluctuations in interest rates, even in the event of a sharp decline in domestic savings. The ease with which fluctuations in the consumption path of a country's investors can be offset is also said to imply that there is a high degree of integration in the global financial markets. Short-term restrictions on potential consumption that are caused by volatile output and investment results could then be offset by lagged or even contrary investment results in other countries. The method of measuring the integration of international financial markets first applied by Feldstein and Horioka regresses national saving rates on domestic investment rates. In a perfect capital mobility scenario, no part of an increase in savings, or only a very limited proportion of that increase, would remain for investment in the domestic market as it would be possible to channel additional financial resources to where they would be most productive on a global basis. Empirical results of time series and cross-sectional analyses, however, point to a high correlation of national investment and saving ratios.¹⁰ For Germany some computations using quarterly data¹¹ from 1991 to the end of 1998 show a regression coefficient of 0.6, which declined

⁹ See, for example, M. Obstfeld and K. Rogoff (1996), *Foundations of International Macroeconomics*, MIT Press, page 290 ff.

¹⁰ See M. Feldstein and C. Horioka (1980), *Domestic savings and international capital flows*, *Economic Journal*, 90, pages 314–29, and M. Obstfeld (1995), *International capital mobility in the 1990s*, in P. Kenen (ed.), *Understanding interdependence: The macroeconomics of the open economy*, Princeton NJ, pages 201–261.

¹¹ Data from the national accounts as defined in ESB 95. The specification of the regression is: $(I/Y)_t = \alpha + \beta(S/Y)_t + \text{seasonal dummies} + u_t$. The coefficients (t-values in brackets) for the periods from 1991:1 to 1998:4 and 1999:1 to 2001:3 are 0.60 (5.4) and 0.58 (4.3). Computations using seasonally adjusted data yield similar results. With regard to methodological problems, see M. Obstfeld (1995), page 247 f.

somewhat in the past two years. These figures confirm the results of other studies which show a strong – if declining – degree of segmentation of the financial markets. However, if account is taken of the fact that this kind of integration test also implicitly tests global real interest rate parity and may be distorted by the size of a country, demographic factors or government expenditure, a high degree of correlation does not automatically mean that there is little financial market integration. Neither is there any empirical confirmation of the marked consumption smoothing over time assumed in open capital markets.¹² However, other influential factors such as the share of non-tradable goods can, here too, be the cause of different consumption patterns in different countries and limit the information value of these tests in terms of financial market integration.

Price arbitrage indicates a high degree of integration

All in all, the various tests do not provide any consistent results on the degree of market integration. The slight differences in interest rates between the domestic and the foreign markets and the applicability of covered interest rate parity indicate broad market integration, at least from the point of view of prices. The number of internationally active market players would appear to ensure that any price differentials which are not based on the different risk features of the securities are swiftly eliminated.

Securities portfolio spreads indicative of a low level of integration

On the other hand, the “home bias” of securities portfolios suggests that obstacles to full market integration still exist, even if they appear to be decreasing in importance. These obstacles may include direct transaction costs

which arise from difficulties when securities are traded on a cross-border basis. These costs frequently vary from one market segment to another as well as across investor groups. For instance, the dominant players on the money market are large, institutional investors, especially banks. Sales and purchases are made according to a standard procedure. Within the euro area liquidity adjustments and portfolio shifts rarely involve any friction. For small, private investors cross-border transactions – such as cross-border credit transfers – are, however, still partly associated with high costs. In addition, costs related to both the preparation of information and its processing certainly also play an important role. Nowadays, small-scale investors can use the Internet to access virtually the same range of information as institutional investors. The more marked “home bias” among private investors cannot therefore be explained by their having no access to information. However, the easier information is to obtain, the greater the processing requirements. Institutional investors are at an advantage here. In addition to the ongoing globalisation of the securities markets, a tendency for investment decisions to be entrusted more frequently to professionals is therefore to be expected.

However, at more than 4 percentage points on average from 1991 to 2000, the estimated opportunity costs of the present investment structure in Germany are high in relation to portfolios diversified in line with the conven-

¹² See M. L. Mussa and M. A. Goldstein (1993), The Integration of World Capital Markets, in Changing Capital Markets: Implications for Monetary Policy, Symposium series Federal Reserve Bank of Kansas City, 1993, page 281 f.

tional models of integrated markets.¹³ Despite these notes of caution and although cross-border investment has increased considerably – especially since the establishment of monetary union – there is still scope for diversification.

Effects on financial market players

Investors

Investors benefit from converging transaction costs

The international integration of the securities markets has opened up new investment perspectives for domestic investors both institutional and private. Transaction costs are the same for purchases of a broad range of securities, enabling investors to pursue their yield and hedging targets better than in non-integrated markets. More precisely targeted portfolio combinations which correspond to investors' hedging requirements can be fashioned from the wider range of investment opportunities. However, investors cannot protect their portfolios against global risks which affect the prices of all securities investments equally and cannot therefore be diversified.

Integration boosts market liquidity, transparency and investor confidence

Investors also benefit from the increase in liquidity associated with capital market integration. As the number of investors increases, so do the competition for profitable securities investments and the number of transaction requests. Liquidity is thus an expression of an investor's confidence in his ability to adjust his securities portfolio promptly in the light of new information. In turn, increased confidence in being able to trade immediately also increases the level of liquidity. This ability to

draw in liquidity is dependent, however, on the pricing of securities being transparent for buyers and sellers alike. The electronic trading platforms are also a useful means of grouping together investors' purchase requirements, regardless of their location, and of promoting price transparency. The more transaction requests are grouped together, the greater the speed at which they can be executed and the narrower the gap between bid and selling rates. This is an important advantage of integration, particularly for large-scale institutional investors.

From the investors' perspective, European monetary union has not only made cross-border securities transactions easier but has also altered the relative importance of country and sector risks. Sector-related factors are clearly replacing the now absent exchange rate risks as the driving force behind portfolio management within the euro area.¹⁴ Moreover, economic convergence among the EMU member states is helping to push country-specific risks in portfolio structures into the background. Recent surveys carried out among portfolio managers reveal, for instance, that European equity portfolios are structured primarily on the basis of sectoral information.¹⁵

Sector-specific factors more important than country-specific factors

¹³ See K. Jeske (2001), Equity home bias: Can information cost explain the puzzle?, in *Economic Review*, Federal Reserve Bank of Atlanta, 86, pages 31–42.

¹⁴ See T. Kraus (2001), The Impact of the EMU on the Structure of European Equity Returns: An Empirical Analysis of the First 21 Months, in *International Monetary Fund*, Working Paper No. 01/84, page 15.

¹⁵ See G. Galati and K. Tsatsaronis (2001), The impact of the euro on Europe's financial markets, in *Bank for International Settlements*, Working Paper No. 100, page 19.

Issuers

Integration leads to increased primary market liquidity

In integrated markets issuers are less reliant on raising funds in their own country; foreign investors are increasingly ready to respond. This leads to an increase in primary market liquidity, which tends to cut capital costs. Moreover, in contrast to the situation in segmented financial markets, even large issues are comparatively easy to place. Greater capital market integration certainly also provides domestic investors with greater investment opportunities abroad. This means that domestic borrowers find themselves faced with increasing competition from non-resident issuers. In turn, tougher competition for capital gives issuers an incentive, owing to economies of scale, to make their flotations larger and therefore cheaper.

Pressure for standard balance sheet directives

As capital markets become more and more integrated, there is growing pressure for international balance sheet standards and supervisory structures. This is apparent, for example, from the fact that most of the enterprises listed on the DAX present their balance sheet according to international standards (IAS or US GAAP), although this is not a prerequisite for inclusion in the DAX. A standard and therefore transparent reporting format reduces information asymmetries between investors and issuers and thus reduces capital costs.¹⁶ Greater investor confidence in issuers raises market liquidity – through reduced bid-ask spreads, low price volatility or large trade volumes, for example. The transition to international disclosure regulations also helps to intensify international competition for capital and attracts foreign invest-

ment. The influence of non-resident investors on management increases in line with their commitment to domestic equities. For instance, there are indications that country-specific variations in corporate governance structures have become smaller as a result of international financial market integration.¹⁷

Financial intermediaries

From the point of view of the credit institutions and other financial intermediaries, the international integration of securities markets means tougher competition. As investors and issuers no longer rely solely on the domestic market when investing or borrowing, the traditional predominance of domestic financial institutions is being undermined. They are now subject to competition from both German branches of foreign intermediaries and domestic customers' direct links with financial service providers domiciled abroad; this latter aspect has recently assumed greater importance as a result of the Internet being more widely used.

Increased competition in the financial sector...

Depending on the market sector concerned, however, competitive pressure can vary quite considerably. It is especially high in investment banking and in large-scale lending. However, it has become difficult even for "firmly established" sectors such as private and retail banking to avoid tougher competi-

... is affecting credit institutions...

¹⁶ See C. Leuz and R.E. Verrecchia (2000), The Economic Consequences of Increased Disclosure, Johann Wolfgang Goethe University, Frankfurt am Main, Working Paper Series Finance and Accounting, No. 41.

¹⁷ See M. Fukao (1995), Financial Integration, Corporate Governance, and the Performance of Multinational Companies.

*... and stock
exchanges*

tion in the long run.¹⁸ It is now easier for investors to access foreign markets, meaning that where a security is traded has become increasingly irrelevant. For example, Deutsche Börse AG already has trading terminals in the United States, and some German banks carry out their US bond business from Frankfurt. Clearly, the more intense competitive pressure inherent in integrated financial markets does not affect credit institutions alone; it has also led to major changes in the stock exchange environment. The days of strictly national stock exchanges are over. The European stock exchange environment has undergone a major change in recent years. Although the efforts of the leading European stock exchanges to form a joint trading system have met with little success, consolidation attempts have now begun to make progress.

Efficiency gains in return for greater risk?

*Efficiency
gains...*

Capital market prices have a key role in allocating an economy's resources. Only if the prices of assets are "efficient", i.e. they actually reflect all relevant information known to the market participants, is capital channelled to its most efficient use. International financial market integration contributes to this in two ways. First, only if markets are integrated is it possible for investors to avoid having to opt for a less profitable investment in their own country as opposed to a more profitable one abroad. Second, integrating financial markets improve market liquidity, which is vital to efficient price formation. In turn, it

thus ensures that capital allocation is efficient.

Of course, this applies only to ordered market conditions, and less in times of a crisis. Even so, the relationship between financial market integration and the stability of the financial system is extremely complex. On the one hand, an integrated financial market tends to cushion local shocks better than segmented markets, as spreading the burden of risk reduces the danger of national financial systems collapsing. On the other hand, international risk sharing does have its downside. In an integrated global financial system, it is difficult to confine turbulence to specific market segments. Indeed, it can spread swiftly to the whole system – even if it is more resilient overall than each national market individually. In economic terms, what the disparity between the greater capacity to absorb individual risks and the international transmission of shocks means in practice should be clear from two examples: first, finding the capital needed to finance German reunification and, second, the contagion effects during the turmoil on the international financial markets in the autumn of 1998.

*... not
transferable
to crisis
situations*

The capacity of internationally integrated financial markets to cope with a high national demand for capital was evident in the period following German reunification. The considerable need to finance western Germany's

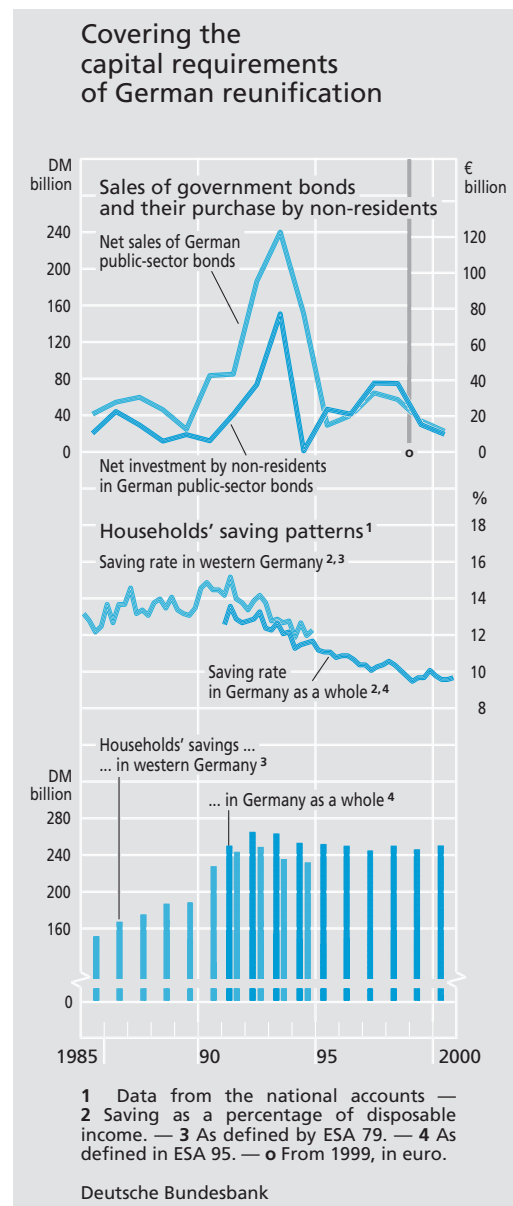
*Integrated
financial
markets absorb
the shock
generated by
the demand for
capital relating
reunification*

¹⁸ The question of how the German banking industry is responding to increased competition has already been addressed by the Bundesbank in an article in its Monthly Report. See Deutsche Bundesbank, Bank balance sheets, bank competition and monetary policy transmission, Monthly Report, September 2001, page 51 ff.

support of the new Bundesländer and the necessary investment in infrastructure was met mainly by the Federal Government, which borrowed funds primarily in the capital market. Public sector bond market debt rose by nearly DM 90 billion in both 1990 and 1991. Following the securitisation of financial burdens such as the equalisation claims relating to currency conversion, net sales of government bonds reached their peak in the following two years, at DM 190 billion and then DM 240 billion. In the same period net investments by non-resident in German government debt securities rose to many times the average of the previous 20 years; in 1992 and 1993 it amounted to DM 80 billion and DM 150 billion respectively (see the chart on page 26). The high level of non-resident financing of government debt also is also commensurate with the fact that there was only a slight increase in the saving rate of domestic households briefly at the start of the 1990s before it decreased again.

Increase in nominal and real interest rates in Germany...

At the end of the 1980s long-term nominal and real interest rates rose considerably in Germany, peaking – also as a result of the expected financial burden relating to reunification in 1990 – at more than 9% or 5½% respectively.¹⁹ However, as long ago as 1991 – i.e. before the Federal Government's increased recourse to the bond market – interest rates fell further. Up to the start of the 1990s capital market rates had also risen in other countries in Europe and elsewhere, although the economy was tending to weaken in some of those countries. This illustrates the influence which a considerable expansion in the national demand for capital on interlinked



markets can exert on capital allocation in other countries. The internationally integrated capital markets not only met a considerable volume of Germany's financing needs relating to reunification but also absorbed

... and abroad

¹⁹ The nominal interest rate refers to the yield on Federal bonds outstanding with a residual maturity of nine to ten years. For the calculation of real interest rates see Deutsche Bundesbank, Real interest rates: movements and determinants, Monthly Report, July 2001, page 31 ff.

*Turmoil on
international
financial
markets
in 1998*

some of the price effects. Certainly, non-resident investors also had a share in Germany's reunification boom.

There are numerous examples of financial market turmoil spreading rapidly. During the Asian crisis in the second half of 1997 the speculative attacks which followed the devaluation of the Thai baht spread in several waves to one country after another. This kind of contagion effect was, however, not limited to emerging markets. In October 1998, for instance, liquidity dried up for a time in important sectors of the international financial markets, although some of these markets had originally not been affected at all. In Germany marked price fluctuations on the market for Federal bonds which, owing to a large volume of issues and the available forward market instruments, is highly liquid in quiet phases, resulted in a considerable broadening of bid-ask spreads. This indicates that market liquidity was very limited at the time.²⁰ The example makes it clear that even large, liquid markets can be subject to disruptions.

Effects on monetary policy

*Shorter time
lags*

For monetary policy, the positive effects of integrated capital markets – greater liquidity and efficient allocation of capital – mean that there are no long time lags before monetary impulses are reflected in the prices of financial assets and that the signals sent out by interest rate decisions are processed rapidly by the markets. Monetary policy time lags thus become shorter.

However, the globalisation of financial markets has also brought about a change in the monetary policy transmission process. For instance, effects felt via the exchange rate channel become more significant. In the case of open financial markets, a tightening of monetary policy generates an inflow of capital and thus tends to lead to an appreciation of the domestic currency. The potential conflict of aims between fixed exchange rates and independent monetary policy becomes greater. Central banks which conduct an independent monetary policy because of the size of their currency area therefore find it difficult to survive in integrated financial markets without the linchpin of flexible exchange rates.

Similarly, where markets are globalised, asset prices become more important in terms of the transfer of monetary impulses, as the relationship between prices and foreign financial assets has a stronger impact on investors' reactions to monetary policy decisions. The effects of a change in the interest rate then become more complex, with the result that it becomes correspondingly more difficult to decide when a monetary policy measure should be used and how stringent it should be.

Stability of the financial system

Monetary policy success, economic growth and employment are all dependent on the

*Importance
of exchange
rates...*

*... and asset
prices for
monetary policy*

²⁰ See Deutsche Bundesbank, The impact of financial market crises on the German securities markets, Monthly Report, April 2000, page 15 ff.

*Well-
functioning
financial
system vital
to economic
stability*

stability of the financial system. The question is therefore how the viability of the markets and the financial sector as a whole can be improved without undermining the considerable advantages of globalised financial markets for investors and issuers.

*Controlling
capital
movements...*

Proposals which ultimately mean segmentation of the financial markets pay little heed to this requirement of stability. One such proposal would be the call for the reintroduction of capital movement controls. Legal and administrative barriers can put a stop to capital outflows at most in the very short run; in the long run, however, they can be easily circumvented.

*... and the Tobin
tax are no ways
to avoid a crisis*

Neither is the tax on international transactions proposed by James Tobin an appropriate way to avoid crises. The purpose of the tax was to make short-term investment (viewed as having a particularly destabilising effect) more expensive. When, however, exchange rates are very volatile in times of crises, the tax has less impact than in times of minor price fluctuations. In addition, it is debatable whether short-term capital flows can be equated with destabilising speculation. There is still a risk that some "acceptable" types of short-term financial transactions, such as the financing of external trade or hedging operations, fare worse under a Tobin tax than speculative investments. Ultimately, a Tobin tax would also go hand in hand with the risk of more transactions being shifted to tax havens. Such evasive action involving less regulated areas would tend to be detrimental to financial market stability.

Evasive tactics are not the only arguments against the introduction of capital movement controls or a Tobin tax. Each obstacle put in the way of international capital movements simultaneously reduces the positive effects of globalisation such as increased market liquidity and price efficiency, which, in turn, lead to lower financing costs and make portfolio yields less volatile. At least for industrial countries, a strategy which is specifically conceived for financial market players and instruments would therefore appear a more suitable means of ensuring the stability of the financial system than general measures which limit market integration.

A prudent approach by financial market players depends on the availability of sufficient information on business partners and market conditions on the one hand and on mature risk management on the other. The best place to start is the banks since they are of prime importance in terms of the stability of the financial system. A relevant legal framework should also give the banks the incentives they need to carry out a thorough check of their borrowers' creditworthiness. In addition, it is important to take account of the interdependence of specific risks, as these do not occur in isolation. Although it may be necessary to extend the regulation to further market participants in some circumstances, this extension should always focus on its relevance to the stability of the financial system.

A conscious approach to risk handling is also dependent on the financial market players being accountable for their own mistakes. It cannot fall to public sector bodies at the na-

*Living with
integrated
markets*

*Better risk
management...*

*... must take
account
of the inter-
dependence
of individual
risks...*

*... and
depends on
accountability
for own losses*

tional or international level to defend negligent behaviour by investors. At the same time, however, a stable macroeconomic framework is needed as only then can the systemic risks associated with financial mar-

ket investment be calculated. It is precisely because of the need to ensure financial market stability that a stable, long-term economic policy is required.