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New policy challenges from financial integration  
and deepening in the emerging areas  
of Asia and Central and Eastern Europe

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# **NEW POLICY CHALLENGES FROM FINANCIAL INTEGRATION AND DEEPENING IN THE EMERGING AREAS OF ASIA AND CENTRAL AND EASTERN EUROPE**

by Valeria Rolli\*

## **Abstract**

Since the mid-nineties international financial integration has advanced gradually in the emerging areas of Asia, while it has progressed rapidly in Central and Eastern Europe. This process has helped provide long-term benefits for the economies of the two regions in terms of faster productivity growth and deepening of domestic financial markets. The strong surge of international capital inflows since the early years of the current decade has, however, also potentially increased the financial vulnerability and the external sources of contagion for a number of countries, particularly those in Central and Eastern Europe that have seen a significant increase in their foreign borrowing, and also those with still relatively underdeveloped financial systems. We thus analyze the risks of financial instability and asset bubbles in the emerging economies of the two regions, taking into account the degree of development of their domestic financial systems. We conclude by discussing possible policy responses to these challenges by the monetary authorities of the concerned countries.

**JEL Classification:** F36, O16, O52, O53.

**Keywords:** Asian economies, Central and Eastern European economies, capital markets, international financial integration.

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## 1. Introduction

Since the mid-nineties international financial integration has progressed not only in the developed areas but also in the emerging and developing areas, including in the countries of South-East Asia and Central and Eastern Europe. In the latter region the opening of the financial sector has been particularly rapid, in the context of convergence towards Economic and Monetary Union.

The present work recalls the process of financial integration for a sample of ten emerging economies of Asia <sup>1</sup> and fourteen countries in Central and Eastern Europe. <sup>2</sup> Its structural features and concomitant developments in the domestic financial systems are analyzed, by singling out different patterns between and across the two regions. The final aim of the paper is to assess, on the one hand the long-term benefits in terms of the gradual development of the domestic financial systems, and on the other the potential risks of short-term financial instability.

Internationally comparable indicators of international financial openness (as measured by foreign direct investment, portfolio and banking investment) and the deepness of domestic financial systems (as measured by domestic banking credit, debt securities' stocks and equity market capitalization) have been used to identify specific situations of financial vulnerability.<sup>3</sup>

Section 2 recalls the long-term evolution of international financial integration in the emerging countries of the two regions, assessing its benefits. Section 3 analyzes the last wave of international capital inflows to each of the two regions, assessing its consequences

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<sup>1</sup> China, Hong Kong S.A.R., India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan (Prov. of China), and Thailand.

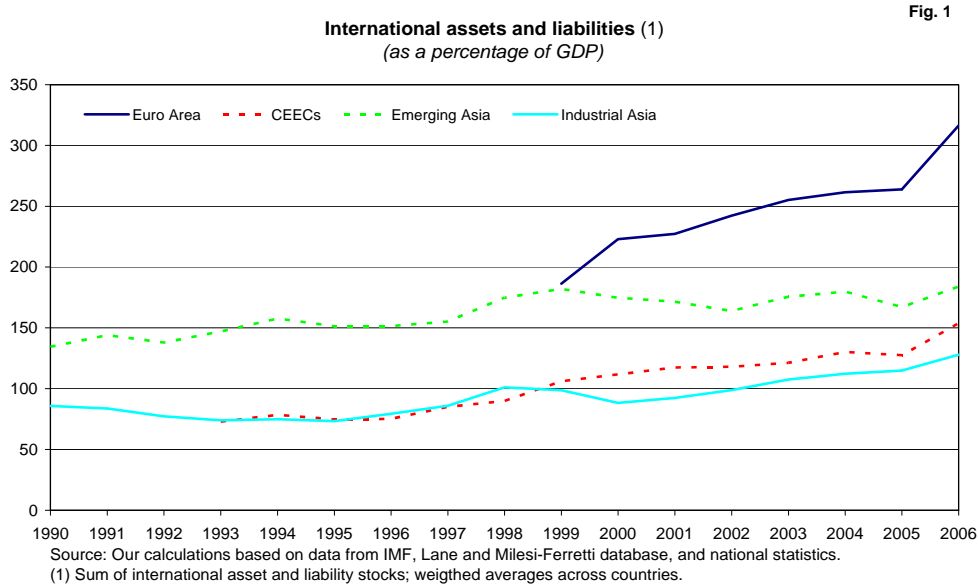
<sup>2</sup> Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Turkey, and Ukraine.

<sup>3</sup> In order to provide benchmarks for the two regions, similar indicators have also been computed for the group of the industrial countries in the Asian-Pacific region (Australia, Japan, and New Zealand) and for the euro area (excluding Cyprus, Malta, and Slovenia).

in terms of greater financial vulnerability. Section 4 deals with the risks of financial instability and asset bubbles, taking into account the development of domestic financial systems in the various countries. Section 5 considers some policy options adopted to counteract the surge in capital inflows, and Section 6 concludes.

## 2. International financial integration in South-East Asia and Central and Eastern Europe: potential long-term benefits

Emerging countries in South-East Asia (from now on, EME Asia) have traditionally taken a gradual and cautious approach towards international financial liberalization, with widespread controls on the capital transactions still in place.<sup>4</sup> Financial opening has proceeded with some ‘stop and go’: the ratio of **gross foreign assets and liabilities to GDP**, a standard indicator of an economy’s degree of *de facto* financial openness, after increasing from 135 per cent in 1990 to 182 per cent in 1999, fell back in subsequent years, due to the effects of financial crises and a temporary halt to capital account liberalization (fig. 1);<sup>5</sup>



<sup>4</sup> By financial integration we mean an economy’s opening to international capital flows. Integration can be *de iure*, as it refers to the removal of administrative controls on the financial transactions of the balance of payments, or *de facto*, as it refers to the actual depth of international financial transactions or the importance of international assets and liabilities. In the note we mainly adopt the latter definition.

since 2003 the process has resumed, driven by booming capital inflows and outflows. Although financial openness still lags well behind real economic integration (as measured by international trade), it currently stands at 184 per cent of GDP for the whole of EME Asia, which is far above the value for Central and Eastern Europe.<sup>6</sup>

In the Central and Eastern European countries (CEECs), the profound economic and political transformation that culminated in the admission (in May 2004 and in January 2007) of twelve new members to the EU has brought very rapid liberalization of the capital account and also more highly developed and integrated market infrastructures. Thus, for Central and Eastern Europe as a whole, gross foreign assets and liabilities as a percentage of GDP doubled between 1996 and 2006, from 75 to 154 per cent. Despite this rapid increase, international financial integration remains well below that of the euro area, which soared from 186 per cent at the outset of the euro in 1999 to 316 per cent in 2006.

In both EME Asia and the CEECs, integration has been accompanied by progress in real **economic convergence**. In Asia, the empirical link between real per capita GDP growth and financial opening up appears quite blurred: a number of economies, including China, experienced only modest financial integration between 1996 and 2006, while achieving exceptionally high rates of economic growth (fig. 2a); excluding Singapore and Honk Kong, which are predominantly financial centers, the cross-country correlation between the increase in financial integration and per capita GDP growth in the region is rather weak (0.14).

In Central and Eastern Europe, where the differential in per capita GDP growth vis-à-vis countries in the euro area has been generally sizeable (above 2 percentage points per annum), the cross-country correlation between financial opening and economic growth is stronger (0.77; fig. 2b).

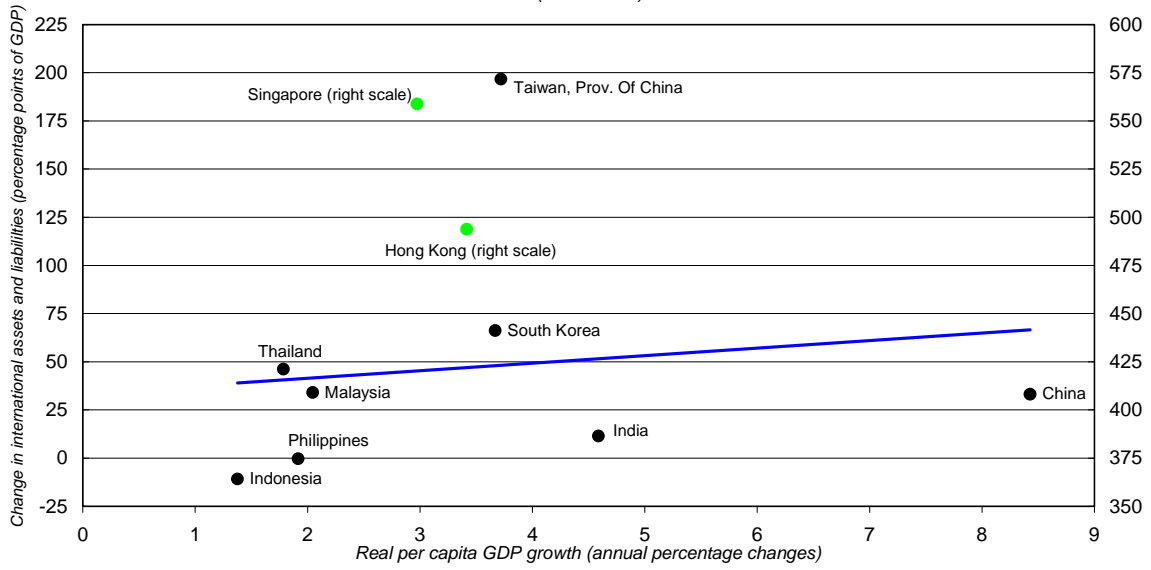
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<sup>5</sup> The indicator also includes official holdings of foreign exchange reserves and government debt held by foreigners. Thus, financial integration is not related exclusively to the private sector.

<sup>6</sup> Financial openness is, however, still quite low in some large countries (such as India, Indonesia, and China).

Fig. 2a

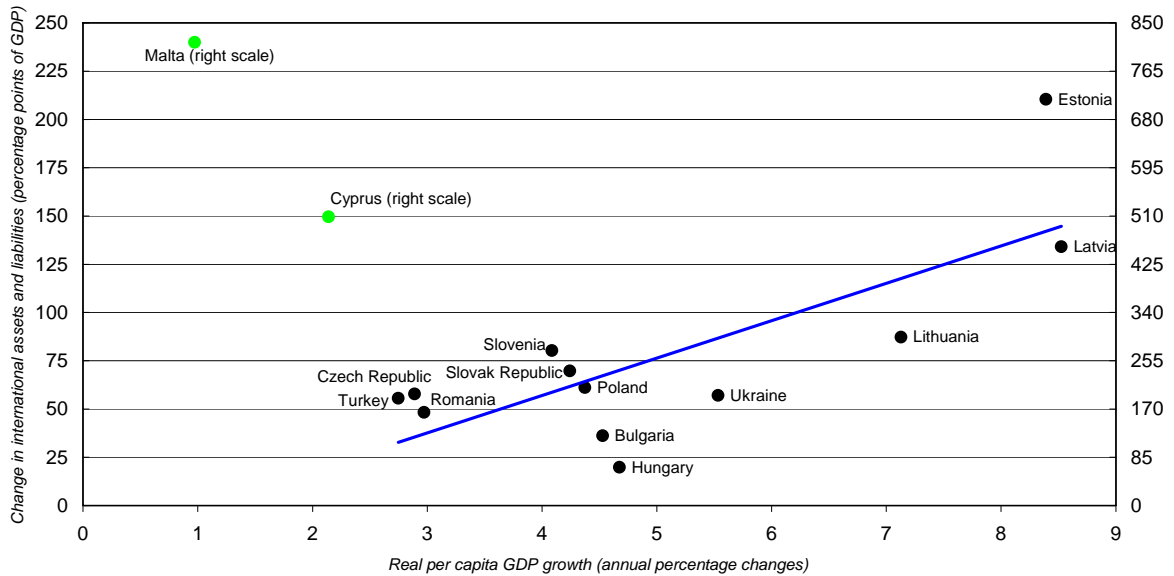
Emerging Asia: changes in international assets and liabilities versus real per capita GDP growth (2006-1996)



Source: Our calculations based on data from IMF, Lane and Milesi-Ferretti database, and national statistics.

Fig. 2b

CEECs: changes in international assets and liabilities versus real per capita GDP growth (2006-1996)



Source: Our calculations based on data from IMF, Lane and Milesi-Ferretti database, and national statistics.



This evidence confirms that the empirical relationship between a country's financial opening and its rate of economic growth is not clear-cut. Research shows that this link is indeed very complex, and that financial openness may affect economic growth through different channels. Actually, the evidence is that in many cases improved access to funding for domestic investment has not been the main driver of accumulation; although financial openness should play an important role in countries with low domestic savings, there could be offsetting factors at play, such as exchange rate appreciation and volatility, which may deter domestic investment and the build-up of export capacity.<sup>7</sup>

However, the benefits from international financial integration may require considerable time to be realized and they may work through indirect channels, the 'collateral benefits' as cited by Kose et al. (2006).<sup>8</sup> According to this view, financial integration operates mainly as a catalyst for the development of the domestic financial sector, and the adoption of structural reforms that improve macroeconomic stability (an anti-inflationary monetary policy) and strengthen the institutional framework (better governance standards for the corporate sector, and, more generally, protection and enforceability of investors' rights). These indirect rather than direct channels may explain why foreign direct investment (FDI) and also portfolio equity investment, which incorporate collateral benefits such as the transfer of technology and managerial expertise or enhance institutional development, tend to be correlated with stronger long-term economic performance.

In both regions, international financial integration has been coupled with a significant **deepening of domestic capital markets** (figs. 3a-b). By taking together the outstanding stocks of domestic credit by banks, domestic debt securities and equity market capitalization, the total 'size' of the domestic capital market increased from about 140 to 300 per cent of GDP between 1996 and 2007 for EME Asia, and from about 60 to more than 150 per cent for the CEECs. Hence, although international financial integration has been faster in Europe

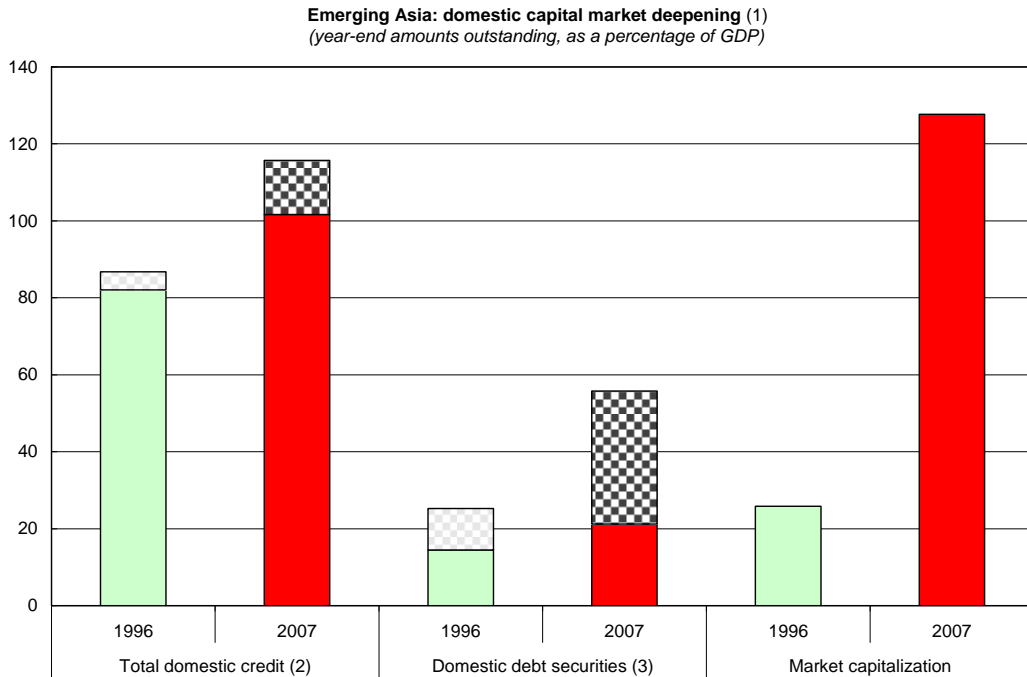
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<sup>7</sup> See D. Rodrik and A. Subramanian (March 2008) "Why Did Financial Globalization Disappoint?", for a critical view of the benefits of financial openness in developing countries.

<sup>8</sup> M.A. Kose, E. Prasad, K. Rogoff and S. Wei (August 2006) "Financial Globalization: A Reappraisal", IMF Working paper WP/06/189.

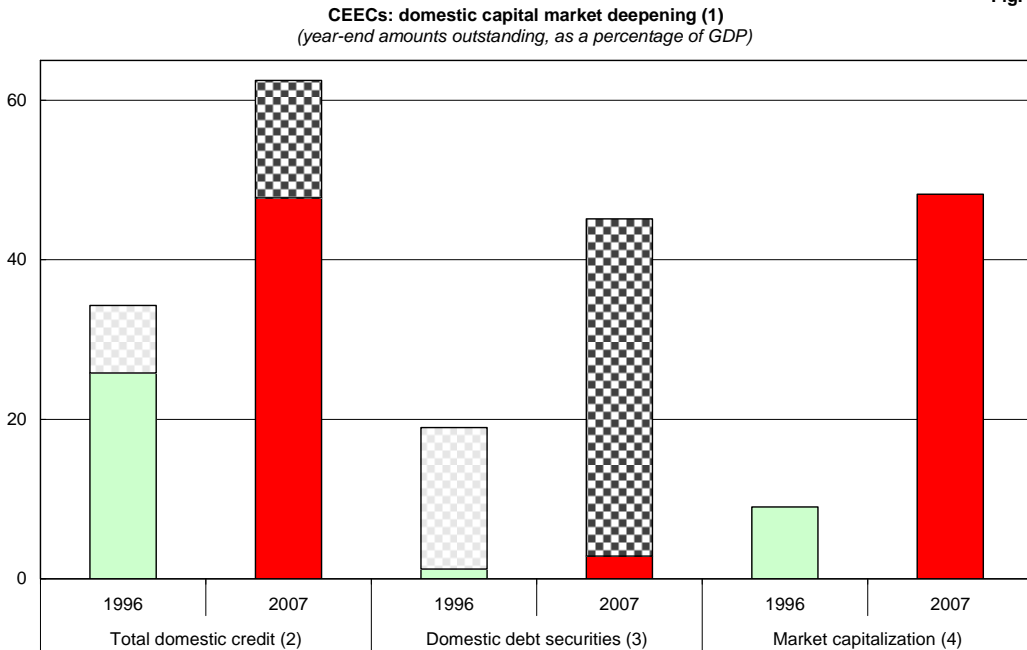
than in Asia, the strengthening of domestic capital markets has proceeded at a comparable pace.

Fig. 3a



Source: Our calculations based on data from IMF and national statistics.  
 (1) For 2007, June instead of December. - (2) As measured by banks' claims. The grid area represents credit to the public sector. - (3) The grid area represents securities issued by the public sector. Securities issued by the private sector are obtained as the difference between total and securities issued by the government sector. They include securities issued by financial institutions.

Fig. 3b



Source: our calculations based on data from IMF and national statistics.  
 (1) For 2007, June instead of December. - (2) As measured by banks' claims. The grid area represents credit to the public sector. - (3) It includes Czech Republic, Hungary, Poland, Slovak Republic and Turkey. The grid area represents securities issued by the public sector. Securities issued by the private sector are obtained as the difference between total and securities issued by the government sector. They include securities issued by financial institutions. - (4) For 1996, it includes Czech Republic, Hungary, Poland, Romania, and Turkey. For 2007, it excludes Estonia.

In order to reap the long-term benefits of international financial integration while containing the risk of short-term instability, authorities in some countries with still immature domestic financial markets and weak institutional settings have preferred to maintain selective capital controls on the more volatile types of international financial flows and delay further liberalization until their financial systems meet minimum development thresholds. This strategy, while protecting against the risk of short-term instability, could impose long-term costs, both direct and indirect: capital controls are burdensome to administer for governments and tend to become less effective in the medium run; moreover, they distort the behavior of the private sector and the development of financial markets, as firms and investors adjust in order to evade them.

### **3. The surge of international capital flows to South-East Asia and the CEECs: potential financial vulnerabilities and external sources of contagion**

In the past five years world financial integration has been spurred by a surge of international capital inflows to emerging countries, which increased fivefold, to about 1,000 billion US dollars, between 2002 and 2006; due to the exceptional expansion in the first half of 2007, they are estimated to have surged further last year, to 1,600 billion.<sup>9</sup>

EME Asia and Central and Eastern Europe have received most of these resources: between 2002 and the first half of 2007 inflows increased about ninefold (to 897 billion US dollars on an annual basis) in the former region and more than sixfold (to 327 billion on an annual basis) in the latter. The intensity of foreign capital inflows relative to GDP in the period from 2003 to the first half of 2007 was quite exceptional in the CEECs (14.4 per cent on average), fuelled by expectations of further economic integration into core Europe. It has been relatively lower in EME Asia (8.6 per cent of GDP), a level that is comparable to that prevailing in the period 1992-97.

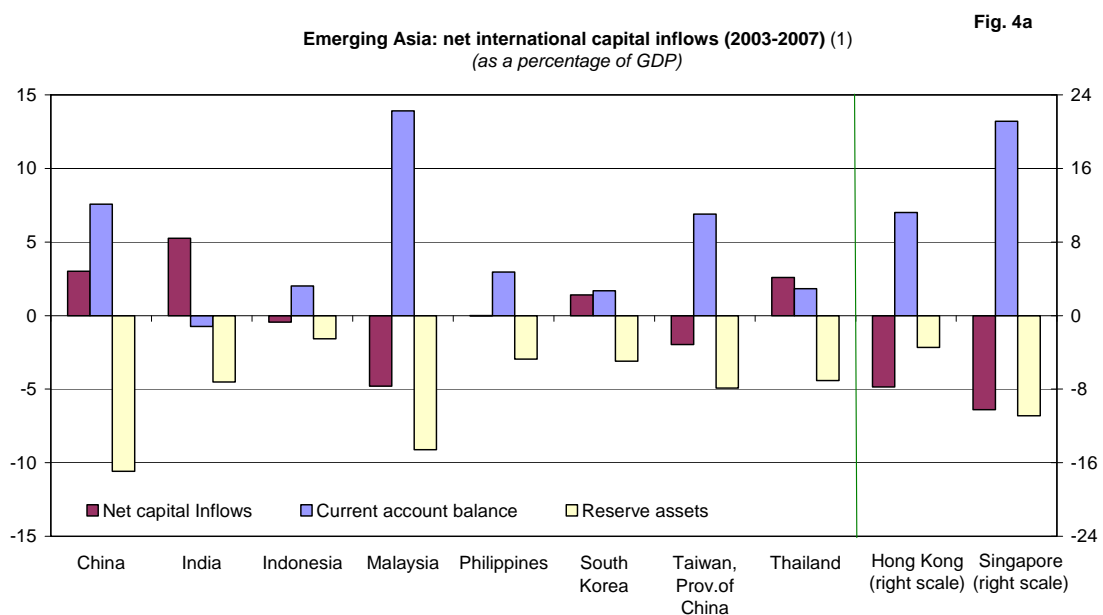
The latest wave of capital flows to emerging countries (2003-07) has displayed a number of remarkably positive structural features. First, a large part of the inflows has

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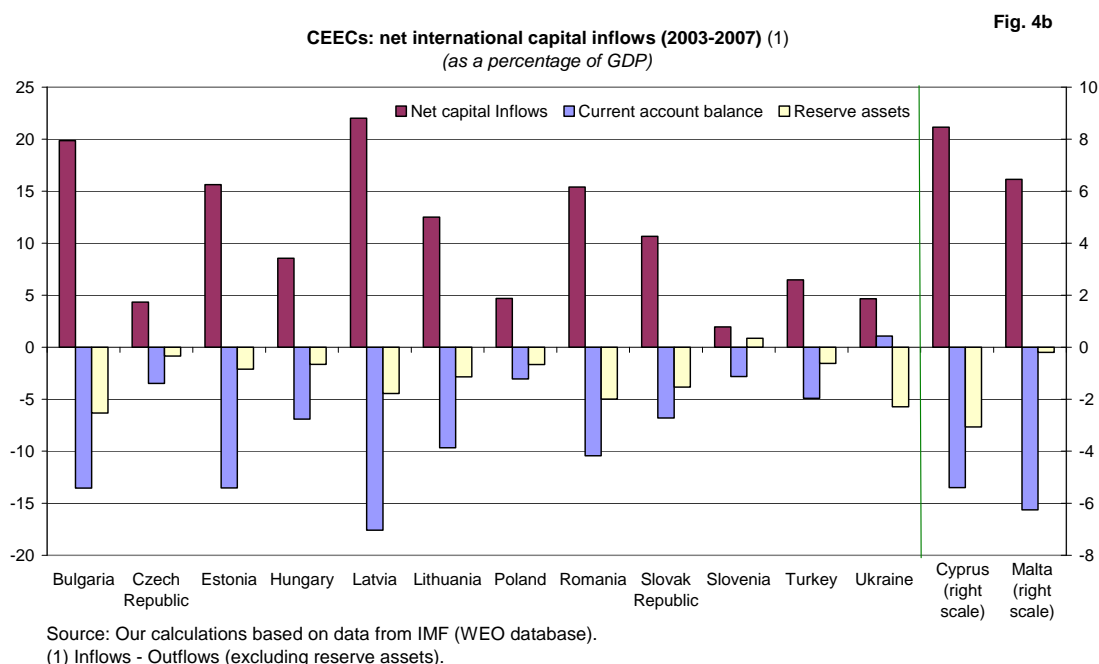
<sup>9</sup> IMF estimates.

accrued to the private sector, directly or indirectly through the intermediation of the banking system, while government foreign borrowing has diminished, as a result of improved fiscal positions and debt management. Second, FDI inflows, which had proven particularly resilient in the cyclical downturn of the late nineties, and also other equity investments have represented the dominant share of the inflows. Third, the cost and duration of foreign debt have been more favorable to the borrowing countries, compared to the previous wave of financial integration (1992-97).

However, several elements of heterogeneity across areas and countries also stand out. The first difference regards the **direction of net international financial flows**: while the emerging countries as a group have become net capital exporters to the advanced countries (as opposed to the previous wave in 1992-97), the dispersion in their current account imbalances has increased. Several economies of EME Asia, all of them large manufactures exporters, have recorded persistent current account surpluses, while most CEECs have run large deficits (figg. 4a-b). The Asian current account surpluses, together with capital inflows, have exerted strong upward pressures on exchange rates, counteracted by official market intervention of unusual intensity. This different pattern across regions has carried implications for the allocation of financial resources to the tradable versus the non-tradable sectors, as relatively faster real exchange rate appreciation in Europe has brought about a more pronounced shift of resources towards the non-tradable sector than in Asia.



Source: Our calculations based on data from IMF (WEO database).  
(1) Inflows - Outflows (excluding reserve assets).



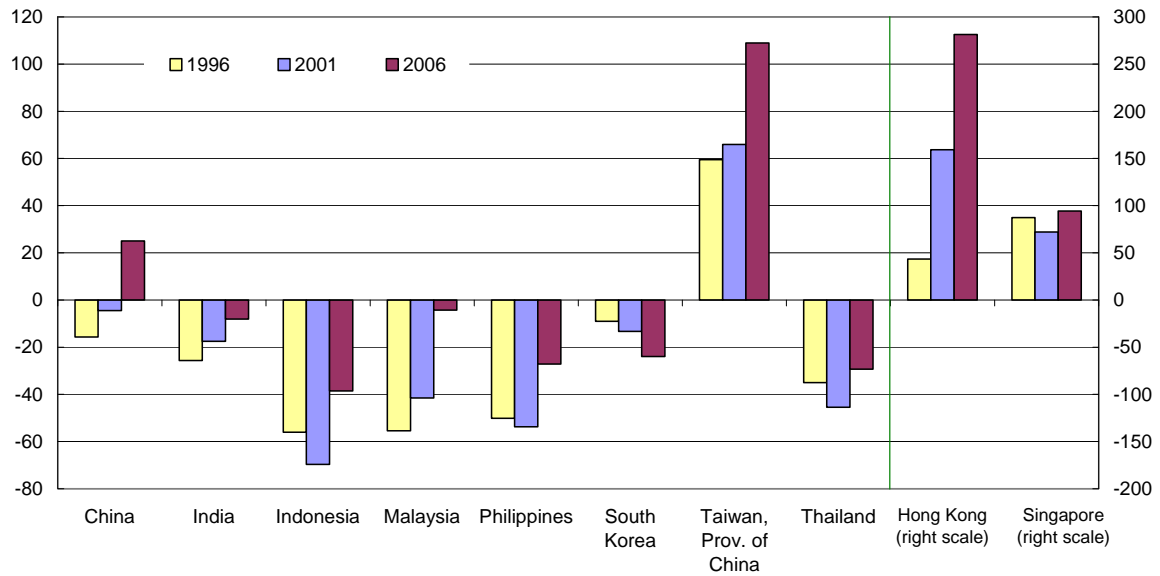
As a result of large and persistent current account imbalances, the standard indicators of external financial vulnerability have worsened during the current decade in a number of countries, particularly in Europe (fig. 5a-b).

Between 2001 and 2006 the net international investment position (IIP) dipped further into negative territory in most CEECs, and it now exceeds 50 per cent of GDP in Hungary, Estonia, Latvia, the Slovak Republic, Bulgaria, Turkey, the Czech Republic, and Lithuania. In EME Asia, instead, during the same period the IIP improved everywhere except Korea, where net liabilities grew to 23.9 per cent of GDP in 2006.<sup>10</sup>

<sup>10</sup> In the economies of Hong Kong, Taiwan (Prov. Of China), and Singapore net external assets have further increased from already high initial values; the IIP has turned positive in China (25 per cent of GDP in 2006); the IIP is still negative (between 4 and 40 per cent of GDP) in Malaysia, India, the Philippines, Thailand, and Indonesia.

**Emerging Asia: international investment position**  
(year-end stocks, as a percentage of GDP)

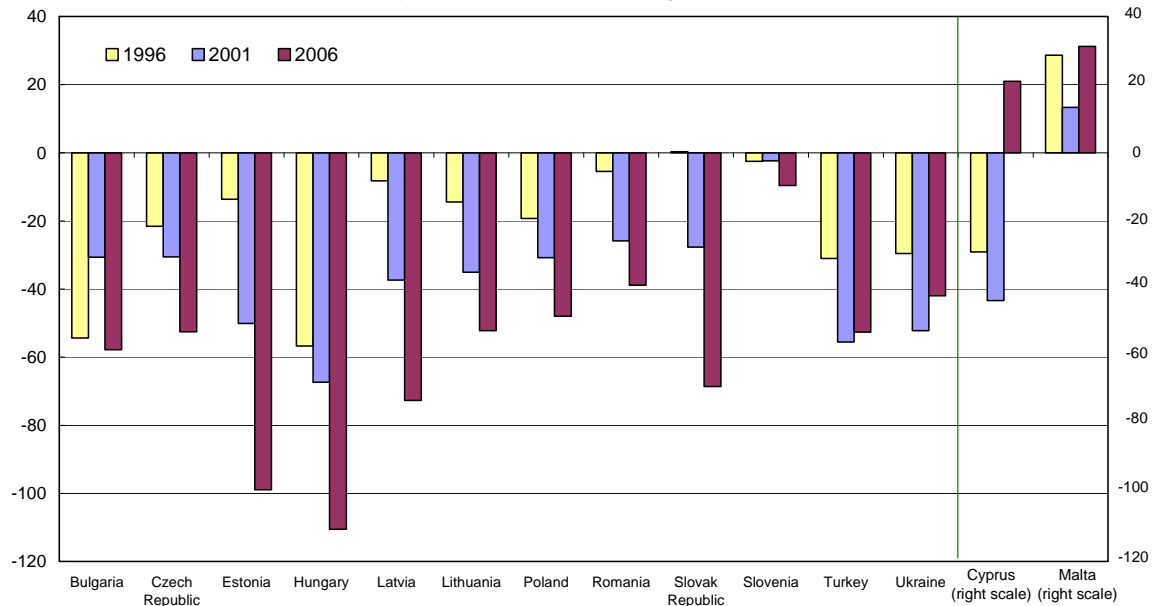
**Fig. 5a**



Source: Our calculations based on data from IMF, Lane and Milesi-Ferretti database, and national statistics.

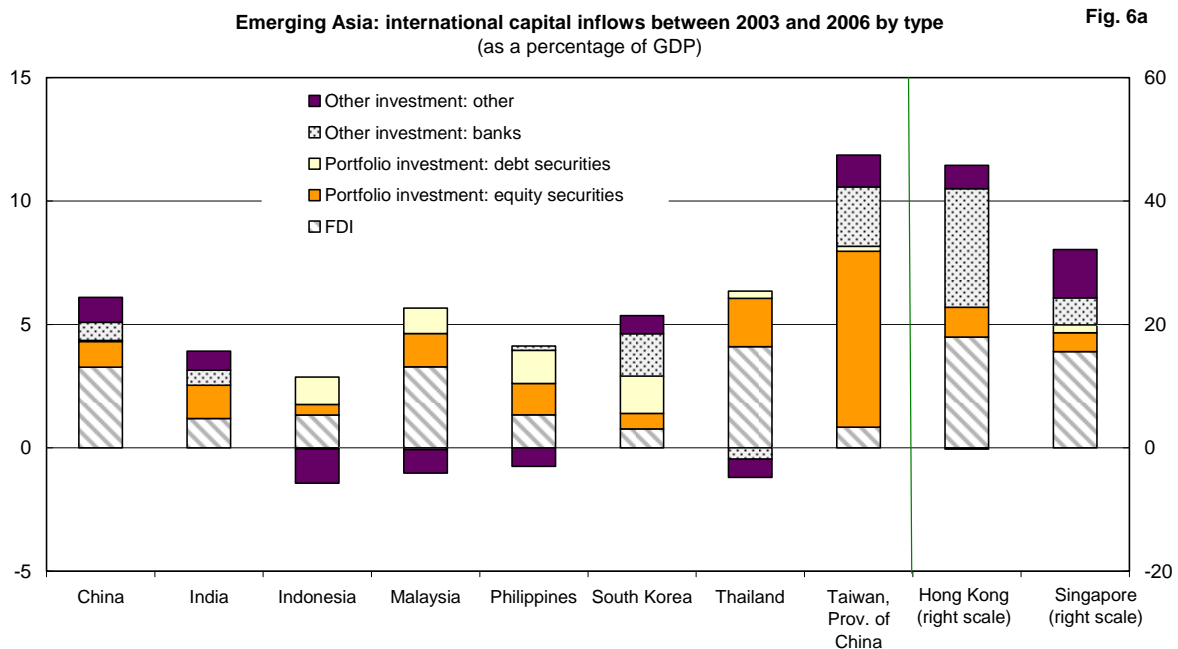
**CEECs: international investment position**  
(year-end stocks, as a percentage of GDP)

**Fig. 5b**



Source: Our calculations based on data from IMF, Lane and Milesi-Ferretti database, and national statistics.

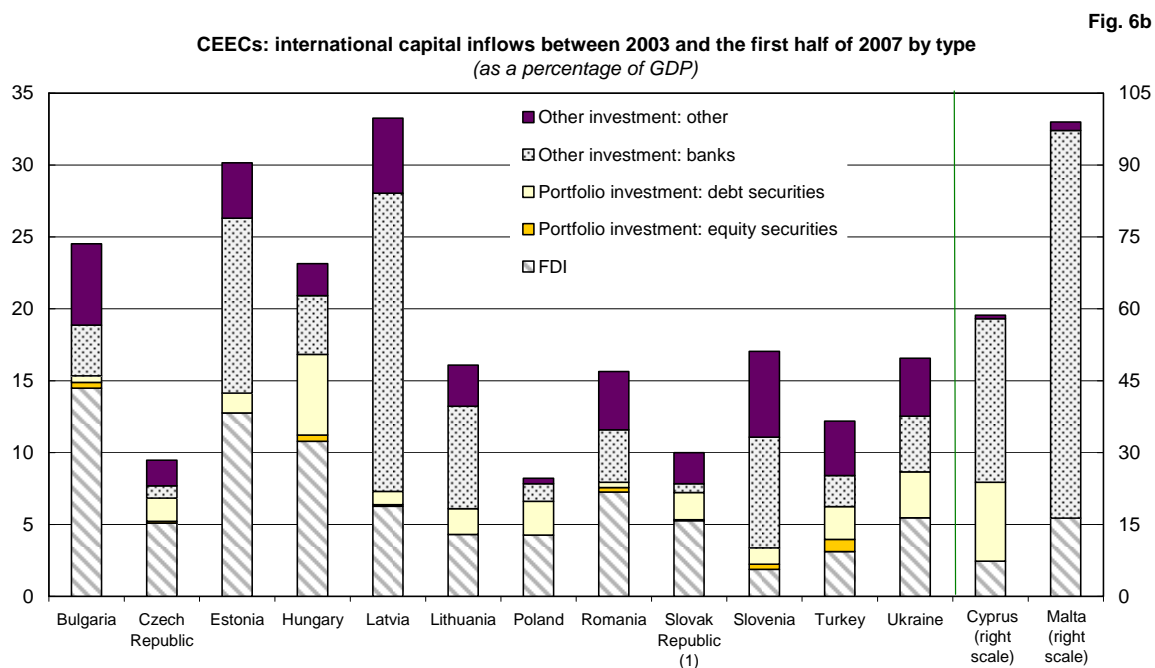
A second difference regards the composition of international capital inflows by instrument: while FDI has been a very important source of foreign financing for all emerging areas,<sup>11</sup> the strong rebound in **external borrowing** by the private sector (both banks and non-banks) has been a prominent feature in Europe, and to a lesser extent, in some of the more advanced Asian economies, particularly Korea. According to data from the balance of payments, in Central and Eastern Europe the average share of debt was as large as 61 per cent of total capital flows between 2003 and the first half of 2007; the share is much lower (below 40 per cent) in EME Asia (figg. 6a-b).<sup>12</sup>



Source: Our calculations based on data from IMF and national statistics.

<sup>11</sup> In both EME Asia and the CEECs, the average weight of FDI on total financial inflows between 2003 and the first half of 2007 was slightly below 40 per cent.

<sup>12</sup> Debt flows are the sum of 'Portfolio investment: debt securities', 'Other investment: banks', and 'Other investment: other'.



According to international banking statistics, since 2001 the net external claims (the outstanding stocks of loan assets minus deposit liabilities) of BIS reporting banks vis-à-vis most CEECs have increased significantly;<sup>13</sup> on the contrary, BIS banks' net claims vis-à-vis the economies of EME Asia have generally decreased during the same period (figs. 7a-b).<sup>14</sup>

A third difference regards the growth of cross-border **portfolio equity investment**, which has been stronger in EME Asia: foreign net purchases of domestic equity securities amounted to over 20 per cent of total capital inflows from 2003 to 2006.<sup>15</sup>

<sup>13</sup> Turkey, Ukraine, and Cyprus being exceptions.

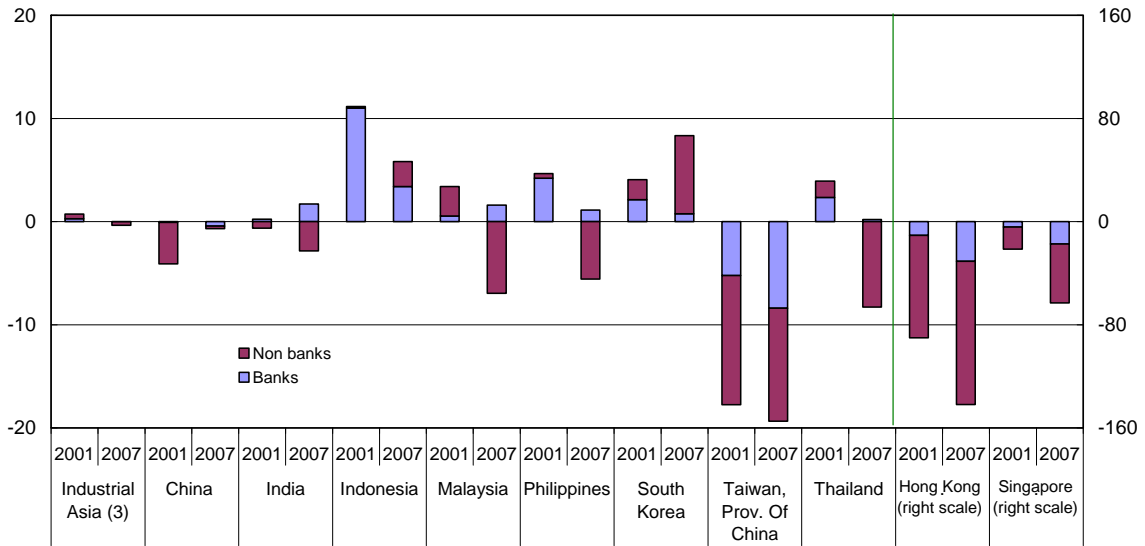
<sup>14</sup> Korea and China being exceptions. However, BIS banks' net external claims are relatively modest (8.4 per cent of GDP) vis-à-vis Korea and take negative values vis-à-vis China.

<sup>15</sup> This compares with a much lower figure (2.1 per cent of total capital inflows) for CEECs as a group in the period from 2003 to the first half of 2007.



Fig. 7a

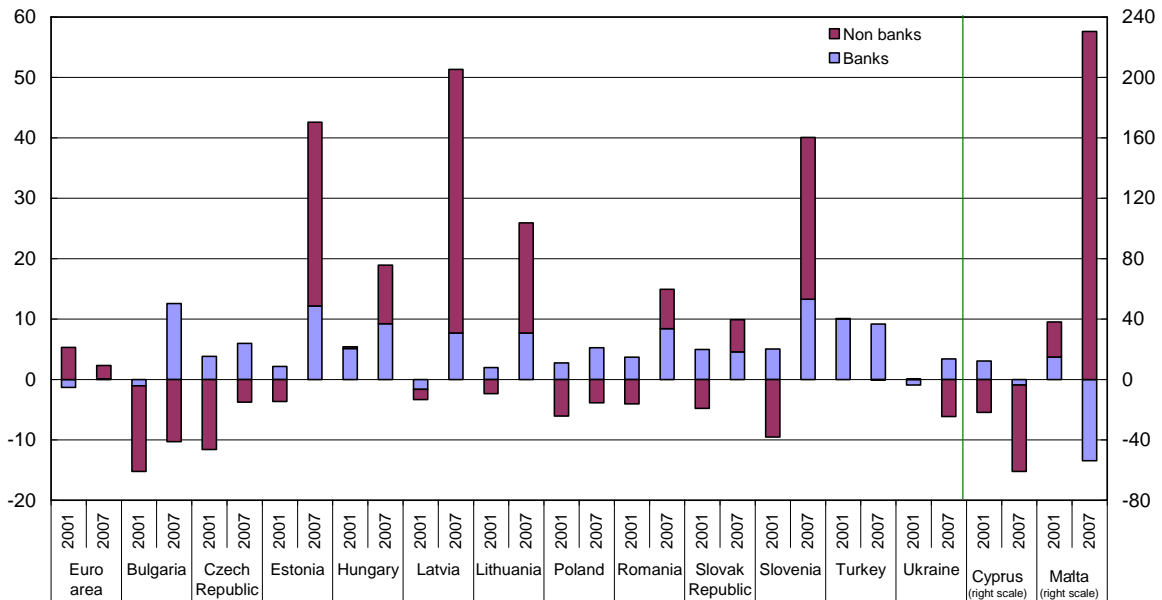
**Emerging Asia: external positions of BIS reporting banks vis-à-vis banks and non-banks (1)(2)**  
(year-end stocks, as a percentage of GDP)



Source: Our calculations based on data from BIS and IMF.  
(1) Loans (Assets) - Deposits (Liabilities) of BIS reporting banks versus the selected economies. - (2) For 2007, June instead of December. (3) Weighted average for Australia, Japan and New Zealand.

Fig. 7b

**CEECs: external positions of BIS reporting banks vis-à-vis banks and non-banks (1)(2)**  
(year-end stocks, as a percentage of GDP)



Source: Our calculations based on data from BIS and IMF.  
(1) Loans (Assets) - Deposits (Liabilities) of BIS reporting banks versus the selected economies. - (2) For 2007, June instead of December.

When capital inflows grow too rapidly relative to the capacity of the domestic economy to absorb them, excess liquidity and credit boom conditions increase financial vulnerability. This entails a heightened risk of a sudden halt to international capital inflows. In the current juncture, a crucial issue is whether this possibility has also increased as a consequence of the global reassessment of risk. A recent Bank of Italy econometric analysis on a group of emerging countries (EMEs) has decomposed the variations in the yield spreads on sovereign bonds into two components, one capturing the role of ‘common external factors’ and the other that of ‘country-specific developments’. The results show that the rebound in yield spreads observed since last summer in the majority of EMEs is largely due to deteriorating global financial conditions, but the impact of this common external factor has varied depending on different domestic conditions (see **Box 1: “Spreads on Emerging Market Sovereign Bonds and Global Financial Conditions”**).<sup>16</sup>

#### **4. Risks of financial instability and asset bubbles in South-East Asia and the CEECs**

##### *4.1 Domestic bank credit*

The depth and diversity of domestic financial systems differ considerably across regions and countries, particularly in Asia.<sup>17</sup> Total domestic credit (banks’ claims) currently stands at 115.7 per cent of GDP in EME Asia (fig. 8a); however, it tends to be much lower in the less advanced economies of the region, specifically in Indonesia, the Philippines, and, albeit to a less extent, India. Between end-2002 and mid-2007, domestic credit to the private sector increased at an average annual rate of 15.5 per cent (in nominal terms); its expansion has tended to be more rapid in economies with relatively low levels of financial

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<sup>16</sup> Yield spreads of EMEs’ sovereign bonds, after peaking in the aftermath of the Asian crises (to 1,631 basis points on September 10, 1998), narrowed till mid-2007, to historically low levels (150 basis points on June the 1st, 2007). Since last July, they have begun rising again, reaching 339 basis points on March 3, 2008, and narrowing slightly, to 263 points, on June 5, 2008.

<sup>17</sup> For simplicity, we consider the ‘size’ of an economy’s domestic financial market (relative to GDP) and its degree of diversification across three pillars (banks’ credit to the domestic sector, outstanding domestic debt securities, market capitalization) as development indicators. However, these are only some of the relevant parameters for gauging a financial system’s development, as the institutional soundness and the efficiency of intermediation should also be taken into account.

intermediation, such as Indonesia and India, and with over-regulated and state-dominated systems (China).<sup>18</sup> Despite considerable progress during the current decade towards sounder banking systems, there remain weaknesses in the risk management practices of most financial institutions, and, in a number of countries, in the increased vulnerability of the banking system to changes in asset prices and returns.<sup>19</sup>

Financial development in the CEECs has been relatively recent and mostly driven by banks. Between 1996 and 2007 the stock of total domestic credit expanded strongly in all countries, except for the Czech Republic (fig. 8b); thus, the share of total domestic credit in GDP has reached an average level of 62.5 per cent in mid-2007, compared with a much higher figure of almost 160 per cent in the euro area.<sup>20</sup>

Moreover, the role of foreign-owned banks, while remaining generally limited in Asia, has strengthened rapidly to become prevalent in the CEECs.<sup>21</sup> This has underpinned the rapid development of the domestic financial systems of the region and shaped their integration with those in core Europe. As foreign owners are generally large, well-capitalized and efficiently managed financial institutions, this has entailed not only an increase in the size of the domestic banking systems, but also significant improvements in their efficiency.

In a number of CEECs, the rapid growth of domestic credit to the private sector recorded in the current decade has been financed through foreign borrowing rather than domestic savings.<sup>22,23</sup> Credit has been largely channeled to households, through mortgages and consumer credit, fuelling both private consumption and housing prices.<sup>24,25</sup>

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<sup>18</sup> Annual rates of nominal growth ranged from 4.6 per cent (Hong Kong) and 21.7 per cent (Indonesia).

<sup>19</sup> Based on ADB estimates (ADB, *Asia Economic Monitor*, December 2007), security investment (both debt and equity) represents nearly one third of total bank assets in Indonesia and the Philippines.

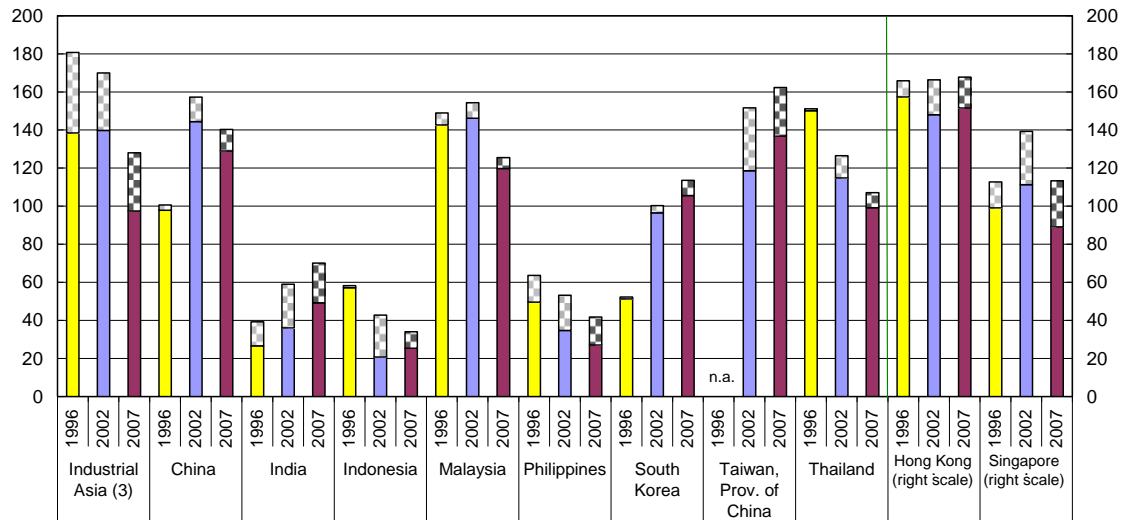
<sup>20</sup> Credit stock exceeds 140 per cent of GDP in Cyprus and Malta. Given the relatively low levels of per capita income in several countries, domestic credit appears to have reached relatively high values in Latvia, Estonia, Bulgaria and Ukraine, following its extraordinary expansion in the last few years.

<sup>21</sup> According to IMF staff estimates, foreign banks' share of total bank assets in 2003 was above 95 per cent in Estonia, Lithuania, Slovakia, and the Czech Republic, around 83 per cent in Hungary, and 67 per cent in Poland, Malta, and Bulgaria (for the latter country, figures are from BIS staff estimates for 2002).

<sup>22</sup> Between end-2002 and mid-2007 domestic credit to the private sector increased in nominal terms at an average annual rate of 50 per cent or more in Ukraine, Romania, Lithuania, Latvia, and Bulgaria.

**Emerging Asia: domestic credit to the public and private sectors (1)(2)**  
(end-year stocks, as a percentage of GDP)

Fig. 8a

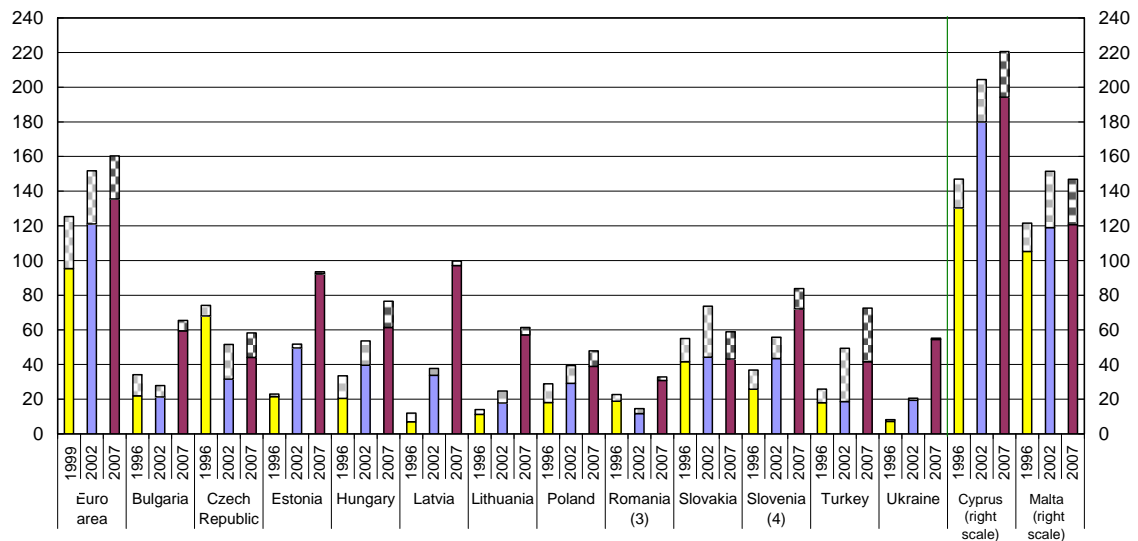


Source: Our calculations based on data from IMF and national statistics.

(1) Credit to the private sector is obtained as the difference between total domestic credit (as measured by banks' claims) and credit to the public sector (grid area). - (2) For 2007, June instead of December. - (3) Weighted average for Australia, Japan and New Zealand.

**CEECs: domestic credit to the public and private sectors (1)(2)**  
(end-year stocks, as a percentage of GDP)

Fig. 8b



Source: Our calculations based on data from IMF and national statistics.

(1) Credit to the private sector is obtained as the difference between total domestic credit (as measured by banks' claims) and credit to the public sector (grid area). - (2) For 2007, June instead of December. - (3) For 2007, March instead of June. - (4) For 2007, December 2006 instead of June.

<sup>23</sup> For a more thorough analysis, see "Assessing risks to global financial stability", Chapter 1 in: IMF, *Global Financial Stability Report*, October 2007.

<sup>24</sup> According to BIS estimates, at end-2007 the share of loans to households in outstanding total credit to the private sector was 50 per cent or more in Poland, Latvia, Estonia, Romania, and Turkey; it was above 40 per cent in Lithuania, Slovakia, the Czech Republic, and Hungary.

<sup>25</sup> According to IMF staff estimates, between end-2003 and end-2006 real house prices more than tripled in Latvia and Ukraine, and more than doubled in Estonia, Lithuania and Bulgaria. Among Asian economies, prices almost doubled in India and rose by almost 50 per cent in China.

The strong increase of competition in the domestic banking systems of Central and Eastern Europe has probably played a role; financial institutions have struggled to gain market shares and have adopted risk-taking strategies, in some cases jeopardizing lending standards. Also, foreign-owned financial institutions in some countries have provided a preferential funding channel for the local banking system. Although the rapid growth of total domestic credit has to be judged against the initial situation of severely underdeveloped domestic financial systems, it remains unclear whether it can be explained by economic fundamentals.

#### 4.2 *Domestic debt securities*

Governments in Asia actively promoted the development of domestic bond markets after the 1997-98 crises in both the government and corporate sectors. The outstanding stocks of domestic debt securities issued by the private sector exceed 50 per cent of GDP in Korea and Malaysia, and stand at around 20 per cent in Taiwan (Prov. of China), Singapore, Thailand, and Hong Kong (fig. 9a),<sup>26</sup> compared with 25.8 per cent in the industrial countries of the region. However, problems of illiquidity and poor infrastructures in domestic markets for corporate bonds remain quite significant in a number of Asian economies.

Although missing data do not allow a complete picture, domestic capital markets for debt securities remain generally quite underdeveloped in Central and Eastern Europe, particularly as regards issuance by the private sector (fig. 9b).<sup>27</sup> There is evidence that, at least in the very small countries, businesses have bypassed the domestic financial system, borrowing directly from foreign banks or issuing international bonds in foreign currency, thus leading to potential fragilities. Empirical evidence shows that the size of the economy

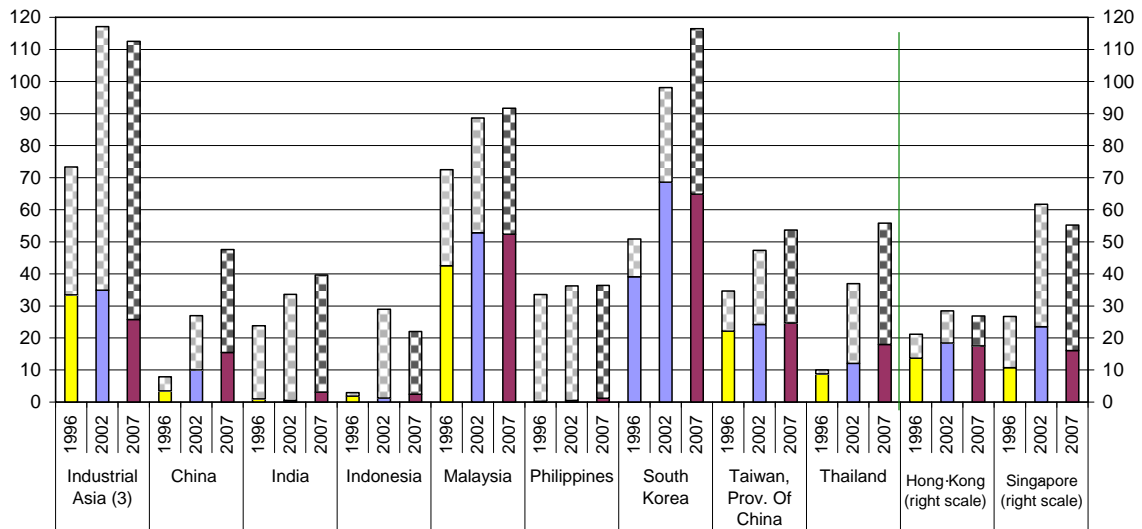
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<sup>26</sup> Data include issuance by financial institutions and refer to June 2007.

<sup>27</sup> Large public financing needs in the Czech Republic, Hungary, Poland, Slovakia, and Turkey have led to the development of well established markets for government securities.

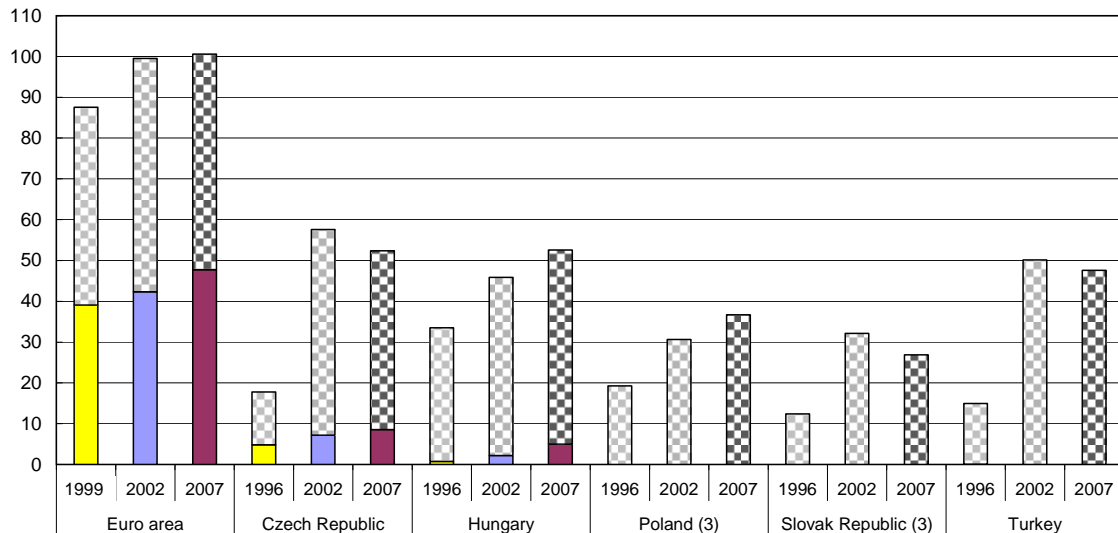
crucially influences the development of a local currency bond market, but stable macroeconomic conditions also appear to be an important driver.<sup>28</sup>

**Emerging Asia: domestic debt issued by the private and government sectors (1)(2)** **Fig. 9a**  
(year-end stock, as a percentage of GDP)



Source: Our calculations based on data from BIS, IMF, and national statistics.  
 (1) Securities issued by the private sector are obtained as the difference between total issues and securities issued by the government sector (grid area); they include issues by financial institutions. - (2) For 2007, June instead of December. - (3) Weighted average for Australia, Japan and New Zealand. For New Zealand, data for non-government issuers not available.

**CEECs: domestic debt issued by the private and government sectors (1)(2)** **Fig. 9b**  
(year-end stocks, as a percentage of GDP)



Source: Our calculations based on data from BIS, IMF, and national statistics.  
 (1) Securities issued by the private sector are obtained as the difference between total issues and securities issued by the government sector (grid area); they include issues by financial institutions. - (2) For 2007, June instead of December. - (3) Data for non-government issuers not available.

<sup>28</sup> See, for instance, “Financial stability and local currency bond markets”, BIS CGFS Paper No. 28, June 2007; and also: A. Ciarlone, P. Piselli and G. Trebeschi (2006) “Demand and supply of local currency bonds in emerging markets: preliminary evidence from a new data set”, mimeo, Banca d’Italia, October 2006 (background note for the BIS CGFS Paper No. 28, June 2007).

### 4.3 *Domestic equity*

Equity markets have expanded strongly in both regions since the beginning of the current decade, fuelled by sharp price rises. Last year market capitalization as a share of GDP reached 127.7 per cent in EME Asia, and 48.2 in the CEECs as a group (figs. 10a-b).<sup>29</sup> In both regions, the expansion recorded over the past four years has been especially rapid in the largest and poorest countries.<sup>30</sup> Despite this notable increase in ‘size’, equity markets in both areas are still characterized by serious problems of illiquidity (judging from the low turnover) and high concentration on a few companies.<sup>31</sup>

In the context of illiquid and poorly regulated domestic equity markets, there is an issue of price overshooting, especially for those (mainly Asian) emerging economies that have attracted enormous inflows of portfolio equity investment. The evidence is scanty, however. A recent IMF survey, while pointing to a possible role of foreign investment (especially by hedge funds) in the volatility of domestic equity prices, does not find evidence of a significant, sustained effect on price levels.<sup>32</sup> Recent work at the Bank of Italy has attempted to analyze the relationship and direction of causality between equity capital inflows and stock market prices for a group of emerging countries. Though the results are still preliminary, they do not indicate any systematic link in either direction (see **Box 2: “Financial Asset Prices and Emerging Market Capital Flows”**).

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<sup>29</sup> This compares with 82.9 and 79.2 per cent of GDP for the euro area and the industrial countries of Asia, respectively. All figures refer to June 2007.

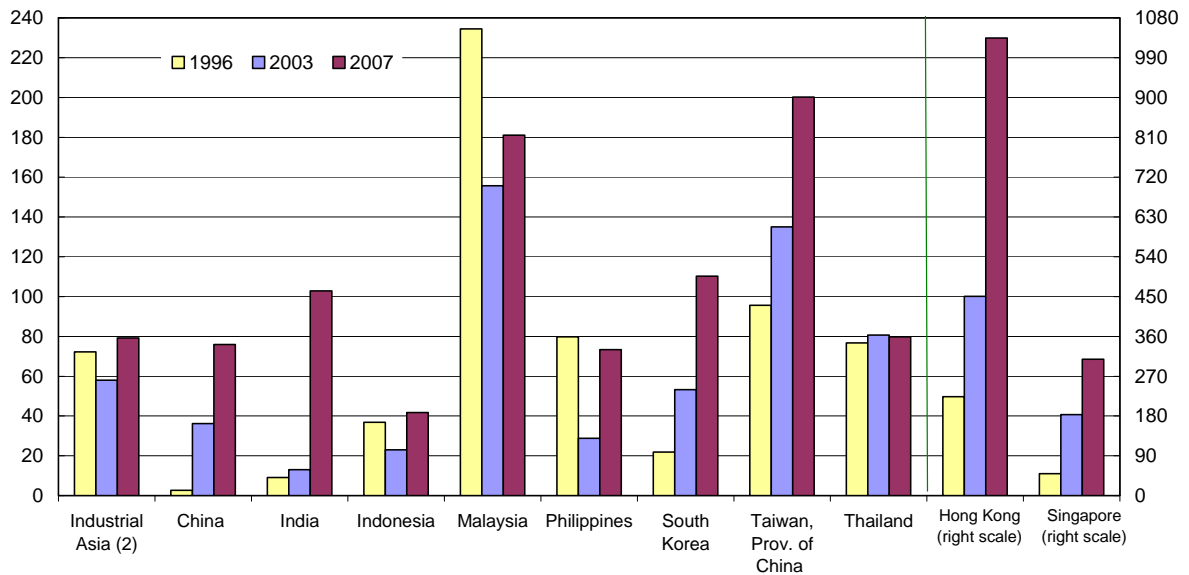
<sup>30</sup> Market capitalization growth between mid-2003 and mid-2007 was particularly strong in Ukraine, Romania, Bulgaria, and Poland, within Europe; and in India, Indonesia, the Philippines, and China, within Asia.

<sup>31</sup> According to IMF staff estimates for the CEECs, the turnover ratio (that is, the value of trading relative to market capitalization) in 2006 was well below that for the euro area in all countries, except for the Czech Republic and Turkey.

<sup>32</sup> See “Assessing risks to global financial stability”, Chapter 1 in: IMF, Global Financial Stability Report, October 2007.

**Emerging Asia: domestic market capitalization (1)**  
(at year end, as a percentage of GDP)

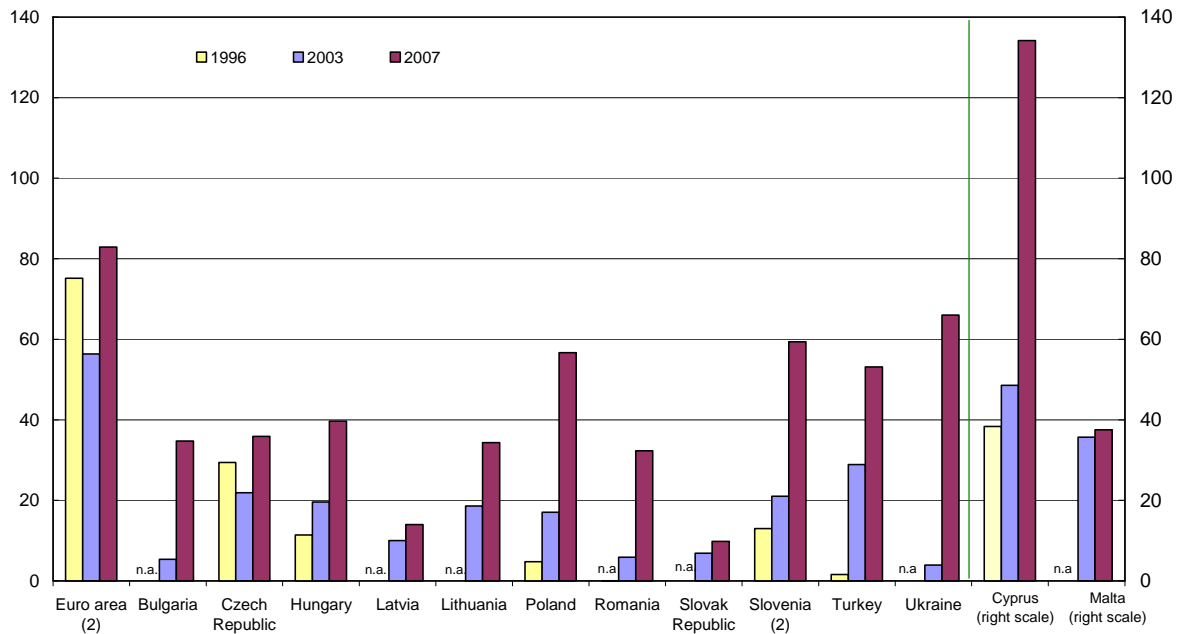
**Fig. 10a**



Source: Our calculations based on data from Bloomberg and Datastream.  
(1) For 2007, June instead of December. - (2) Weighted average of Australia, Japan and New Zealand.

**CEECs: domestic market capitalization (1)**  
(at year end, as a percentage of GDP)

**Fig. 10b**



Source: Our calculations based on data from Bloomberg and Datastream.  
(1) For 2007, June instead of December. - (2) 1999 instead of 1996.



## 5. Policy options in countries experiencing large financial inflows

Policy options may become particularly challenging under a rigid **exchange rate regime**, which not only limits the scope for monetary policy but may also encourage borrowing in foreign currency by inducing the private sector to underestimate exchange rate risk, as long as the regime is credible. The repercussions of a sudden reversal of capital flows are thus amplified by a possible collapse of the exchange rate regime. This is what happened in Asia following the outbreak of the 1997-98 crises. There is evidence that in some European countries the strong expansion in the liabilities of the private sector denominated in foreign currency over the last few years has been fed by the fixed exchange rate regime. In comparison with the Asian experience, however, banks with foreign currency liabilities have tended to transfer the exchange rate risk to their customers, by lending in foreign currency to households and firms; however, currency mismatches of the non-bank sector may easily translate into credit risk for banks, should a currency crisis occur.<sup>33</sup>

On the other hand, flexible exchange rates may also encourage speculative inflows of funds prompted by carry-trade strategies, especially in countries with relatively high domestic interest rates. For example, in some Asian economies (such as Korea, where there are limits to foreign borrowing by domestic financial institutions) firms have expanded their direct borrowing from abroad in low-yielding foreign currencies (such as the Japanese yen). Thus, no exchange rate system can really insulate a country from external shocks.<sup>34</sup>

In some countries, the authorities have tried to curb surging short-term capital inflows by means of **capital controls** on the balance of payments;<sup>35</sup> a number of Latin American and Asian economies have introduced such measures over the past two years. In general, the

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<sup>33</sup> See on this point, “Macroeconomic and financial stability challenges for acceding and candidate countries”, ECB Occasional Paper, No. 48, July 2006.

<sup>34</sup> According to IMF research, flexible exchange rates, together with sound macroeconomic conditions (low inflation and countercyclical fiscal policies) and long-term reforms of domestic financial systems, especially in the equity market segment, are the best policies to avoid disruptive booms and busts in a financially open economy. See: “The quality of domestic financial markets and capital inflows”, Chapter 3 in: IMF, *Global Financial Stability Report*, October 2007; “Managing large capital inflows”, Chapter 3 in: IMF, *World Economic Outlook*, October 2007.

<sup>35</sup> Also, more market-based measures have been used, such as taxes on international financial transactions or on currency deposits.

reintroduction of controls on capital inflows is not very effective beyond the very short term and may cause distortions because of efforts at circumvention. Controls on capital outflows are still very widespread in Asia; it has been suggested that the relaxation of restrictions on investment by residents could help counteract the effects on the side of foreign capital inflows.<sup>36</sup> However, past experience with the liberalization of capital outflows is that its effects are somewhat difficult to predict.

In other cases, in order to contain the upward pressures on the exchange rate due to capital inflows, emerging countries have carried out (partially) **sterilized intervention** in the foreign exchange market. However, this policy has increasingly shown its limits, including in a number of Asian economies. Sterilization measures have in fact encountered increasing problems in implementation, and they have been only partially effective in reducing excessive domestic liquidity.<sup>37</sup> There is evidence that in a number of Asian economies (including China), the portion of unsterilized intervention increased significantly in the first half of 2007. Thus, policy makers in countries experiencing surges of capital inflows may have found themselves increasingly unable to insulate the domestic economy from these pressures, being instead in the uncomfortable position of having to choose between nominal exchange rate appreciation and higher inflation, and also facing possible domestic asset price bubbles.

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<sup>36</sup> A number of Asian countries (China, India, Korea, and Thailand) have loosened restrictions on some types of capital outflows since 2005. As a consequence, gross portfolio outflows have increased strongly in China and Korea, mainly reflecting purchases abroad by institutional investors and households, respectively.

<sup>37</sup> Sterilization has traditionally been implemented by raising the reserve requirement on banks or sales of government bonds to the commercial banks. However, as the scope for these measures has been gradually exhausted in recent years (reserve requirements act as a tax on banks and may distort financial intermediation) or their costs for the central bank have increased (in more liberalized financial systems the yields on long-term bonds can be relatively high), less conventional measures have been adopted, such as forward exchange market intervention (so that the central bank has to buy back the foreign currency at a later date) and central bank issues of securities of its own (usually low-yield short-term bills). However, as forward market intervention is temporary and holdings of central bank bills can be easily liquidated by banks and used to expand credit, those measures have also proved fairly ineffective in a number of cases.

## 6. Conclusions and policy issues

In the last ten years international financial integration, while advancing powerfully in Central and Eastern Europe, has progressed only gradually in the emerging areas of Asia. Although its effects are difficult to disentangle from other factors, financial integration has helped to sustain long-term economic growth in both regions, via deeper and more efficient domestic financial systems and faster productivity growth in the private sector. The technology transfer provided by FDIs has probably played an important role in boosting long-term productivity growth.

Asian developing countries that have decided to delay financial liberalization have possibly renounced to a complementary tool in order to develop deeper and more efficient domestic financial systems. The maintenance of controls on the capital account may in fact discourage and distort the development of the domestic financial sector: its long-term costs may therefore be carefully weighted against the short-term advantages of a more effective management of capital inflows.

Since 2003 the process of financial integration has accelerated in both Asia and Europe, against the background of the strong rise of global capital flows to emerging countries. Both the intensity and the composition of the current wave of integration have differed across countries in the two regions, with external borrowing by the private sector having increased particularly strongly in Europe. When the growth of such capital inflows is very rapid, this may increase the short-term challenges for monetary authorities, in terms of looser control of domestic liquidity, more complex and less predictable monetary policy transmission mechanisms, and also a more significant role for the external sources of contagion. The latter risk has risen in the present juncture: even though the widening of the yield spreads of sovereign bonds since-mid 2007 has been largely driven by the impact of worse external factors, it has nevertheless varied among emerging economies depending on specific domestic conditions.

In Asia, the development and resilience of domestic financial systems appear to vary significantly. In the CEECs, the rapid growth of the banking systems has been spurred by close integration with core Europe; however, domestic capital markets tend to remain

relatively underdeveloped and undiversified. The risk of financial instability, arising from large-scale borrowing by the private sector, mainly in foreign currency, and possible asset bubbles is greater in underdeveloped financial systems.

Policy choices may be particularly challenging under a rigid exchange rate regime, as the latter not only limits the scope for monetary policy but also tends to encourage borrowing in foreign currency. In presence of strong and surging capital inflows, some emerging countries (both in Latin America and Asia) have reintroduced controls on the capital account, but these measures tend to be ineffective beyond the very short term. Several countries have instead resorted to sterilized intervention in the foreign exchange market. However, this policy has increasingly shown its limits in the most recent years, including in a number of Asian economies.

*Box 1***Spreads on Emerging Market Sovereign Bonds and Global Financial Conditions**<sup>38</sup>

In the empirical literature two sets of factors are seen as influencing the movements in the yield spreads on EMEs' sovereign bonds: conditions in global financial markets (common factors) and individual EMEs' macroeconomic fundamentals (country-specific factors). Factor analysis conducted on a large sample of EMEs' sovereign spreads over a 10-year period (January 1998-February 2008) shows that a single common factor, which can be traced back to international investors' risk aversion as captured by volatility in mature stock markets, explains a significant part of the yield spread co-variation. We then include the common factor in country-by-country estimations, controlling for a set of country-specific macroeconomic fundamentals.<sup>39</sup>

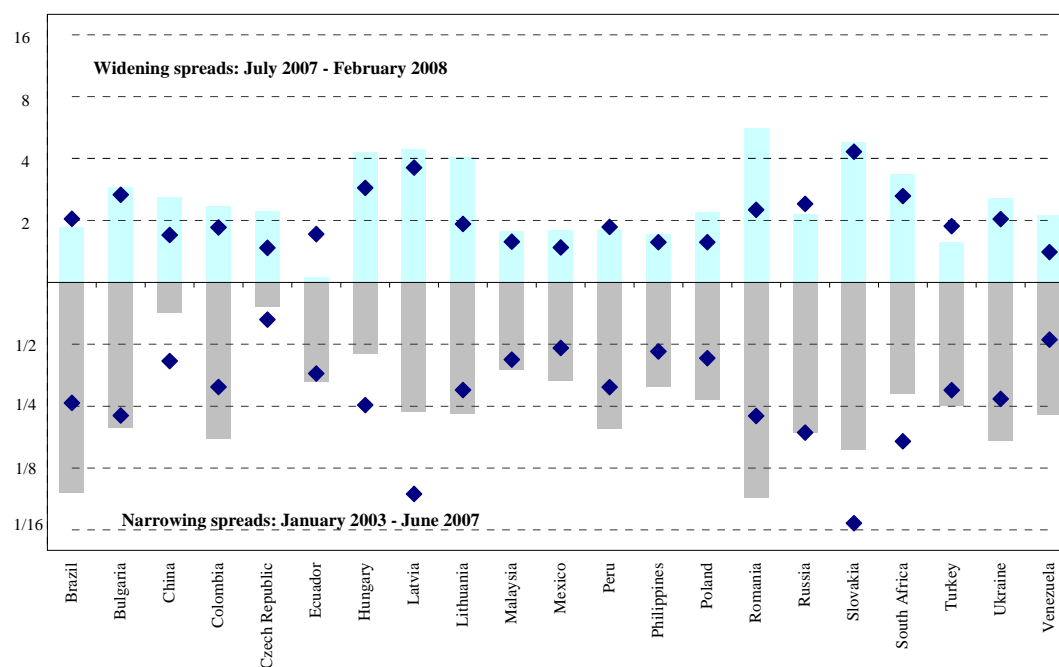
The Chart summarizes the main results. It shows the overall change in spreads (as represented by the bars) and how much of it can be attributed to changes in the common factor (as represented by the dots). Two sub-periods are considered: the first (from January 2003 to June 2007) refers to a period characterized by ample liquidity and historically low levels of risk aversion; the second (from August 2007 to February 2008) refers to the more recent period of financial market stress. The closer the dot is to the edge of the bar in the chart, the greater the weight of the common factor in determining variations in spread.

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<sup>38</sup> Extract from Alessio Ciarlone, Paolo Piselli, and Giorgio Trebeschi (June 2008), "Emerging markets' spreads during the recent financial turmoil", mimeo, Banca d'Italia.

<sup>39</sup> By means of the fully-modified OLS (FM-OLS) procedure (Phillips and Hansen, 1990), we estimate the long-run relationship that links a given country's yield spread to both its 'country-specific fundamentals' and the 'common factor' component. Technical details can be found in A. Ciarlone, P. Piselli and G. Trebeschi (2007), "Emerging Markets' Spreads and Global Financial Conditions", Temi di Discussione 637, Banca d'Italia, June. The set of macroeconomic variables that were included (and proved to be significant) in the country-by-country regressions were the exchange rate, the ratio of current account balance to GDP, the ratio of government budget balance to GDP, real GDP growth rate, the ratio of gross external debt to exports, the ratio of short-term debt to total external debt, the ratio of government debt to GDP, openness to trade, the ratio of international reserves to total external debt, inflation rate, and interest rate.

**Chart: Changes in yield spreads and the contribution of the common factor**



Source: Authors' calculations.

Note: On the vertical axis, numbers indicate the ratio of the spread at the end of the period to the spread at the beginning of the period. Thus, the bars show the log difference in spreads incurred in the indicated interval. The dots show the difference in spreads that can be attributed to changes in the common factor.

It turns out that the generalized widening of yield differentials since end-July 2007 is to be traced back, to a large extent, to the worsening global financial conditions, i.e. the increased volatility in stock markets and the increasing risk aversion of international investors. In fact, on average, about 80 per cent of the observed changes in EMEs' spreads is due to the change in the 'common factor'.<sup>40</sup>

In some cases (Brazil, Ecuador, Mexico, Peru, Russia and Turkey) the adverse influence of the common component in the most recent period would have warranted a larger increase in spreads than that actually observed (as shown by the fact that the dot lies outside

<sup>40</sup> What is not accounted for by the 'common factor' is due to the country-specific variables and the residuals in the regressions (to the extent that the common component is correctly specified, the residual can be thought of as a sort of omitted country-specific factor). As the influence of the 'common factor' on yield spreads may be exerted not only directly but also indirectly, via changes in the 'country-specific' fundamentals, we tend to capture only the direct effect of the 'common factor' on each country (via its parameter coefficient estimated over the full ten-year regression period).

the bar). This is evidence that in these countries macroeconomic fundamentals have improved over this period, thus limiting the change in spreads. Instead, in most cases, the residual contribution stemming from country-specific developments has also been unfavourable, amplifying the adverse impact of worsening global financial conditions. This is particularly the case for some European countries (Romania and Lithuania). Overall, the analysis shows that it might be misleading to assume a financial ‘decoupling’ from developments in mature markets: EMEs, in fact, do remain vulnerable to sudden shifts in international financial conditions (particularly so, Slovakia and Latvia); moreover, for some countries risks have increased because of less favourable fundamentals.

*Box 2***Financial Asset Prices and Emerging Market Capital Flows** <sup>41</sup>

Equity investment inflows to emerging market economies were at a record level in 2007, and equity prices have been soaring since 2002: is there a causal relationship between the two and what is its direction? A first, rough examination of the issue involved computing, for a sample of emerging countries over the period between 2002 and 2007, simple measures of contemporaneous linear correlation between monthly equity inflows (net foreign purchases by U.S. residents of domestic equity securities scaled by domestic market capitalization) and monthly equity returns.<sup>42,43</sup> We find a positive and significant correlation only for 2 out of the 20 countries in the sample; in both cases, inflows are well above 2 per cent of domestic market capitalization, which we may consider a “minimum threshold” effect at play, especially in small markets (see figure).

Applying more refined econometric techniques to the analysis, the results are not free from problems. Under the efficient-market hypothesis, financial asset prices fully reflect only fundamentals and there would be no scope for any additional, independent role of international capital flows. However, as in reality investors are not unboundedly rational and markets are scarcely perfect, empirical studies have suggested otherwise, unveiling anomalies in the functioning of financial markets. A first strand of literature has assumed international barriers to market integration and found that inflows and capital account

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<sup>41</sup> Extract from Francesco Lovecchio and Sergio Santoro (July 2008), “International Capital Flows and Equity Prices in Emerging Markets”, mimeo, Banca d’Italia.

<sup>42</sup> Countries in the sample are: Argentina, Brazil, Chile, Colombia, Mexico, Peru, China, Indonesia, South Korea, Malaysia, Philippines, Thailand, India, Czech Republic, Hungary, Pakistan, Poland, Russia, South Africa, and Turkey.

<sup>43</sup> As an indicator of foreign purchases we take cross-border equity portfolio purchases by U.S. residents as reported through the Treasury International Capital (TIC) system. Monthly returns on equities are calculated as the percentage changes of Morgan Stanley Capital International (MSCI) indexes for each of the sample countries.



liberalization do cause equity prices to soar;<sup>44</sup> however, during periods of international financial integration a wide array of domestic policy reforms are typically implemented, so it may be difficult to disentangle the influence of international capital flows from that of policy shifts. Other studies, which find supporting evidence for causality in the opposite direction, that is, from prices to capital flows, assume that foreign investors tend to be “return chasers”, as they engage in “positive feedback” trading strategies, buying when prices are going up and selling when prices are going down;<sup>45</sup> this thesis view may entail a destabilizing role for capital flows, which may drive prices further from their equilibrium value. Overall, the empirical results are hardly conclusive, and the existence of a causal link remains quite uncertain. Moreover, this issue has commonly been investigated through vector autoregressive (VAR) models, in which the problem of endogeneity is extremely severe and the identification procedure rests on assumptions that heavily influence the results.

In order to overcome the endogeneity problem between flows and returns, we have applied a new approach for the identification of the structural parameters in a VAR model with less restrictive conditions.<sup>46, 47</sup> According to preliminary results, no causality in either direction is found: there is no robust evidence of a direct contemporaneous effect on returns of a shock to inflows, or vice-versa; however, a *caveat* is in order, as for most countries parameter estimates are poor, with a high degree of uncertainty. Thus, it would be premature to rule out the possibility of some causal relationship between equity flows and returns.

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<sup>44</sup> M. Dahlquist and G. Robertsson (2004), “A note on foreigner’s trading and price effects across firms”, Journal of Banking and Finance; A. Richards (2005), “Big fish in small ponds: The trading behavior and price impact of foreign investors in Asian emerging equity markets”, Journal of Financial and Quantitative Analysis.

<sup>45</sup> G. Bekaert and C. R. Harvey (2000), “Foreign Speculators and Emerging Equity Markets”, Journal of Finance; P. B. Henry (2000), “Stock Market Liberalization, Economic Reform, and Emerging Market Equity Prices”, Journal of Finance.

<sup>46</sup> See R. Rigobon (2003) “Identification through heteroskedasticity”, Review of Economics and Statistics, for more details on this approach. This estimator allows us to get around the identification problem simply by exploiting the presence of sub-samples characterized by different volatilities. In our estimation period, from January 1995 to December 2007, sample countries experienced several episodes of financial turmoil, like the Asian and Russian crises, and the default of Argentina; this provides us with the necessary shifts in volatility to apply this methodology.

<sup>47</sup> We have estimated a simple bivariate VAR model for each of the 20 countries of our sample between monthly purchases of equities and monthly returns on equities from January 1995 to December 2007, when capital account liberalization had already occurred in most emerging economies.

Instead, our results call for further investigation, possibly through even more complex specifications (including additional variables and shocks in the analysis).

