Bubbles and emerging market crises

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Introduction

2003 may be the first year for a long time not to see an emerging market crisis. Measures taken, particularly following the 1997 Asian crisis, seem to have made emerging markets more stable.

However, empirical studies reveal the increasingly primary role of financial linkages in the process of contagion (trade linkages play a role but it is secondary), and the central importance of balance sheet mismatches in generating the conditions for triggering crises; apparently-solvent balance sheets can hide potentially serious liquidity problems. Bubbles have played, and continue to play, a key role in crises, in particular by distorting balance sheets.

Bubbles and balance sheets

Bubbles develop when arbitrage (i.e. taking financial positions against market mispricing) becomes excessively risky. In classical finance this is never a problem, with masses of atomistic agents, each taking a relatively small position with little individual risk, confident that all others are arbitraging too. In reality, short-horizon ('noise') traders engage in herding (when information is costly to acquire they simply 'copy' the portfolio choice of others) and this drives prices away form fundamentals during periods of optimism and pessimism. Traders only profit from gathering information if the information they have is impounded in prices by the trades of similarly informed traders, within a timeframe allowing them to make a profit. This positive information spillover is contrary to the classical notion of negative spillovers in a world of only rational traders with long horizons. Those who try to arbitrage the mispricing lose wealth when they are forced to liquidate investments before the price recovers to fundamental value; taking a position without the certainty that others are arbitraging is just too risky. It is especially difficult to arbitrage the absolute level of a whole class of assets – like a stock or real estate market – than to arbitrage relative price differences between assets within a class.

Several large bubbles (especially in stock markets and real estate) have burst in the past ten to fifteen years (in particular, in Japan, Asia, the US) rippling out waves of fresh bubbles. The big players in creating past bubbles were private banks and mutual funds. Current players are found, particularly, in central banks and bond markets.

Bubbles cause assets and liabilities to become improperly valued, and balance sheets give a false impression of the true situation. Incorrect price signals cause misallocation of resources. Much-needed adjustment is delayed amid a false sense of security. Economic dynamics become unpredictable, especially if there are interactions between different bubble elements, or between a bubble element and a non-bubble element.

Bubbles in reserve holdings?

Global foreign exchange reserves have more than doubled between end 1995 and end 2002, reaching over $2.5trillion. Increased risk-aversion, of both central bankers and governments, has driven them to hold reserves way beyond anything required to support short-term debt. Indicative of this, most of the increase is in countries that previously experienced 'sudden stops' (Korea, Taiwan, and Mexico stand out). The net flows from Non-Japan Asia to the USA were $110bn in 2002 alone, about 20% of the US current account deficit. In Non-Japan Asia, a small number of economies (mainly Taiwan, China and Korea) now account for 40% of world reserves. A bubble in foreign reserve holdings has a number of possible implications:

1) A large proportion of new reserves is invested in US dollar-denominated assets, especially US Treasury bonds and US government-sponsored agency bonds (the latter have gone from zero in 1998 to over $200bn in 2003). Such low-yielding 'safe' assets have high opportunity cost given alternative investments. The IMF calculates this 'quasi-fiscal deficit' at about 1% of emerging market GDP. This depresses per capita growth and welfare.

2) It adds to the risk of sudden currency adjustment in two ways:

2a) A good analogy is the exit (devaluation) of the pound from the ERM – but in reverse. Attempts to hold the value of the pound artificially high caused high interest rates, in an attempt to stem reserve flows. But high interest rates imposed a social cost, in terms of job losses and the destruction of otherwise viable investment and businesses. This entered the government's loss function (there was no independent Bank of England) when it played against currency speculators. At some point, speculators came to realise that, however much the government might confidently commit to defend by raising interest rates, the social costs at some future moment would outweigh the benefits to the government. Backwards induction on this future moment brought the crisis forward to the first moment in time at which it was believed that it had become an inevitability.

Analogously, in high-reserve countries in Asia, the loss function contains 'quasi-fiscal deficits' (and costs of dislocation and misallocation of resources too). The longer a government tries to hold a currency artificially low, the greater the capital inflows and reserve accumulation, and the greater the discounted value of the sum of current and future 'quasi fiscal deficits'. At some moment speculators will come to realise that these costs will, at some future moment come to outweigh the benefits to the government. The backwards induction argument bites, even more capital floods in (taking the one way bet that the currency will be revalued), and revaluation is forced.

2b) The bubble in reserves feeds cheap capital to the US, but it also risks capital loss. Another trigger for sudden revaluation might be from the way reserves are effectively being valued artificially highly on emerging market central bank balance sheets; if there were a sudden downward correction in US bond prices (if a bubble bursts on that market, or markets came to realise that the US has no choice but to inflate its debts away) or a large depreciation of the US dollar (another collapsing bubble), then the value of capital reserves would fall, generating 'quasi-capital losses'. Depending on how significant sterilisation is, this could also impart credit constraints to the economy, aggravating the situation.

3) Somewhat contrary to the last point (in the sense that if there is a revaluation this problem will be partly allayed), many central banks have sterilised their accumulation of foreign exchange reserves so as not to impact domestic money supply. But this gets increasingly difficult, and the risk is that a rise in the money supply is simply being delayed to a point when it is less timely and more inflationary. This may be one of the explanations for why China's inflation is currently so low in spite of 9% growth per year.

4) The counterpart to external reserve accumulation is internal imbalance in favour of the tradeable sector to the detriment of the non-tradeable sector, as exchange rates are held much lower than would otherwise have been the case. This happened in Japan throughout the 1980s; the consequence was a stock market and real estate bubble, which eventually collapsed, and led to overstretched balance sheets – the genesis of today's deflation. Furthermore, if eventual adjustment to a more stable world balance sheet is too rapid or disorganised, the risk is that these countries will be too dependent on tradeables, and unable to switch smoothly and rapidly enough to domestically-generated demand. This is a particular problem for China where high growth is sustained by rapid inflows of capital and investment in tradeables and speculative activities like real estate.

A bubble in bond markets?

2003 saw particularly large movements into emerging market economy (EME) bonds. It could be that the shunning of EME equities and the collapse in mature market equities in late 2002 and early 2003, combined with extremely low bond yields, has led to a bubble in EME bond markets (an alternative is that investors had been irrationally holding out of EME bond markets previously). Survival of such a bubble would hinge on a sustained pick up in global demand (especially of US economic recovery) with continued low world interest rates, such that investors were even more willing to invest in

emerging markets. As yields on mature market bonds rise, net flows to emerging market mutual funds would otherwise dry up.

The average spread of EME bonds over American Treasuries has fallen from about 1,000 to around 480 basis points – a historical low. In some respects this is good; it lowers borrowing costs for emerging market governments and companies. But it also indicates that investors, in their 'rush for yield', are becoming less discriminate. If sentiment collapses, investors may leave the asset class uniformly regardless of underlying country characteristics. The Russia spread is 300 basis points, half that of a year ago, and Russia attracted over 15% of world bond flows in the past year. Yet one would hardly regard Russia as having recently made great strides in economic-policy reform.

When US treasury yields spiked in mid-2003 there was a sharp increase in the correlations of US treasuries and emerging markets, suggesting a risk of sell off if yields in mature markets rose much further. The impact was greatest on high-rated emerging market bonds (which are perceived as more substitutable with mature market bonds). The spike was exaggerated by the unwind of carry trades; today's highly compressed emerging market bond spreads are particularly vulnerable to this.

Even if mature market bond yields do not move much higher (though they undoubtedly will), steeper yield curves lead to a shift towards more short-dated emerging markets instruments – which increases dangers of crises by reducing the ratio of reserves to short-dated instruments. Those with low reserves (mostly Latin American) would be at risk. Those countries with heavy reserves seem well-protected (Asian reserves are so high that there is plenty of leeway for a fall in the ratio). However, there is risk of a scissor action: a move to short term instruments coinciding with a fall in the capital value of reserves. Current levels of reserves are not a perfect guide to their global stability enhancing prowess when interactions with bond markets are fully explored. Since the marginal return of holding more reserves for those holding excess reserves is low, while the marginal return of holding more reserves for those with low reserves is high, a more balanced pattern would give more global protection for a given level of opportunity cost of reserves.

There is also extra vulnerability on account of the concentration of crossover allocations to Brazilian bonds, which account for about 20% of world bond flows in 2003. Unlike 'dedicated' investors, crossover investors are not measured against any emerging market benchmark, and move in and out of an asset class, increasing the volatility within the class, even as they increase the diversity of investor base which might strengthen the asset class. If sentiment about Brazilian fundamentals shifts, it could trigger large adjustment for the whole class.

Public and private sector vulnerabilities aggravate these bubble problems

These vulnerabilities, as well as increased public sector vulnerabilities are compounded by vulnerabilities on private sector balance sheets in a number of EMEs. In Latin America many firms are heavily dependent on foreign-currency borrowing. In Mexico, two-thirds of the debt of firms listed on the stock exchange is denominated in foreign currency, and is largely un-hedged. In East Asia, there has been a sharp rise in bank exposure to household indebtedness, offset, perhaps by a decrease in exposure to corporate indebtedness. In South Korea, household debt as a share of commercial bank lending has more than doubled since 1996. The huge implicit liabilities to the South should the North collapse would interact powerfully to destabilise the South Korean economy and the region, but would also impinge on the US via large Korean reserve holdings in US instruments.

Furthermore, many multinational companies – especially those producing for the domestic market – hedge their foreign exchange risk by purchasing $US or $US-denominated government paper in the country or offshore, up to the level of their capital. This reduces the positive net foreign exchange impact of FDI, but may also entail risks: If the hedging of exchange rate risk dramatically increases at times when devaluation or revaluation is a worry (caused by, perhaps, one of the reserve or bond market problems listed above), then while the intent may not be to speculate, the effect on the exchange rate is the same. In return the problems above are exacerbated.

Imbalances have been taking place against the backdrop of historically low mature market nominal interest rates. One can't entirely rule out a repeat of 1982, when a sharp rise in US interest rates

triggered the Mexico default, and then, at least in part via herding, many other highly indebted countries followed. The difference is that this time it might well include countries with apparently good current reserve levels.