

Drivers of international contagion

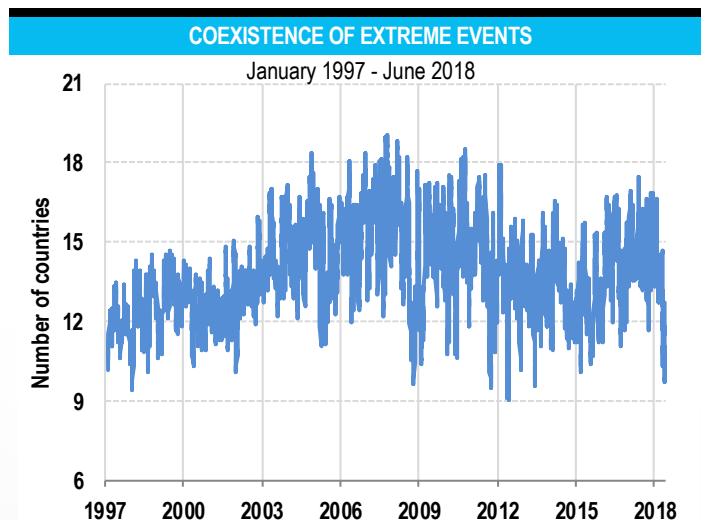
- High international correlations of markets can reflect the existence of global shocks, global swings in risk aversion or contagion
- Contagion can be caused by a wide variety of factors ■ Taking into account the nature of the contagion is important when assessing its economic consequences

In recent decades, the removal of capital controls made it possible to increase international portfolio diversification which has led to an increase of international capital flows. This has in turn led to a growing interconnectedness of financial markets. International correlations within and even between asset classes tend to be high, in particular in times of stress. The chart provides an illustration of this and shows out of a universe of 31 countries, how many were experiencing simultaneously a significant depreciation of their currency versus the US dollar. A high number of currencies under stress, or more generally, sometimes high correlations between other instruments can reflect three things:

- 1) the existence of global shocks, like a global recession or monetary tightening or easing in the US, which as is well known, has important global spillovers;
- 2) swings in global risk aversion;
- 3) contagion whereby financial stress originating in one country gives rise to market turbulence elsewhere.

Contagion was a much discussed topic during the Asian debt crisis in 1997, the Russian devaluation in 1998, the eurozone sovereign crisis in 2011-12, the Federal Reserve taper tantrum in 2013 or, in recent weeks, the political uncertainty in Italy.

International capital mobility and portfolio diversification make contagion possible but the important question is how exactly contagion happens. What are the channels of transmission of a shock in one country to markets in other countries? These channels are numerous and diverse in nature. Analysing them is relevant because depending on the nature of the contagion, one can be relaxed or, for that matter, very much concerned about the economic repercussions.



For a universe of 31 developing economies the daily change in the exchange rate versus the US dollar was calculated. For each currency, selecting only the observations of depreciation against the dollar, the standard deviation over the entire sample was then calculated. The chart shows (on a 21 day moving average basis) the number of significant exchange rate depreciations, defined as a move of at least 1,5 standard deviations, on a given day.

Source : Thomson Reuters, BNP Paribas

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What follows is a list of 12 channels of international contagion. While not claiming to be exhaustive, it does cover a broad range of factors:

1) *Similar characteristics*. Let's consider two countries, A and B. International trade between them is very limited but both are having a current account deficit and high inflation. Speculative attacks targeting A will end up targeting B as well because of the shared problems. This was the issue with the 'Fragile Five' (Indonesia, South Africa, Brazil, Turkey and India) during the taper tantrum. In view of their current account deficits, these countries were considered to be particularly sensitive to the prospect of US monetary policy tightening;

2) *Trade flows*. When country A is suffering from market stress, contagion can run from country A to country B when the former represents a significant share of the exports of the latter: an economic downturn in A, following the market tensions, could drag along B, which will be reflected in the evolution of B's financial markets;

3) *Political contagion*. Donald Tusk, president of the European Council, referred to this during the Greek crisis of 2015. A change in the policy stance in one country (e.g. with respect to eurozone membership) could end up influencing the political debate in other countries as well and weigh on the respective financial markets;

4) *Banking system*. International banks suffering losses in a foreign country may, based on a precautionary motive, tighten their credit policy in other parts of the world;

5) *Uncertainty channel*. Negative surprises about developments in a given country may reduce the confidence in forecasts in general and increase the risk aversion of investors causing them to sell riskier markets across the board;

6) *Risk arbitrage*. As explained in last week's editorial, this may be a factor explaining why the spread between Portugal and Germany widened on the back of the widening between Italy and Germany: investors who felt confident in the medium run about Italy counting on a spread narrowing in due course, may have seized the opportunity of a more attractive return/risk trade-off in Italy by lowering positions in other markets, thereby causing a spread increase in the latter;

7) *Proxy hedging based on reduced liquidity*. Widening bid-offer spreads (which was a big issue during the recent sell-off in Italy) could force investors to sell positions in other markets when these are more liquid. This strategy works to the extent that the price dynamics are positively correlated with the less liquid market. Clearly, such

behaviour would increase international correlations and reinforce the confidence in the validity of the strategy

8) *Tail risk hedging*. An investor may be concerned about developments in country A but may consider that buying protection is too expensive. Anticipating a positive correlation between market developments in country A and B, he could envisage buying protection on B when it is cheaper, although his real objective is to hedge his position on A;

9) *Exposure management*. Consider an investor who has built exposure to emerging debt by buying a multi-country fixed income fund. When concern about a single country is increasing, he will have to sell part of his investment in the fund, thereby reducing his exposure to all markets;

10) *Risk limit based*. Losses on a position in country A or a lasting increase in the volatility of instruments of country A could force a reduction of overall portfolio risk. Although it is the movement in one market which causes the downside risk limit to be reached, the ensuing selling impacts different markets;

11) *Herding behaviour*. In this case investors who not necessarily have a clear opinion on the intrinsic value of a market jump on the bandwagon and reinforce the price movement. It is not so much a factor explaining why there is contagion in the first place but it can have an impact on the extent of the contagion;

12) *Crowded trades*. Like with the previous factor, this one influences the extent of the contagion. It explains why carry trade strategies can be very volatile as the investor mind-set swings between putting on more risk ('risk on') and scaling back risk ('risk off') whereby many investors with similar objectives adopt similar tactical strategies. To the extent that these positions would be leveraged, reduced access to funding liquidity, would amplify the movements by causing a fire sale.

As mentioned before, the economic consequences of contagion depend on its nature. One would expect that contagion based on similar characteristics (high inflation, large current account deficit, reliance on short term portfolio inflows, lack of credibility of the central bank, etc), close trade relationships or, in the case of the eurozone, a major change in terms of economic policy orientation which could influence the debate in other countries is expected to have a more profound impact on the real economy than the other channels.

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