

Box 3

THE IMPACT OF EMERGING MARKET SHOCKS ON GLOBAL EQUITY MARKETS

Recent events in emerging market economies (EMEs) – such as the introduction of capital controls in Thailand, the unveiling of nationalisation plans in Venezuela, the Russia/Belarus conflict over oil exports to western Europe, and concerns about the risk of a possible default in Ecuador – contributed to inducing substantial corrections in emerging equity markets. A relevant issue for global financial stability is to assess the extent to which such events or shocks – originating in EMEs – affect global equity markets more broadly, including those in the euro area. The debate on the relevance of EMEs for global financial markets has traditionally focused in particular on transmission and contagion during financial crises in EMEs.¹ Yet emerging market assets have become an increasingly important global asset class over the past decade, meaning that their potential to influence pricing in other markets – also during normal times

1 See e.g. K. J. Forbes and R. Rigobon (2002), “No Contagion, Only Interdependence: Measuring Stock Market Co-Movements”, *Journal of Finance*, Vol. 57 (5), 2223-2261; and G. L. Kaminsky, and S. Schmukler (1999), “What Triggers Market Jitters? A Chronicle of the Asian Crisis”, *Journal of International Money and Finance*, Vol. 18 (4), 537-560.

Table B3.1 Transmission of EME shocks – all shocks, by region

Event shock to:	All 14 EMEs		Latin America 4		Emerging Asia 6		Emerging Europe 4	
Market reaction of:	coef.	std.err.	coef.	std.err.	coef.	std.err.	coef.	std.err.
World	0.300 ***	0.04	0.362 ***	0.06	0.149 **	0.07	0.268 ***	0.07
Latin America	0.402 ***	0.06	0.592 ***	0.07	0.101	0.09	0.315 ***	0.10
Emerging Asia	0.302 ***	0.05	0.220 ***	0.07	0.407 ***	0.09	0.234 ***	0.08
Emerging Europe	0.635 ***	0.08	0.400 ***	0.10	0.329 ***	0.13	0.966 ***	0.16
Euro area	0.354 ***	0.06	0.307 ***	0.08	0.278 ***	0.11	0.373 ***	0.10
Japan	0.216 ***	0.07	0.238 ***	0.10	0.212 *	0.12	0.072	0.11
United Kingdom	0.318 ***	0.05	0.315 ***	0.07	0.234 ***	0.10	0.292 ***	0.10
United States	0.328 ***	0.06	0.457 ***	0.08	0.107	0.10	0.271 ***	0.10

Source: ECB calculations.

Note: The table shows the transmission coefficients for EME shocks. ***, ** and * indicate statistical significance at the 99%, 95% and 90% levels respectively.

– may be increasing. This makes it important to understand whether, and to what extent, EMEs have systemic importance for global financial markets, above and beyond their influence during crises episodes. This Box aims at shedding light on the transmission of EME equity market shocks to global equity returns as well as to 15 individual mature economies' markets.²

Using a novel database of economic and political events in 14 systemically relevant EMEs³ over the period 2000-2004, the empirical analysis conducted yields a number of findings that are relevant from a financial stability viewpoint, of which three main ones can be highlighted. First, on a daily frequency, EME shocks have a significant and sizeable effect, inducing on average 0.3% change in global equity returns (see Table B3.1). The subsequent rows of Table B3.1 show the response of regional equity market return indices for Latin America, emerging Asia and emerging Europe, as well as the return indices of the large mature markets of the euro area, Japan, UK and the US. Global returns appear to be most sensitive to shocks emanating from Latin America, though they are also sensitive to shocks coming from emerging Asia and emerging Europe.

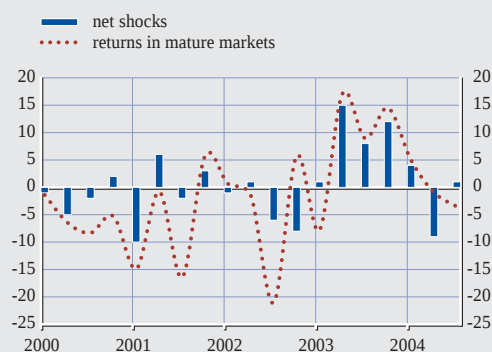
Second, the response of mature economy equity markets shows several disparities in terms of regional effects. In particular, US equity markets are significantly more affected by shocks from Latin America than from Asia or emerging Europe. By contrast, Japanese markets appear to respond most to Asian and Latin American shocks, and not at all to shocks emanating from emerging Europe. The euro area and the UK are again very different in that their reaction is very similar for shocks from all three EME regions. For instance, euro area and UK markets react more to shocks from emerging Europe than do the US and Japan. However, while these effects are significant in statistical terms, their economic importance for financial stability concerns from a euro area perspective should not be overstated.

2 For more details, see L. Cuadro Saez, M. Fratzscher and C. Thimann (2007), "The Transmission of Emerging Market Shocks to Global Equity Markets," *ECB Working Paper*, No 724, February.

3 The database covers 14 EMEs, four in Latin America (Argentina, Brazil, Chile and Mexico), four in emerging Europe (the Czech Republic, Poland, Russia and Turkey) and six in Asia (India, Indonesia, Korea, Malaysia, Taiwan and Thailand). This list covers most of the systemically important EMEs, possibly with the exception of China. Hong Kong and Singapore are also not included, partly due to problems of data availability.

Chart B3.1 EME shocks and global equity returns

(three-month cumulative return and net shocks)



Source: ECB calculations.

Note: The chart shows the quarterly cumulated net EME shocks (cumulated difference between positive and negative shocks) and the stock market returns in mature economies. The correlation between net shocks and returns in developed markets is 0.70.

A third key result, which has been omitted here on grounds of brevity, is that global equity markets react almost as strongly to positive EME news as to negative news, with this result being robust across EMEs and over time. This underlines the importance of EMEs for global financial markets (and not only during crises or other less favourable episodes). Investors in mature economies also benefit from positive developments in EMEs. This may reflect factors such as the growing economic integration of EMEs in the world economy and their rising levels of trade and financial linkages with mature economies.

These empirical findings based on high-frequency data raise the question about the overall importance of EMEs as a driver of the global equity markets. This is difficult to

answer as it is hard to quantify precisely the extent to which EME shocks affect the global equity markets. However, the high degree of persistence of the effects – which are still present in global equity markets after several weeks – stresses the economic relevance and systemic importance of EMEs.

Another way to gauge the overall relevance of EMEs is to compare the net shocks over a longer time period, i.e. the difference between positive and negative shocks in EMEs, and equity returns in mature economies (see Chart B3.1). There is a remarkably high degree of co-movement between the two series, in particular since the end of 2002. In fact, the correlation coefficient for the whole sample period is 0.70. It should be stressed that this relationship does not imply causality, but it underlines that developments in EMEs strongly co-move with those in global equity markets.

Overall, the analysis emphasizes the relevance of EMEs for global financial markets. EMEs appear to have gained in systemic importance for global financial markets, thereby exceeding their influence during relatively infrequent episodes of financial crises and market turbulence. Given the importance of and ongoing increase in cross-border financial investment as a transmission channel, coupled with the rapid growth of EMEs as an asset class, the results suggest that EMEs are likely to gain in importance in the determination of global asset prices in the future.