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# Global and regional financial integration: progress in emerging markets[1]

*In recent years efforts have been made to deepen financial links between emerging markets within individual regions. Such regional financial integration lags the integration of emerging markets with global markets, but authorities in Asia in particular are taking steps to accelerate the process.*

*JEL classification: F36, F21, G11*.

Since the early 1990s, financial systems in emerging economies have become increasingly integrated into the international financial system. This process was led by the forging of links with the major financial centres: for example, emerging market residents turned to New York, London and other international centres to raise foreign financing and purchase foreign assets. In recent years, efforts have also been made to promote integration among emerging markets within individual regions.

This special feature reviews measures of financial integration and the progress of integration in emerging markets from both a global and a regional perspective. The new members of the European Union come closest to achieving an integrated market, as a result of their close ties to major financial centres within the Union. At the same time, financial links among emerging markets are deepest in emerging Asia, where the authorities have taken collective actions to reinforce them. The following section explains what is meant by financial integration, and subsequent sections examine different measures of cross-border integration.

[1] The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS. The authors are grateful to Claudio Borio, Már Gudmundsson, Robert McCauley, Frank Packer and Eli Remolona for comments, and to Magdalena Erdem for assistance with empirical work and graphs.

## Financial integration in an international context

An integrated financial market is one in which potential market participants face a single set of rules, have equal access and are treated equally (Baele et al (2004)). In an international context, progress towards a fully integrated market for financial instruments and services depends on a broadening and deepening of cross-border financial links.

Financial integration involves broadening and deepening links between markets

More concretely, the process of cross-border financial integration involves opening a country's financial markets and institutions to foreign players as well as permitting local market participants to invest abroad. This can be done by removing barriers to the cross-border flow of capital and financial services, such as capital controls and withholding taxes. An additional step towards an integrated market is the removal of obstacles which result in less favourable treatment of foreign capital and foreign financial institutions. One example of such discrimination is giving preference to domestic institutions in government bond auctions and privatisations. Links can be further deepened by harmonising national standards and laws, through either the mutual recognition of standards or the adoption of commonly agreed minimum standards.

Cross-border integration can proceed either globally or regionally. In other words, a country can integrate with the world as a whole or with the region where it is located. Global integration tends to take the form of increased financial links with major financial centres such as London and New York because network externalities give these centres an advantage in the provision of financial services (Gehrig (1998)). For the same reason, regional integration is facilitated by regional financial centres, as is the case of Hong Kong SAR and Singapore for emerging Asia.

Whether integration proceeds globally or regionally potentially impacts the types of benefits realised (see box). Business cycles are less correlated among distant economies, and so risk-sharing might be best facilitated through global integration. Geographical proximity is an important determinant of trade and financial flows, and therefore economic growth might be given a greater boost by regional integration.

Key drivers of integration are market participants' behaviour ...

Behind the broadening and deepening of cross-border financial links are three main forces. One is changes in the behaviour of local and foreign market participants (Wooldridge et al (2003)). For example, over the past two decades advances in communications and computing technology and the consequent increase in the availability of information have contributed to a weakening of investors' home bias. At the same time, an increasing number of firms has opted to raise capital in international markets, including through the cross-listing of shares on major stock exchanges.

A second driving force is unilateral action by national authorities. Beginning in the mid-1980s, authorities in many emerging markets liberalised their financial systems and implemented other market-oriented reforms. Progress in removing capital controls slowed after the financial crises of the late 1990s, but reform of local financial systems continued.

## Global versus regional financial integration: a brief survey of benefits and costs

Financial integration has two major economic benefits: economic growth and risk-sharing. First, by facilitating the allocation of capital to its most productive use and promoting the development of the financial system, integration should enhance growth prospects. Second, by allowing for cross-border financing and investment, it facilitates portfolio diversification and, thereby, the sharing of idiosyncratic risks across countries. Such risk-sharing allows income to be insured against country-specific shocks and, thus, consumption to be smoothed over time.

How much of these benefits countries are able to reap depends, among other factors, on the extent of regional versus global integration. Regional financial integration is less likely than global integration to foster risk-sharing, insofar as business cycles tend to be more closely correlated among neighbouring countries than among distant ones. Financial integration has been found to allow for a better diversification of risk when countries are more specialised (Imbs (2004)).

The European experience and, more recently, that of Asia show that regional financial integration can bring additional benefits on the institutional side. Peer pressure has promoted the upgrading and harmonisation of local practices in the functioning of the financial system, including accounting, tax treatment and even regulation and supervision in the European case. Such institutional upgrades have been found to foster financial development.

Finally, the importance of local information and common time zones for financial markets could create a role for regional integration to improve welfare. Gravity models work well for financial and trade flows, suggesting that, even in an age of efficient global communications, financial markets still find significant advantages in geographical proximity (Portes and Rey (2000)). More specifically, information asymmetries or differences in investment styles could cause investors in neighbouring countries to act differently from those in distant countries, and so regional integration might help to diversify the global investor base.

Financial integration, whether regional or global, is not without costs. In a world with imperfect capital markets, financial integration can heighten a country's vulnerability to macroeconomic and financial crises. In particular, contagion and reversals in capital flows can result in higher output volatility and even lower average growth for a certain period of time, although it should still be higher in the long run, given the previously discussed benefits. Regional integration might be even more costly if sudden stops are more frequent within a region than globally.

Evidence about the link between financial integration and volatility is inconclusive (Rogoff et al (2006)). What seems clear is that countries with well developed financial systems are less vulnerable to crises, but it is also true that financially developed countries are generally financially integrated with the rest of the world (Lane and Milesi-Ferretti (2006)). More specifically, vulnerability is especially high if certain institutions and policies are not in place before a country liberalises its financial system (Demirgüç-Kunt and Detragiache (1999)). The string of international financial crises in the 1990s demonstrated that eliminating barriers to the international movement of certain types of financial capital might induce volatility if countries do not have strong institutions and sound macroeconomic policies. Some have also suggested that minimising the risks of integration requires the existence of well functioning domestic financial markets (Alfaro et al (2005)).

... and authorities' actions

A third force is multilateral action by a group of countries. Over the past decade, the international community has developed a range of standards to promote well functioning financial systems, and many countries have taken steps to harmonise national standards with these international ones. In addition, cross-border financial ties have been promoted through formal trade and investment agreements. Such agreements often give a greater impetus to regional than to global integration, in part because of the difficulties of reaching agreements among a large number of countries. The European Union is the best known example of a collective effort to achieve an integrated regional market. The 10 countries of the Association of Southeast Asian Nations (ASEAN) also aspire to closer integration, including the establishment of a regional economic union by 2015.

Multilateral actions can usefully promote integration, but they are neither necessary nor sufficient for its advancement. For example, agreements among Latin American authorities led to the creation of a large number of organisations to support regional cooperation, such as the Andean Development Corporation and the Latin American Integration Association. However, these were not accompanied by a deepening of financial links among market participants within the region.

## Progress of financial integration

Emerging markets are clearly more closely integrated into the international financial system today than they were a decade or two ago. But how advanced is the process of global financial integration? How deep are the financial links? These are difficult questions to answer because there is no single indicator that captures all aspects of integration.

No single measure captures all aspects of integration

In general, financial markets can be considered fully integrated if the law of one price holds. The law of one price, which implies that assets with identical risks and returns command the same price, should prevail between markets where assets are perfectly mobile. If financial integration were sufficiently advanced, then capital would flow to where returns are highest and, in the process, risk-adjusted expected rates of return would tend to equalise across countries.[2]

Following from this, one implication of financial integration is that there need not be any relationship between saving and investment within a country. Feldstein and Horioka (1980) propose a simple test of this relationship:

$$\left(\frac{INV}{GDP}\right)_{i,t} = \alpha + \beta\left(\frac{SAV}{GDP}\right)_{i,t} + \varepsilon_{i,t}$$

where *i* represents the country and *t* the time period. The coefficient β shows what proportion of a change in the domestic saving rate is retained in the country to finance investment. We collected data for 26 emerging markets (nine from Asia, 10 from Europe and seven from Latin America) over the 1982–2006 period. To control for cyclical fluctuations, we averaged the saving and investment rates over five-year intervals. The resulting coefficient β is plotted in Graph 1 for different periods and different emerging regions.

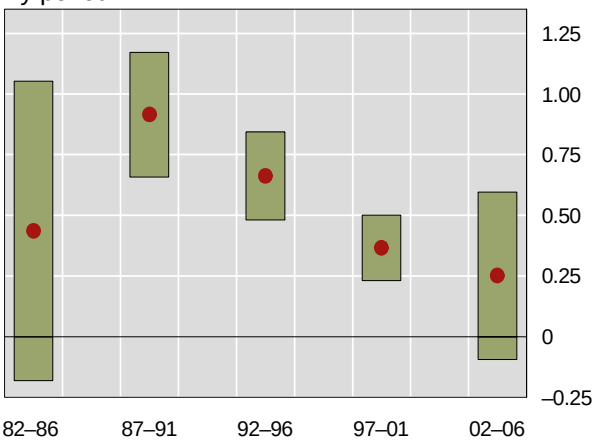
For the full sample of emerging markets, the savings retention coefficient rose during the 1980s, reflecting the decline in capital flows to emerging markets after the 1982 debt crisis (Graph 1). It fell sharply during the 1990s, from 0.92 in 1987–91 to 0.37 in 1997–2001, and then declined further to 0.25 in 2002–06. The most recent estimates are still well above the savings retention coefficient for mature economies, which we calculate to be about zero in 2002–06, and so emerging economies are not yet as integrated into global financial markets as are mature economies. Among emerging regions, the savings retention coefficient is lowest in Latin America, where it is close to zero over the full sample period. In Europe, it is around 0.4, and in Asia 0.5.

Relationship between saving and investment has weakened significantly

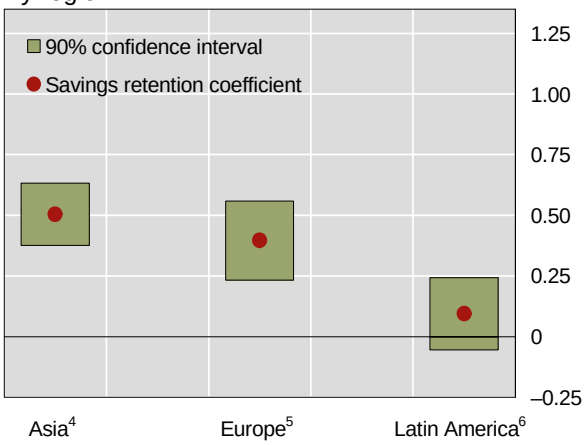
[2] More generally, the real interest rate would tend to equalise across markets.

## Relationship between saving and investment[1]

By period[2]




By region[3]




[1] Investment as a percentage of GDP, regressed against a constant and savings as a percentage of GDP; variables are calculated as five-year averages; Newey-West standard errors. Gross domestic savings are calculated as GDP minus private and government consumption. Gross investment is calculated as gross fixed capital formation plus changes in inventories. [2] Pooled regressions including all countries listed in notes 4 to 6. [3] Pooled regressions including all periods. [4] China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand. [5] Countries which joined the European Union on 1 May 2004, ie Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia; data for 1992–96, 1997–2001 and 2002–06 only. [6] Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

Sources: IMF; authors' calculations. Graph 1

The extent to which risk-adjusted expected rates of return have converged across countries can also be measured directly, by comparing asset prices. Return correlations are the simplest price-based measures, but they can be difficult to interpret. A more meaningful measure is the relative importance of different risk factors in returns. Increased economic and financial links facilitate portfolio diversification, which in turn should reduce the impact of diversifiable risks, in particular country-specific macroeconomic shocks, on asset prices.

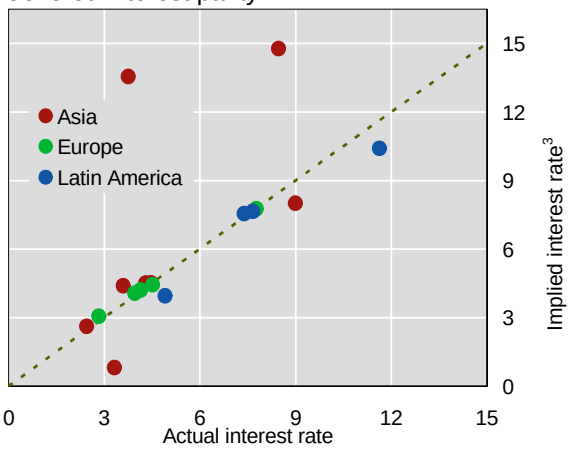
Country-specific factors are still important in emerging equity markets

Studies of US, European and other major equity markets typically find that country-specific factors had a significant impact on returns in the 1980s, but their importance declined relative to that of sector-specific factors in the late 1990s and early 2000s. By contrast, in emerging equity markets there is less evidence of a shift. For a sample of 26 emerging markets, Chen et al (2006) find that country-specific factors were more important than sector-specific factors throughout the 1994–2005 sample period. This implies that the integration of emerging equity markets into the international financial system lags the integration of major markets. Estimated country effects are lowest for Latin American equities and highest for Asian equities. One likely explanation for this difference is that a relatively large number of Latin American firms are cross-listed on major exchanges.

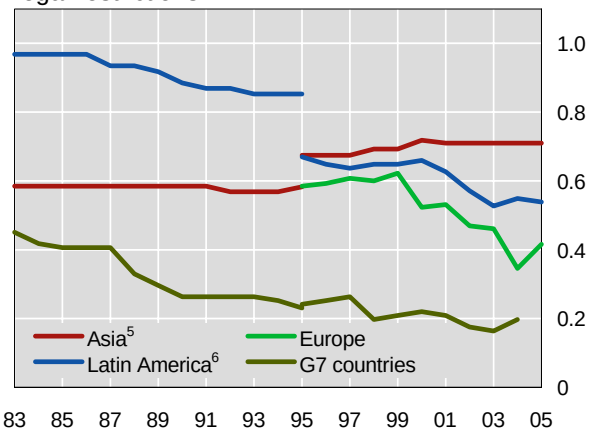
In fixed income markets, a specific (albeit narrow) example of the law of one price is covered interest parity. This states that the interest rate differential between two currencies is equal to the percentage difference between the forward exchange rate and the spot exchange rate. Covered interest parity does seem to hold in those countries which joined the European Union in 2004, at least for money markets in June 2007 (Graph 2, left-hand panel). However, it does not hold for several Asian and Latin American economies, suggesting the

## Indicators of capital mobility[1]

Covered interest parity[2]




Legal restrictions[4]




[1] For a list of countries in each region, see Graph 1. [2] Three-month interbank interest rate, average in June 2007. [3] Derived from the theoretical relationship between spot and forward exchange rates against the US dollar, and US dollar Libor. [4] Average of 1/0 dummy variable indicating the existence of controls on capital account transactions; data for 1983–95 are from Miniane (2004); data for 1995–2005 are from various editions of the IMF's *Annual report on exchange arrangements and exchange restrictions*. [5] Prior to 1995, excludes China, Indonesia, Taiwan (China) and Thailand. [6] Prior to 1995, excludes Peru and Venezuela.

Sources: Miniane (2004); IMF; Bloomberg; national data; authors' calculations. Graph 2

existence of barriers that prevent investors from engaging in arbitrage between domestic and foreign markets.

Full integration might be impeded by market frictions. For example, home bias will persist so long as poor corporate governance in some countries makes it optimal for insiders to own large stakes in firms in that country and, consequently, difficult for foreign investors to acquire shares on the open market (Kho et al (2006)). Therefore, in assessing the progress of financial integration, it is useful to consider measures of capital mobility alongside the broader measures discussed above.

Impediments to capital mobility are lowest in the new EU members

One often cited indicator of capital mobility refers to the existence of legal restrictions on cross-border capital flows, based on information in the IMF's *Annual report on exchange arrangements and exchange restrictions*. The IMF defines a 1/0 dummy variable for a range of current and capital account transactions, with a value of one indicating the existence of restrictions. Following Miniane (2004), we aggregate several different categories of transactions to construct an index of capital controls. For the 10 countries which joined the European Union in 2004, this index shows a sharp reduction in restrictions on capital mobility starting in 1999 (Graph 2, right-hand panel). By 2005 the extent of restrictions in the new EU members was substantially less than in other emerging regions. Latin American countries began to eliminate restrictions in the late 1980s but did not do so as aggressively as the new EU members later did. The index shows little progress in emerging Asia. This is consistent with the picture shown by covered interest parity.

Such de jure measures of impediments to the free flow of capital have several shortcomings. First, the restrictions may not be binding; they may not be enforced or respected, or the capital flows may not have existed in the first place. Second, they cover a narrow aspect of all possible impediments, for

example missing idiosyncratic national practices that effectively discriminate against foreign market participants. Third, they capture regulations in place on a given day and so might not reflect temporarily imposed measures.

Quantity-based indicators of capital mobility overcome some of these shortcomings. The size of a country's international investment position shows how much of its wealth comes from or is placed abroad. Gross measures capture the progress of financial integration better than net measures because the latter underestimate the degree of integration in countries with similarly large external assets and liabilities. Furthermore, stock measures are better than flow measures because the latter are influenced by changes in short-term market conditions and thus can fluctuate markedly.

Gross external position of emerging markets in Asia and Europe is very large ...

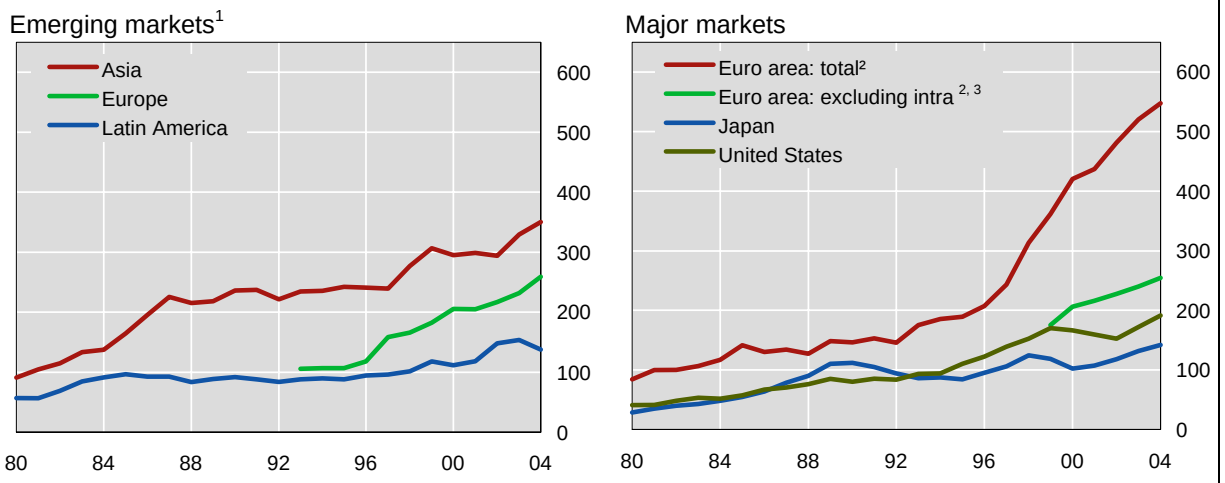
In Graph 3, countries' gross international investment position is estimated by summing the stock of external assets and liabilities. According to this measure, emerging markets in Asia are more closely integrated with international financial markets than are those in other regions. Asian economies' gross external position averaged 350% of GDP in 2004, compared to about 260% in the new EU members and 140% in Latin America. Latin America's level of financial openness was not far behind Asia's in the early 1980s, but in the latter part of the decade and again in the late 1990s the gap widened significantly. Even though most new EU countries were part of the Soviet bloc, in the early 1990s the region's integration with the rest of the world was similar to Latin America's. The pace of integration in the new EU countries then accelerated in the mid-1990s, around the time that they applied to join the European Union.

... but not as large as that of the euro area

The gross international investment position of emerging markets in Asia and Europe is larger than that of some major markets, when the size of the economy is taken into account. In 2004, external assets and liabilities equalled 190% of GDP in the United States and 140% in Japan. The one region that

## Gross international investment position

Foreign assets plus foreign liabilities, as a percentage of GDP




[1] Equally weighted average of the countries in each region; for a list of countries, see Graph 1. [2] Eleven original members. [3] Excluding intra-euro area assets and liabilities.

Sources: Lane and Milesi-Ferretti (2006); IMF. Graph 3

stands out is the euro area. The combined external financial position of its members was well above that of any other region, close to 550% of GDP in 2004. This is mainly due to the impressive impetus given to regional financial integration by the launch of the single currency. Indeed, since 1999 intra-euro area activity has grown faster than the euro area's external positions vis-à-vis the rest of the world.

## Global versus regional integration

Financial integration can proceed globally or regionally

The discussion above gave little regard to the geographical reach of financial integration. Below we focus on the closeness of financial links between emerging markets and three different groups of countries: other emerging markets within the same region, mature economies neighbouring the region, and major financial centres farther afield. The first set of links, among emerging markets within the same region, represents regional integration in the narrowest sense. The second set, with neighbouring economies, can also be considered regional integration, but in a broader sense. The third, with major financial centres, we will refer to as global integration.

Considering first price-based indicators, we propose a decomposition of individual country returns into what can be attributed to a global risk factor and what can be attributed to a regional risk factor. Specifically, we propose a decomposition of the return on country *i*'s bonds into three parts: the return on a global bond index ($R_{G,t}$), the excess return on a regional bond index ($ER_{R,t}$, measured as the difference between regional and global returns), and a country-specific error term ($\varepsilon_{i,t}$):

$$R_{i,t} = \beta_1 R_{G,t} + \beta_2 ER_{R,t} + \varepsilon_{i,t}$$

The coefficient $\beta_1$ captures non-diversifiable risk related to global economic and financial conditions, and so a higher $\beta_1$ can be interpreted as indicating greater global integration. The coefficient $\beta_2$ is a region-specific factor. If $\beta_2$ exceeds zero, it indicates that investors can and do diversify their portfolios across the region, suggesting a degree of bond market integration within the region unrelated to global integration.[3] Graph 4 shows the results of the decomposition, using weekly data for local currency government bonds.

Bond returns exhibit a regional risk factor, unrelated to global integration

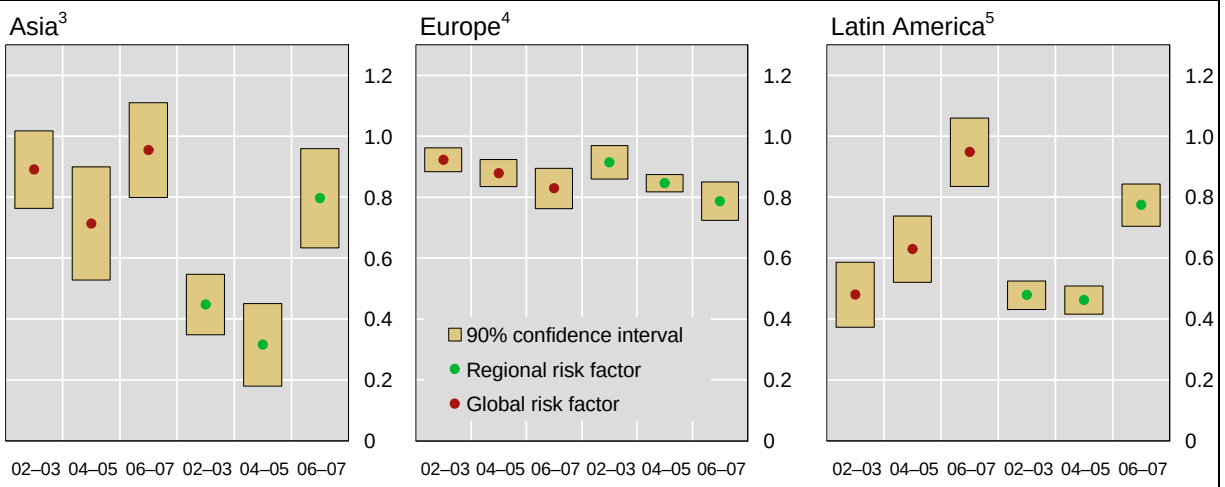
The size of the global risk factor in bond returns did not change significantly between 2002 and 2007 in Europe and Asia but did increase in Latin America. The regional risk factor is significant in all three regions, becoming more so in Asia and Latin America since 2004. The increase in these latter two regions implies that regional integration has facilitated the diversification of idiosyncratic country risk.

Certainly in Asia authorities have been proactive in promoting the integration of regional bond markets. In 2002 ASEAN members plus China, Korea and Japan launched the Asian Bond Markets Initiative. The focus of this initiative is on facilitating access to regional bond markets for a wider variety of issuers, as well as enhancing the market infrastructure. Other efforts to

[3] The emerging market bonds in our sample are not risk-free, and so the coefficient $\beta_2$ may also capture non-diversifiable default risk (Amato and Remolona (2005)).

## Global vs regional factors in bond returns[1]

Local currency government bonds[2]




[1] Returns for country *i*, regressed against a composite return for developed markets and excess returns for regional markets (measured as composite regional returns less a composite developed market return); weekly returns over a two-year period; for 2006–07, January 2006 to July 2007. [2] Seven- to 10-year maturity; JPMorgan Global Bond Indices (Global and Emerging Market Broad). [3] China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, Singapore and Thailand. [4] The Czech Republic, Hungary, Poland and Slovakia. [5] Brazil, Chile, Colombia, Mexico and Peru.

Sources: JPMorgan; authors' calculations. Graph 4

promote the development of local currency bond markets include the creation of the Asian Bond Fund 2 (ABF2) in 2004 by the 11 member institutions of the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP). ABF2 invests in local currency bonds issued by sovereigns and quasi-sovereigns in eight of the 11 EMEAP countries, and the country and regional funds comprising ABF2 are listed on the region's exchanges. The process of creating the funds seems to have accelerated the process of market reform in several countries, including the relaxation of capital controls, the lifting of withholding taxes and the mutual recognition of jurisdictions within the region (Ma and Remolona (2005)).

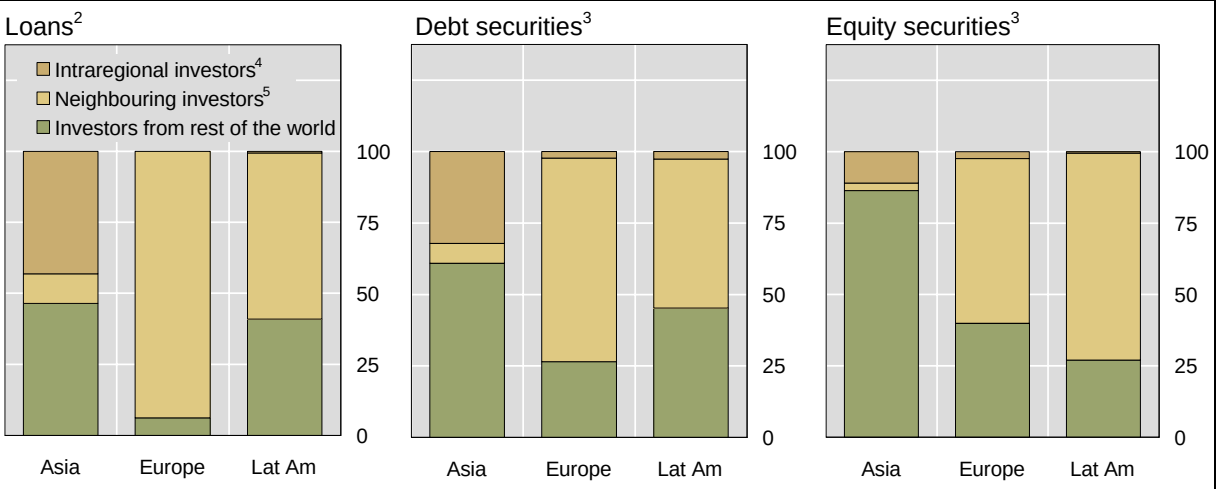
Substantial intraregional investment in Asia ...

Turning to quantity-based measures, one indicator of the progress of regional integration is the share of foreign investment financed by other countries within the same geographical area. By this measure, Asia is the most regionally integrated of the three emerging regions examined. About 30% of cross-border bond investment in Asia, and 40% of loans to Asian residents, are from entities domiciled within the region, in particular investors in Hong Kong and Singapore (Graph 5). Although intraregional investors account for only 10% of foreign investment in Asian equities, this is a larger share than in any other region. Indeed, there seems to be very little intraregional investment within the new EU countries and Latin America. If the financial centres in the Caribbean are grouped together with the countries in Latin America, the share of intraregional investment in that region is significantly higher, but it is still lower than in Asia.

Available data, however, tend to underestimate the degree of regional integration insofar as only a handful of emerging markets report details of their financial position abroad. In the same vein, residency-based data mask the

## Sources of foreign investment[1]

As a percentage of the stock of foreign investment in the host region, at end-2005




[1] For a list of countries in each region, see Graph 1. [2] Cross-border liabilities, in the form of loans and deposits, to BIS reporting banks. [3] Derived from foreign portfolio assets reported by countries participating in the IMF's Coordinated Portfolio Investment Survey. [4] Investment by the residents of the region. [5] Investment by residents of mature economies neighbouring the region; for Asia, Japan; for Europe, EU 15 countries; for Latin America, Canada, the United States and Caribbean countries.

Sources: IMF; national data; BIS. Graph 5

ultimate origin of the funds. A large portion of the funds intermediated in offshore financial centres comes from the affiliates of entities headquartered elsewhere. For example, only 11% of all cross-border credit from banks in Hong Kong, Macao SAR and Singapore is originated by banks headquartered in those jurisdictions.

... much of it intermediated through offshore centres

The picture of regional integration is quite different if links to mature economies neighbouring the region are considered. In this case, the new EU members are the most regionally integrated: the 15 older members of the European Union play a much larger role in the new EU members than do the United States and other North American financial centres in Latin America, or Japan in Asia (Graph 5). Banks domiciled in the EU 15 account for almost all cross-border lending to borrowers in the new EU members, and EU 15 residents are by far the largest portfolio investors in the region. Only for equity investment is the relative importance of neighbouring regional investors greater in Latin America than in the new EU members. In emerging Asia, Japanese investors do not have a dominant presence, although in the late 1980s and early 1990s Japanese banks were the largest creditors to the region.

The new EU members are the most integrated with their more developed neighbours

The composition of investors' portfolios arguably provides a more representative picture of the importance of intraregional investment than the proportion of a country's foreign liabilities financed by investors within the region. The foreign assets of many emerging markets are, in absolute terms, much smaller than those of mature economies, and so the latter proportion is likely to be low even with heavy intraregional investment. Using data on the foreign portfolio assets of 43 countries, we construct a measure of regional bias in foreign portfolio allocations, similar to measures of home bias. Graph 6 compares the share of a country's outward equity investment directed to a particular emerging region with that region's share of global market

capitalisation. A ratio greater than one indicates that investors overweight their allocation to the region relative to the region's share of world market capitalisation, and a ratio less than one indicates that investors underweight the region.[4]

Investors in all emerging regions exhibit a regional bias in their equity allocations

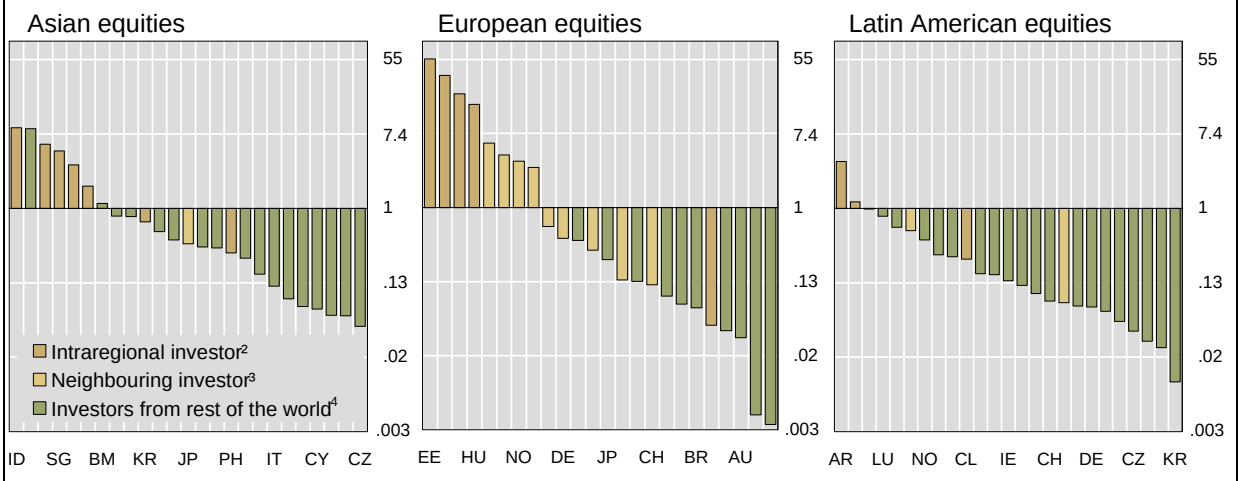
Looking first at those investors who overweight regional equities, almost all are domiciled within the emerging region or, to a lesser extent, in neighbouring mature economies. This is consistent with the existence of a regional bias among these investors. Indeed, focusing only on investors domiciled within the region, the majority overweight the region. Investors domiciled in developed countries neighbouring the region are less biased, with the majority underweighting the region. Among investors in the rest of the world, almost all underweight the region. These results hold for each region, although considering the small sample of regional investors the results should be regarded as suggestive rather than conclusive.

Local banks have a larger presence in Asia than in other emerging regions

Indicators based on cross-border investment, such as those in Graphs 5 and 6, can understate the degree of financial integration in those countries where foreign firms have large local operations. Since the mid-1990s, banks in particular have shifted from cross-border operations to serving customers through a local presence funded locally (McCauley et al (2002), BIS (2007)). In emerging Asia, the local operations of banks headquartered within the region are larger than those of Japanese banks (Graph 7). If UK banks HSBC and

## Regional bias in foreign portfolio allocations[1]

Allocation to regional equities relative to market capitalisation of the region, at end-2005 (logarithmic scale)



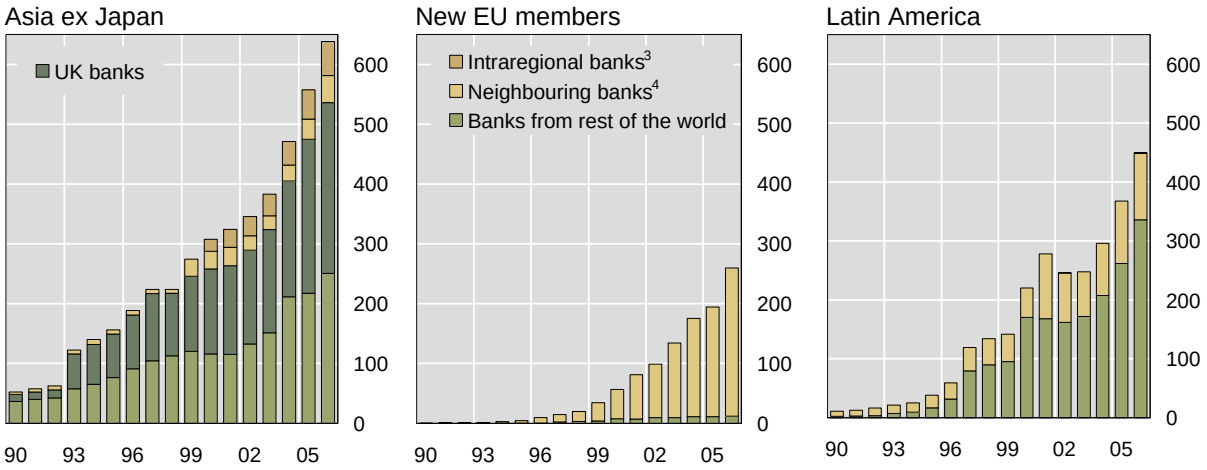

[1] Share of investment abroad allocated to the region, as a ratio of the share of the region in the world market capitalisation (excluding the capitalisation of the investor's home market); foreign portfolio investment is from the IMF's Coordinated Portfolio Investment Survey; market capitalisation is not adjusted for the investability of listed shares. [2] Investors domiciled within the region: for Asia, Hong Kong SAR, Indonesia (ID), Korea (KR), Malaysia, the Philippines (PH), Singapore (SG) and Thailand; for Europe, Cyprus (CY), the Czech Republic (CZ), Estonia (EE), Hungary (HU) and Slovakia; for Latin America, Argentina (AR), Brazil (BR) and Chile (CL). [3] Investors domiciled in mature economies neighbouring the region: for Asia, Japan (JP); for Europe, EU 15 (of which DE = Germany, IE = Ireland, IT = Italy, LU = Luxembourg), Norway (NO) and Switzerland (CH); for Latin America, Bermuda (BM), Canada and the United States. [4] Includes Australia (AU).

Sources: IMF; Standard & Poor's; World Federation of Exchanges; authors' calculations. Graph 6

[4] Investment in the home market is excluded from the numerator of the ratio, and the market capitalisation of the home market is excluded from the denominator, so that the ratio is not distorted by any home bias on the part of investors.

## Local assets of foreign banks[1, 2]

By residency of immediate borrower, in billions of US dollars




[1] Claims on local residents booked by the local affiliates of BIS reporting banks, excluding local claims denominated in foreign currencies, cross-border claims and claims on residents of the jurisdiction where the parent bank is headquartered. [2] For a list of countries in each borrowing region, see Graph 1. [3] Assets of banks headquartered within the region: for Asia excluding Japan, banks from Hong Kong SAR, India, Singapore and Taiwan (China); for Latin America, banks from Brazil, Chile and Mexico. [4] Assets of banks headquartered in countries neighbouring the region: for Asia excluding Japan, banks from Japan; for new EU members, banks from EU 15 countries, Norway and Switzerland; for Latin America, banks from Canada and the United States.

Source: BIS. Graph 7

Standard Chartered are grouped with Hong Kong banks, then intraregional banks' local operations may well be larger than those of all others.[5] By contrast, in the new EU members and Latin America, banks headquartered within the region have no significant presence outside their home market. In large part this is because US and especially western European banks have taken over the largest banks in many countries within these two regions.

## Conclusions

Financial integration is farthest advanced in the new EU members ...

The multifaceted nature of financial integration makes it hard to compare the progress of different emerging regions. That being said, available data point to significant integration over the past decade. The new EU members have reached a very high level of financial integration, comparable in some respects to that of the mature economies. The common institutional and regulatory framework provided by the European Union, together with the goal of joining the euro area, have resulted in extensive cross-border financial ties. At the same time, the geographical reach of integration in the new EU members is relatively limited; their integration almost entirely reflects the deepening of links with their neighbouring financial bloc.

By contrast, in Latin America the geographical reach of integration is broader than in the new EU members, involving neighbouring countries as well

[5] In the BIS consolidated international banking statistics, HSBC Bank and Standard Chartered Bank are classified as UK banks because their parent companies are headquartered in London. Both banks have larger operations in Asia than in the United Kingdom and are note-issuing banks in Hong Kong. Prior to 1993, HSBC was headquartered in Hong Kong.

as those farther afield. Yet the progress of integration has been much less rapid. Overall, financial integration in Latin America lags behind that in the new EU members.

... least advanced in Latin America, and Asia is somewhere in between

The situation in Asia is somewhere between those of Europe and Latin America. Geographical links are broader than among the new EU members. One respect in which Asia stands out from other emerging regions is that it has the largest share of foreign investment financed within the region. Indeed, intraregional links are more important than those with the largest neighbouring financial centre, Japan, although still secondary to links to global markets. Nevertheless, the progress of integration is closer to that of Latin America: for example, capital mobility continues to be restricted in several countries.

Regional integration can be promoted by financial centres and collective actions

Looking forward, regional integration offers significant room for advancing financial integration. The development of regional financial centres in order to take advantage of network externalities appears to be an important means of advancing regional integration. Certainly, Singapore and Hong Kong have played a pivotal role in the intermediation of financial activity within Asia. Furthermore, the European experience highlights the role authorities' collective actions can play in furthering regional integration. Asian authorities have been more proactive in this regard than those in other emerging regions. Regional integration, however, should not be understood as a substitute for global integration. Each potentially brings different benefits, and thus regional and global integration can be complementary.

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