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## **Financial turmoil: Systemic or regional?**

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**Financial turmoil: systemic or regional?**

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The crisis-prone 1990s and the crises of the new millennium have triggered an ever increasing interest in the globalisation of financial turbulence. Many argue that crises are of a regional nature and point to the debt crisis in 1982, which mostly engulfed Latin American countries, and to the so-called Asian flu, which spread from Thailand to Indonesia, Malaysia and the Philippines in a matter of days but left emerging markets in other regions mostly unscathed.<sup>4</sup> Still, the Russian crisis in August 1998 and the debacle of financial markets around the world in autumn 1998 challenge this view and raise the question why some crises are only transmitted regionally while others affect countries around the globe.

Kaminsky and Reinhart (2002) examine whether the degree of globalisation of financial turmoil depends on the origin of the shocks. In particular, they ask whether the extent of the spillover effects depends on whether the shock originates in the periphery or in the centre. For example, were the regional consequences of the Thai crisis so severe owing to Thailand's direct links with other countries in the region or because that shock affected the region's largest economy - Japan? Was the paralysis of the bond markets in many parts of the globe and the persistent equity market volatility due to the Russian default or to concerns that there might be more LTCMs in the making in the financial centres of the world?

There may be various patterns in the propagation of shocks.

First, there is the transmission of shocks from one periphery country to another periphery country, which can take place if the two countries are directly linked through bilateral trade or finance. Recent examples of this type of transmission mechanism include the adverse impact of the 1997-98 Asian crisis on Chilean exports and the contractionary consequences for Argentina of the Brazilian devaluation in early 1999.

Second, the transmission of shocks from one periphery country to another periphery country may occur through a centre country. There are several prominent examples of this type of transmission mechanism. Corsetti et al (1998) model trade competition among the periphery countries in a common third “centre” market. For instance, Malaysia exports many of the same goods as does Thailand to Japan, Hong Kong and Singapore. Hence, when Thailand devalued in mid-1997, Malaysia lost its competitive edge in the common third markets. Another example of this channel of transmission is analysed in Kaminsky and Reinhart (2000), who focus on the role of commercial banks as lenders in the centre country. For example, US banks had extensive exposure to Mexico in the early 1980s, much in the way that Japanese banks did to Thailand in 1997. The behaviour of the foreign banks can both exacerbate the original crisis, by calling loans and drying up credit lines, and propagate crises by calling loans elsewhere. The need to rebalance the overall risk of the bank’s asset portfolio and to recapitalise following the initial losses can lead to a marked reversal in commercial bank credit across markets where the bank has exposure.

Third, shocks may be transmitted symmetrically from the centre country to the periphery. This is the type of shock stressed in Calvo, Leiderman, and Reinhart (1996),

who analyse how changes in US interest rates influenced capital flows to Latin America in the early part of the 1990s.

To examine the characteristics of international spillovers, we analysed the daily behaviour of stock markets for 35 emerging-to-mature market countries<sup>5</sup> from January 1997 to August 1999 and examined the degree of globalisation of extreme returns, which were defined as those returns in the 5th and 95th percentile of the distribution of returns. Since we were interested in the centre and the periphery, we examined what happens in stock markets around the world on days of turmoil in financial centres (Germany, Japan and the United States) and on days of turmoil in crisis-prone emerging economies (Brazil, Russia and Thailand).

Our results indicate that turmoil in financial centres is an essential ingredient for systemic turbulence. For example, when there are market jitters in the United States, about 60% of emerging and mature markets worldwide also suffer market jitters. We also find that turmoil in crisis-prone emerging markets spills over into other countries when this turmoil affects financial centres (about 75% of mature and emerging markets worldwide are affected by market jitters in Brazil or Russia when either Germany or the United States are affected by those turbulences). But turbulences in crisis-prone emerging markets such as Brazil or Russia that do not affect financial centres do not have spillover effects worldwide (less than 15 of the countries are affected); they only spill over to other countries in the same region, with about 80% of the countries in Latin America being affected by financial turbulences in Brazil and about 40% of transition economies being affected by turmoil in Russia. That is, for worldwide globalisation of turmoil, financial centres have to be affected. Regional spillovers are different: trade

links and wake-up calls may also have a contributing role.

Finally, our research also examines what type of news triggers worldwide turbulences. We find that financial concerns from bankruptcies of large banks or adverse shocks in one particular financial market seem to be at the core of high worldwide globalisation (76% of the episodes). Only 19% of the days of high spillovers seem to be driven by economic news. While financial worries are also at the core of high regional globalisation, their importance is moderate. Only 49% of the episodes of high regional globalisation are driven by financial concerns, with economic and monetary news explaining 37% of the episodes.

While an analysis of more episodes is a clear necessity, one of the preliminary conclusions we draw from this exercise is that to understand “systemic” problems - be these defined at the global or regional level - we have to understand how a shock to the periphery spreads to the periphery (or to other financial centres), via its impact on a financial centre. If the shock never reaches the centre, it is doubtful it can become systemic, irrespective of the definition of systemic that is used. Because financial market participants at the centre countries were largely positioned for the collapse of Ecuador’s currency, banking system, economy and political system - not to mention its default on international obligations - these events were more of a ripple in global capital markets than a tidal wave.

## References

Calvo, Guillermo A, Leonardo Leiderman and Carmen M Reinhart (1996): “Capital flows to developing countries in the 1990s: causes and effects”, *Journal of Economic Perspectives*, vol 10, spring, 123-39.

Corsetti, Giancarlo, Paolo Pesenti, Nouriel Roubini and Cedric Tille (1998): *Structural links and contagion effects in the Asian crisis: a welfare based approach*, Yale University, mimeo.

Glick, Reuven and Andrew Rose (1998): “Contagion and trade: why are currency crises regional?”, NBER Working Paper no 6806.

Kaminsky, Graciela L and Carmen M Reinhart (2000): “On crises, contagion, and confusion”, *Journal of International Economics*.

——— (2002): “The center and the periphery: the globalization of financial turmoil”, International Monetary Fund, Working Paper

## Endnotes

1 This chapter summarises some of the findings in Kaminsky and Reinhart (2002).

2 See, for example, Glick and Rose (1998) and Kaminsky and Reinhart (2000).

3 The 35 countries in our sample can be classified in five somewhat arbitrary groups: the G7 countries, namely Canada, France, Germany, Italy, Japan, United Kingdom and the United States; transition economies, comprising the Czech Republic, Estonia, Hungary, Poland, Russia, Slovakia and Ukraine; the Asian cluster, consisting of Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea and Thailand; the “other European” group, which excludes those countries that are part of the G7 and comprises Finland, Greece, the Netherlands, Norway, Spain, Sweden and Turkey; and the Latin American group, which consists of the larger economies in the region: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.