

Financial integration: an overview

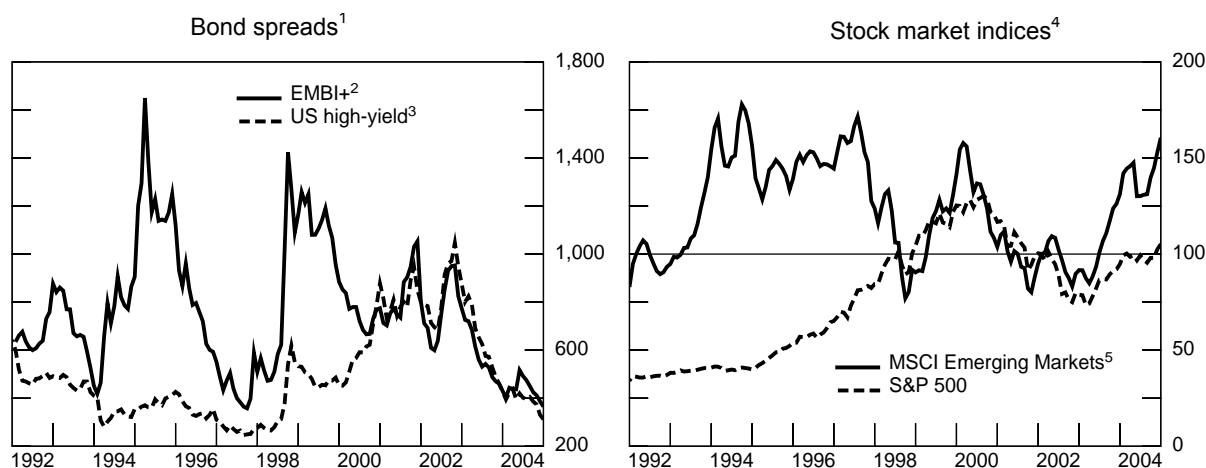
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Introduction

Global financial integration has substantially increased in recent decades. Initially, it manifested itself in growing capital flows between developed countries. In response to the removal of capital controls, financial innovation and technological progress, financial integration has subsequently spread to emerging market countries. Gross and net capital flows between developed and emerging economies have increased. Financial integration has also been evident in frequently high correlations between asset yields or prices, particularly for certain asset classes such as high-yield corporate bonds and sovereign bonds and equities in developed and emerging markets (Graph 1).

Graph 1

Co-movement of mature and emerging market securities



¹ Over US treasury yields; in basis points. ² Stripped spread of emerging market bonds, as calculated by JPMorgan Chase; prior to 1999, EMBI. ³ Spread of US high-yield bonds over US Treasury bonds with similar maturity. ⁴ January 2002 = 100. ⁵ In US dollar terms.

Sources: Bloomberg; Datastream; JPMorgan Chase; Merrill Lynch.

Many argue that increased integration with global financial markets has been key in imposing market discipline on policymakers, and has helped to improve the quality of macroeconomic management. In addition, financial integration in emerging market countries has been driven by a belief that it would increase growth and reduce volatility. Yet the conclusions from a recent comprehensive study (Prasad et al (2003)) of the empirical evidence are disappointing as well as sobering. First, even with a systematic examination of the evidence, it is difficult to establish a robust relationship between financial integration and growth. Second, there is little evidence that financial integration has helped to stabilise fluctuations in consumption relative to income. This could have been expected because theory suggests that financial integration would tend to pool risks across borders. In fact, for countries that are still at an early stage of integration, volatility of consumption relative to income has actually increased. Do these findings imply that the economic, academic literature was wrong (or used the

¹ Comments by Philip Turner, William White and Agustin Villar are gratefully acknowledged. The views expressed are those of the authors, and do not necessarily represent those of the Bank for International Settlements.

wrong model) and that financial integration was a mistake? The following sections attempt to answer this question by first discussing events and developments which suggest that it is still premature to draw firm conclusions about the effects of financial integration. The paper then turns to some recent changes that might increase the benefits of future financial integration. The importance of developing efficient institutions, and specifically the role of foreign banks, is discussed by Moreno and Villar in this volume.

What may account for the apparently negative effects of financial integration?

First, the extent of de jure financial integration, as gauged by measures of financial liberalisation, has been uneven. A number of contributions in this volume describe liberalisation measures that have contributed to greater openness, including Uribe (Colombia). China, India and Thailand have also recently liberalised capital outflows in an effort to dampen the impact of large capital inflows (see contributions by the People's Bank of China, Thirachai, and Mohanty and Scatigna). Nonetheless, China and India (the two largest emerging economies) have maintained significant capital controls. Moreover, there have been reversals, in which countries - in response to external pressures or in an attempt to insulate their domestic markets from the effects of capital inflows - have imposed a variety of controls (see Cifuentes and Desormeaux on Chile and Uribe on Colombia). In order to curb destabilising speculation in foreign exchange markets, several countries have at various times maintained or adopted measures to limit the internationalisation of their currencies, including Indonesia, Malaysia, Singapore and Thailand (see the respective contributions by Hartadi, the Central Bank of Malaysia, Ong and Thirachai). Finally, some countries have imposed capital controls to prevent the outbreak of crises or attenuate their effects (including Malaysia in September 1998 and Venezuela in February 2003). Underlying these varying responses is the reality that financial integration involves some well known trade-offs. Policymakers must weigh possible gains from faster growth and the opportunity to smooth consumption from country-specific shocks against the greater exposure to external shocks.

Second, the pace of financial integration, as measured by gross capital flows, has also been uneven. Following a steep rise during the first half the 1990s, gross capital flows to emerging market countries fell after 1996 and have only recently shown signs of recovery. The decline was particularly pronounced in Asia (outside China) and in Latin America. Other regions (central and eastern Europe (CEE), the Middle East and South Africa) experienced rising or stable inflows. Consequently, the empirical evidence cited above refers to a period when financial integration appears to have declined over a period in some important regions.

Third, net capital has flowed from poor to rich countries. Theory predicts that capital should flow from high-saving developed countries (where the marginal return to capital might be relatively low) to low-saving developing countries (where a high return to capital is expected) and thereby increase the global return to capital. Yet the reality has been totally different. Since 1997, the developed countries have been running a widening current account deficit, almost entirely due to developments in the United States. This deficit has been financed by current account surpluses in and capital outflows from emerging economies, notably Asia. In other words, there has been a net transfer of resources from developing to developed countries. One reason for this apparent paradox might be that returns in emerging market countries are still highly uncertain, notably where debt levels exceed even relatively low thresholds (see Reinhart et al (2003) and Reinhart and Rogoff (2004)).

Fourth, in large parts of Asia, the rise in saving relative to investment has manifested itself in growing foreign exchange reserves. The experience from the Asian crisis in 1997-98 meant that many countries had an incentive to increase reserves to reduce their vulnerability to external shocks. Yet, as discussed in the papers by the People's Bank of China, Mohan and Sidaoui, the continued rise in reserves raises a number of issues, including monetary control, growth and volatility.

Fifth, external shocks may dominate consumption smoothing effects. It is true that access to global markets can help reduce the fluctuations of consumption relative to income emanating from internal shocks. However, if external shocks (nominal as well as real) dominate internal shocks, this benefit may be outweighed by the costs of the new external exposure. This will be particularly true if the external shocks are related to procyclical swings in capital flows and financial integration increases countries' vulnerability to such shocks.

There is strong empirical evidence that external shocks (for instance, terms-of-trade changes) are far more important in developing economies than in developed countries. Similarly, capital flows to

emerging economies are volatile, including episodes of so-called “sudden stops” and closure of access to international bond markets.² There is also some evidence that a certain threshold of domestic market developments and institutions has to be reached before the vulnerability to external shocks can be decisively reduced.³ Most emerging economies are well below that level. This raises an important policy issue: should emerging economies pursue financial integration in the hope that exposure to and competition from global markets and institutions will strengthen domestic financial markets and institutions? Or should they rather develop their own markets and institutions before they open up?⁴

Finally, the monetary/exchange rate regime may play a role. Many countries have removed capital controls while attempting to maintain monetary policy independence by adopting a more flexible exchange rate regime. Bevilaqua and Loyo provide an instructive discussion of how an inflation targeting regime has allowed Brazil to cope with recent episodes of “sudden stops” in capital flows by combining a credible policy commitment to low inflation with sufficient exchange rate flexibility. In spite of significant financial dollarisation Peru has also sought to secure the benefits of a more flexible exchange rate while limiting the potential costs. Its inflation targeting regime reduces the risk of a currency crisis by allowing more exchange rate flexibility, and an “escape” clause allows monetary policy to respond to excessive exchange rate volatility (see Velarde’s paper). Cifuentes and Desormeaux point out that the institutional cornerstones of Chile’s current macroeconomic stability include a monetary regime based on inflation targeting, a floating exchange rate, as well as a fiscal policy based on a structural budget surplus rule. In contrast to other emerging market economies facing external financing constraints, there is scope for countercyclical macroeconomic policy in Chile.

Nonetheless, the broader question of how the exchange rate regime influences average growth and inflation in a financially integrated world remains to be settled. Central banks still tend to intervene or adjust domestic interest rates in response to exchange rate movements rather than use their independence to pursue domestic policy targets. The move to more flexible rates might thus have induced more volatility than central banks had anticipated or domestic exchange markets might not have been sufficiently deep to cope with the new regime. Moreover, the risk of currency mismatches and their potential danger to financial stability was probably seriously underestimated. At the same time, episodes of large capital inflows under a pegged regime also pose significant challenges, including persistent expectations of currency appreciation, the need for sterilised intervention, and overheating in some sectors. Such experiences are reported in this volume by the People’s Bank of China, Latifah (Malaysia), Tetangco (Philippines, for an earlier period) and Al-Jasser (Saudi Arabia). See also Mohanty and Scatigna.

To sum up, independently of their exchange rate regime, financial integration can make countries vulnerable to external shocks that reduce growth and consumption smoothing benefits. Partly as a result, the process of financial integration has been uneven and experienced partial reversals. However, as discussed in the following section, some recent trends suggest that countries might now be in a better position to weather these shocks and increase the gains from financial integration.

Some positive developments

Certain developments in international capital markets since late 2002 have been in marked contrast to the sombre conclusions discussed above. Spreads on emerging market sovereign bonds have fallen back to almost the levels observed before the Asian crisis, and the returns on such bonds have

² International Monetary Fund (2003) estimates that there were 21 bond market closures in 1994-2002, of an average length of 22 days. Most such episodes appear to be concentrated around well known crises or episodes, such as the period around the Mexican crisis in 1994 and the first half of 1995, the Asian crisis in 1997, the Russian crisis in the second half of 1998, and the period of high volatility in US high-yield markets and in emerging market spreads in 2002. The vulnerability to such episodes appears to vary considerably. For example, in 2002, spreads widened a lot more for countries with sub-investment grade sovereign credit ratings, with the result that it was typically the lowest-rated borrowers who were shut out.

³ Kose et al (2003) find that the volatility of consumption relative to output rises at low levels of financial openness but then falls. Countries above the threshold are all developed. In contrast, Lewis (1997) finds that the relationship between domestic income and consumption is looser in countries with no restrictions on international transactions.

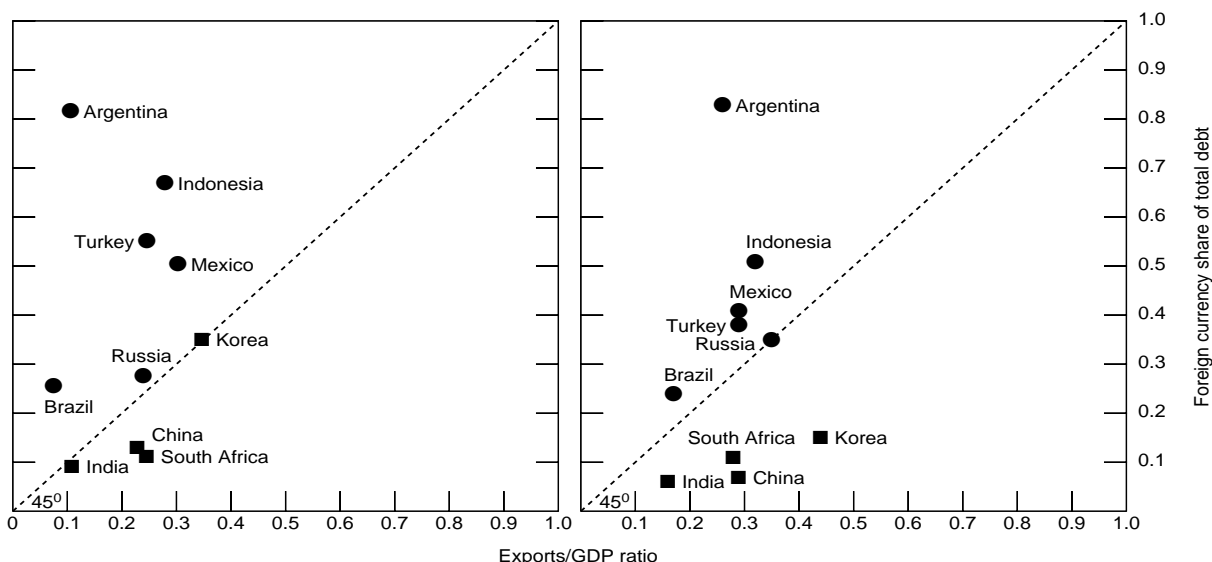
⁴ The same issue emerged when the United Kingdom went back on the gold standard, and also in the context of countries deciding whether to join EMU.

recently been significantly higher than those on developed country bonds. The rise in emerging market equity prices has also been spectacular as portfolio inflows have recovered substantially. Some analysts are sceptical of the sustainability of this rally. Because many emerging economies are exporters of raw materials, it is natural that their equity markets have been among the first to respond to the sharp rise in raw material prices associated with the global recovery. Moreover, experience shows that when interest rates are low in developed countries, investors are prepared to take on more risks in return for higher yields.

There are also signs that “deeper” developments have taken place which, on balance, might reduce the volatility of capital flows and the vulnerability of emerging economies to external shocks. Four important trends can be identified: reduced vulnerability to shocks, including lower currency mismatches; increased use of market-based instruments; deepening of domestic financial markets; and greater discrimination on the part of investors.

First, countries have made *efforts to reduce their vulnerability to external shocks*. In particular, since concerns about debt sustainability have played a role, countries have sought to limit domestic and external debt. Chile has maintained low ratios of public debt to GDP, earning an investment grade rating that has meant much lower increases in sovereign spreads during periods of global market uncertainty. More recently, Brazil and Turkey have taken steps to consolidate their fiscal positions. Currency mismatches in private and public balance sheets have also been reduced, which implies that a number of heavily indebted economies are now less vulnerable to currency depreciation. In Brazil sharp reductions in the proportion of its public debt that is indexed to the exchange rate have played a role. Foreign reserve accumulation has recently been significant in Latin America, and even larger in Asia. At the same time, ratios of external debt to exports have been kept low in Asia relative to other regions. To illustrate trends in currency mismatches, Graph 2 plots the ratio of exports to GDP against the foreign currency share of total debt. Countries shown above the 45° line have a foreign currency share in total debt that is greater than their export/GDP ratio. The further countries are away from the 45° line, the greater is the degree of currency mismatch.

Graph 2
Currency mismatches in 1997 and 2003



Source: Tables 3.2 and 4.6 of Goldstein and Turner (2004).

Mismatches were particularly large in 1997 (Graph 2, left-hand panel). Most Asian countries, however, have in recent years reduced their dependence on foreign currency debt and increased foreign currency earnings: Korea is now well below the 45° line. In Indonesia and Mexico, the foreign currency share of total debt (both public and private) has also fallen substantially in recent years. While there are still significant currency mismatches, preliminary calculations suggest that a number of countries - notably Brazil and Turkey - moved closer to the 45° line in 2003.

Second, international financial integration has encouraged central banks to *shift towards market-based instruments that enhance their ability to respond to shocks*. For example, India moved away

from the use of cash reserve ratios to the use of repo and reverse repo operations. Seeking to enhance the scope of its money market operations and reducing its credit risk, the Monetary Authority of Singapore has expanded from foreign exchange swaps and uncollateralised lending or borrowing to include sale and repo operations in Singapore government securities (see the contributions by Mohan, Ong and Hawkins in this volume). In some special cases, countries have sought to insulate markets from large foreign exchange inflows associated with privatisation or large export revenues (eg from oil) through the creation of special accounts (see the respective contributions by Sidaoui, Böhm and Ždárský, and Mihaljek in this volume).

Third, there has been a *gradual deepening of and improved resilience in domestic financial markets* in emerging economies, often allied with pension reforms (Chile, Poland, Hungary and Mexico) that have helped to increase the base of potential investors. In some cases, governments have encouraged financial market development by stepping up central bank issuance of its own securities (see the papers by Chung and Velarde). However, this has the disadvantage of potentially exposing the central bank balance sheet to interest rate risk and of fragmenting markets by increasing the types of securities on offer. One solution, adopted in India in early 2004, is to issue special government securities to be used by the central bank in managing domestic liquidity. Some countries have adopted legislation to strengthen risk management in the banking sector through improved regulation and liberalised foreign bank entry (see Tetangco's and Moreno and Villar's contributions in this volume).

Fourth, international investors are now better able to differentiate between countries, thus reducing the risk of contagion. For instance, spillovers from Argentina's sovereign bond default in 2001 and of several crises in Turkey were relatively limited. Similarly, concerns about debt sustainability in Brazil in 2002 had a smaller impact on countries that were thought to be less vulnerable (eg with investment-grade sovereign ratings). Finally, while the Yukos event in Russia reminded investors that politics may still dominate economics, the absence of spillovers was also noticeable.

Table 1

Foreign exchange turnover

Daily averages, in millions of US dollars

	2001 (reported by dealers in the country of issue) ¹	2001 (reported by dealers outside the country of issue) ¹	2001 Total	2004 (reported by dealers in the country of issue) ¹	2004 (reported by dealers outside the country of issue) ¹	2004 Total
Latin America						
Argentine peso	na	na	na	684	na	684
Brazilian real	4,612	627	5,239	3,127	1,217	4,344
Chilean peso	2,282	na	2,282	2,314	na	2,314
Colombian peso	371	na	371	669	na	669
Mexican peso	5,888	4,198	10,086	10,059	10,253	20,312
Peruvian sol	203	na	203	251	na	251
Asia						
Hong Kong dollar	19,016	8,365	27,381	19,967	13,214	33,181
Indian rupee	2,762	78	2,840	5,313	753	6,066
Korean won	7,916	1,841	9,757	15,815	5,335	21,151
Taiwan dollar	2,609	558	3,167	3,869	3,393	7,261
Indonesian rupiah	535	17	552	1,419	633	2,051
Malaysian ringgit	923	na	923	987	na	987
Philippine peso	455	47	502	523	242	765
Singapore dollar	9,841	3,045	12,886	8,751	8,259	17,010
Thai baht	1,274	585	1,859	2,088	1,403	3,492

Table 1 (cont)

Foreign exchange turnover

Daily averages, in millions of US dollars

	2001 (reported by dealers in the country of issue) ¹	2001 (reported by dealers outside the country of issue) ¹	2001 Total	2004 (reported by dealers in the country of issue) ¹	2004 (reported by dealers outside the country of issue) ¹	2004 Total
Central Europe						
Czech koruna	1,135	1,099	2,234	965	1,848	2,813
Hungarian forint	173	24	197	1,380	2,246	3,625
Polish zloty	3,376	2,949	6,325	3,400	3,630	7,031
Russian rouble	4,158	124	4,282	10,631	1,577	12,208
Israeli shekel	506	na	506	1,969	na	1,969
Turkish lira	231	202	433	1,439	552	1,991
Saudi Arabian riyal	840	na	840	689	na	689
South African rand	6,846	4,481	11,327	5,682	7,974	13,656
<i>Memo:</i>						
<i>Australian dollar</i>	20,076	29,577	49,653	27,046	70,077	97,123
<i>Swedish krona</i>	11,466	18,680	30,146	13,811	26,828	40,639
<i>Swiss franc</i>	17,767	53,286	71,053	21,143	86,562	107,705
Total²	634,650	538,416	1,173,066	943,542	829,896	1,773,438

na = not available

¹ Including local and cross-border transactions. ² Since two currencies are involved in each transaction, the sum of transactions in all individual currencies would come to twice the total reported turnover.

Note: Figures are daily averages during April; sum of spots, forwards and foreign exchange swaps, adjusted for local and cross-border double-counting.

Source: Bank for International Settlements, Triennial central bank survey of foreign exchange and derivatives market activity, 2001 and 2004.

Globalisation and financial markets

Notwithstanding these favourable developments, which might help to attract foreign investors and stimulate domestic investment, financial integration may imply that emerging financial markets are more vulnerable to certain types of shocks, and that it may be difficult in some instances to find suitable instruments to manage these shocks. For example, consider how foreign exchange markets (the main conduit for the transactions that occur as a result of growing financial integration) have evolved and what this might imply for economic and financial stability. Greater financial integration may amplify volatility in foreign exchange markets, and this effect may be heightened by the introduction of modern risk management techniques.⁵ This creates a risk that market participants will withdraw liquidity (ie increase their reservation price or simply halt trading) in the face of stress. Market

⁵ These techniques rely on value-at-risk (VaR) measures, which are positively correlated with historical volatility: if volatility rises above its historical value, the financial institution might become capital constrained and forced to unwind its position. A recent example of how market volatility is then amplified is the Japanese government bond market; see Packer and Wooldridge (2003, pp 2-3).

participants may also have to unwind their positions involuntarily (due to triggers or prudential requirements) in ways that might increase volatility in other markets. At the same time, however, globalisation may encourage the development of deeper foreign exchange markets, which may increase resilience to shocks. The results of the 2004 BIS triennial survey of foreign exchange markets indicates greater depth along a number of dimensions (Table 1). First, foreign exchange market turnover increased considerably between 2001 and 2004, over 50% overall and even faster in a number of emerging market economies. This suggests a significant increase in total liquidity. Second, the share of offshore transactions in many emerging market currencies has risen significantly, possibly spurred in part by the availability in major financial centres of electronic platforms that lower transaction costs and increase market transparency. Third, turnover in forward or swap transactions has increased relative to spot transactions in a number of emerging market currencies, suggesting greater use of hedging instruments. For example, between 2001 and 2004 net foreign exchange turnover in the Korean won forward and swap markets increased 262% and 95% respectively, compared to an increase of 83% in the spot market. Rapid growth in forward or swap market turnover is also apparent in the currencies of India, Mexico, Thailand and Turkey (from low levels) among others. Goldstein and Turner (2004, p 59) suggest that a larger share of offshore derivative transactions are characteristic of more liquid foreign exchange markets.⁶

Turnover has not increased in all emerging market currencies. One explanation for this might be that central banks have significantly reduced their participation in forward markets as a result of losses incurred. The introduction of restrictions on forward currency markets or capital controls could also have played a role. For example, the measures adopted by the Malaysian authorities in September 1998 curtailed forward transactions in the ringgit. The Indonesian country paper describes measures designed to limit rupiah lending to non-residents, which would discourage taking speculative positions via forward markets (although forward or swap market rupiah transactions have nevertheless grown). In other cases, capital controls have induced forward markets to move offshore. In 2003, in an effort to dampen the appreciation of the baht, the Thai authorities limited the amount of baht deposits non-residents could maintain. This constrained the ability of non-residents to take a long position on the baht and even larger long positions in the forward market. In Asia, the effects of such restrictions have in some cases been at least partly offset by the development of non-deliverable forward (NDF) markets in Asian currencies, which account for the bulk of global NDF market activity.⁷ Led by the NDF market in Korea (average daily turnover in excess of USD 500 million), NDF markets appear to have deepened significantly in recent years (see Ma, Ho and McCauley (2004)).

It remains unclear whether financial integration has stimulated or retarded the development of domestic financial markets. On the one hand, the exposure to foreign competition has helped in some cases and foreign investors have also started to purchase domestic currency paper instead of dollar-denominated paper. For example, in his contribution to this volume, Chung documents the very high penetration of foreign investors in the equity markets in Korea. Goldstein and Turner (2004, Tables 5.2 and 5.3) document increases in bond trading volume and in domestic debt securities outstanding in emerging market economies. Nevertheless, recent research suggests that there is further scope for improving liquidity in emerging bond markets (McCauley and Jiang (2004)). Furthermore, with the removal of capital controls, large emerging market companies with high ratings are also covering their external financing needs by issuing bonds in the international market or listing in New York or other advanced equity markets.

⁶ In interpreting the data, it is worth bearing in mind that turnover in emerging market currencies may have been unusually high in April 2004, when the most recent BIS triennial survey was conducted. The reason is that there was a sharp increase in US long-term rates and in some emerging market sovereign spreads in that month in anticipation of monetary tightening by the Federal Reserve. In this setting, investors taking speculative positions in an emerging market currency might also prefer to do so offshore, where they are not subject to any foreign exchange restrictions or monitoring by the emerging market central bank issuing the currency.

⁷ NDFs involve no settlement on the notional value of the transaction. Payments are only made if there is a difference between the contracted rate and the actual rate on the day the contract comes due. The settlement is usually in a currency different from that of the pertinent emerging market currency (say in US dollars rather than Chinese renminbi) and in a jurisdiction outside that emerging market.

References

International Monetary Fund (2003): *Global financial stability report: market developments and issues*, Washington, DC.

Goldstein, M and P Turner (2004): *Controlling currency mismatches in emerging markets*, Institute for International Economics, Washington, DC.

Kose, M A, E S Prasad and M E Terrones (2003): "Financial integration and macroeconomic volatility", *IMF Working Paper No WP/03/50*.

Lewis, K (1997): "Are countries with official international restrictions "liquidity constrained"?" *European Economic Review*, 41(6), pp 1079-1109.

Ma, G, C Ho and R McCauley (2004): "The markets for non-deliverable forwards in Asian currencies", *BIS Quarterly Review*, June.

McCauley, R and G Jiang (2004): "Asian local currency bond markets", *BIS Quarterly Review*, June.

Packer, F and P Wooldridge (2003): "Overview: a sell-off in global bond markets", *BIS Quarterly Review*, September.

Prasad, E, K Rogoff, S-J Wei and M A Kose (2003): "The effects of financial globalization on developing countries: some empirical evidence," *IMF Occasional Paper 220*, International Monetary Fund, Washington DC.

Reinhart, C M and K S Rogoff (2004): "Serial default and the "paradox" of rich-to-poor capital flows", *American Economic Review*, May.

Reinhart, C, K S Rogoff and M A Savastano (2003): "Debt intolerance" *IMF Working Paper No 9908*, August.