Market Efficiency: The Policy Perspective

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Market efficiency: financial crises and role of policy in such crises

• In last two decades many financial crises in emerging market and advanced economies
• Emerging market economies crises: Mexico, East Asia, Russia, Brazil, Ecuador, Pakistan, Ukraine, Turkey, Argentina, Uruguay, Dominican Republic, etc.
• In emerging market economies a combination of:
  – currency crises
  – systemic banking crises
  – systemic corporate crises
  – sovereign debt crises
Financial crises in advanced economies

• In advanced economies repeated banking crises:
  – S&L crisis in US in the early 1990s
  – Japan banking and corporate crisis in the 1990s
  – Scandinavian banking crises

• In advanced economies also episodes of systemic risk:
  – 1987 stock market crash
  – 1994 bond market rout
  – 1998 LTCM near-collapse
  – 2001 post 9/11 liquidity seizure
  – 2005 GM/Ford downgrade
Asset bubbles

• In advanced economies (as well as emerging markets) we have also observed repeated asset bubble episodes (cases of market inefficiency), whose bursting has had seriously damaging effects at times:
  – 1980s housing and stock market bubble in Japan and his bursting in the 1990s. 1990s Japanese stagnation.
  – Late 1990s tech bubble in NASDAQ in the US and his bursting in 2000. Leading to 2001 US and global recession
Questions about market efficiency and role of policy in crises

• What causes crises in emerging market (EM) economies?
• Is it poor macro and financial fundamentals including poor and not credible economic policies?
• Or market runs and panics that are unrelated to fundamentals?
• Do the sharp movements in financial asset prices in crisis episodes reflect lack of market efficiency and market over-reaction to macro and policy weaknesses?
• Is international contagion of crises (evident in currencies, equities, bonds and other asset prices) due to market inefficiencies?
Market efficiency and role of policy in crises

- Which policy actions can prevent such crises or resolve them with lower costs once they occur?
- If there are elements of panic/runs in crises, what is the role of policies of lender of last resort (LLR) in helping to resolve such crises?
- Does this domestic or international LLR role cause moral hazard and distorted incentives?
  - IMF “bailouts” of EMs in the 1990s-2000s
  - A “Greenspan put”? Fed “bailout” of private investors?
Market efficiency and role of policy in crises

• Should monetary authorities react to asset bubbles to try to burst them?
• And how should monetary policy react to bubbles that have burst?
• What is the risk of another systemic risk episode (given the emergence of credit derivatives, mortgage backed securities, etc.)?
• What is the role of policy in triggering and/or resolving systemic risk episodes?
Emerging market crises: poor policies or investors’ panic/runs?

• Were recent financial crises in emerging market economies (Asia, etc.) caused by poor economics fundamentals and poor economic policies or by investors’ panic and liquidity runs?

• In all cases there were some serious macro, financial and policy weaknesses.

• But extent of the crisis and asset market reaction was exacerbated by investors’ “rush to the exits”.

• Investors overreact in a crisis: sudden stops, reversals of hot money flows, herding, rush to the exits.
Asset price overshooting in crises

- Overreaction leads to overshooting of asset prices relative to fundamentals that makes the crises more severe in real terms:
  - Overshooting of nominal and real exchange rates
  - Excessive widening of credit spreads (sovereign spreads)
  - Excessive fall of equity prices
  - International contagion

- Effects of such overshooting:
  - Liquidity runs
  - Severe balance sheet effects
  - Credit crunches
  - Financial distress triggered by illiquidity rather than true insolvency
  - Sharp contraction of output
Complex set of causes of financial crises in emerging markets

• There is a complex set of causes of financial crises in emerging market economies but many are related to macro, financial and policy weaknesses.

• Large macroeconomic imbalances, such as current account or fiscal deficits or both, that led to the accumulation of large stocks of public and foreign liabilities.

• Financing of these deficits in ways -- with short-term debt, foreign–currency debt, and via debt rather than equity -- that made countries vulnerable to liquidity runs and increased the risk of a fall in the exchange rate leading to a debt crisis because of the depreciation’s “balance sheet” effect.
Causes of financial crises in emerging markets

- Doubts about the credibility of a country’s commitment to take the policy steps to assure its long-term creditworthiness.
- Fixed or semi-fixed exchange rates, which
  - Increased the risk of a large current account imbalance
  - Increased the risk that borrowers would underestimate currency risk and rely too heavily on foreign-currency debt.
- Poor banking regulation, government implicit and or explicit guarantees, and other microeconomic distortions, which can lead to excessive investment and over-reliance on dangerous forms of borrowing.
Causes of financial crises in emerging markets

- Political shocks -- whether from elections, weakening governments, scandals, or political violence -- that increase policy uncertainty and make edgy investors trigger-happy.
- External shocks: commodity price shocks that deteriorate a country’s terms of trade, interest rate changes in the world’s major financial centers, etc.
- Sudden changes in the willingness of domestic and international investors to invest in risky financial assets (increases in risk aversion) that tend to hit emerging economies more frequently and harder than advanced economies.
Liquidity runs, market over-reaction and bailout policies

• In principle, pure self-fulfilling panics and liquidity runs that lead to market over-reaction can occur but are unlikely in practice
• The probability of run and of excessive asset prices response to shocks is related to macro, financial and policy weaknesses
• Runs and excessive movements of asset prices can be prevented via liquidity support (an international lender of last resort or ILOLR)
• “Catalytic” effect of even a partial ILOLR: you do not need a large ILOLR to induce investors to rollover rather than run (Corsetti, Guimaraes and Roubini (2004))
Bailouts and moral hazard

- ILOLR support can lead to moral hazard (bailout expectations)
- But the ILOLR also can take steps to limit that risk: limits to the size of lending and making support conditional on policy adjustment
- Debtor may lack incentives to improve policies without the IMF if the probability of a liquidity run is high
- Thus IMF lending may reduce rather than increase debtor’s moral hazard (Corsetti, Guimaraes and Roubini (2004)).
Optimal crisis resolution

• Crisis resolution in EM crises combines three possible policy choices:
  – IMF “bailouts”
  – Investors’ “bail-ins” (debt restructuring/reduction)
  – Domestic policy adjustment

• Appropriate financial response depends on where the crisis is in a continuous spectrum going from pure liquidity to pure solvency crises

• In all cases, appropriate policy adjustment is essential in restoring market confidence
Should monetary policy respond to asset bubbles?

- Widespread evidence of asset bubbles in recent years. Examples:
  - Tech stock bubble in the late 1990s in the US
  - Housing market bubbles in the last few years (US, UK, Australia, New Zealand, Spain)

- Policy issue: should monetary policy react to asset bubbles?

- Highly controversial issue
Two views on monetary policy targeting of asset bubbles

• US Fed and Greenspan view:
  – Monetary policy should not target rising asset bubbles beyond the direct effect that such bubbles have on inflation and growth.
  – Monetary policy should be eased and “clean up the mess” only after a bubble has burst, as bursting bubbles can cause severe economic recessions and systemic financial distress.

• Alternative view:
  – Monetary policy should be more symmetric and target asset bubbles.
  – It should preempt rising bubbles via monetary tightening as bubbles can cause severe economic distortions.
  – Monetary policy should also deal with bursting bubbles with monetary easing.
1. Analytical models suggest optimality of monetary targeting of asset bubbles

• A wide range of analytical models suggest that optimal monetary policy should react to asset prices and “exogenous” asset bubbles on top and beyond the monetary policy reaction to deviations of growth and inflation from their target.

• Bernanke-Gertler results on sub-optimality of monetary targeting of bubbles are not general (see Filardo (2002, 2003, 2004))

• In general, optimal monetary policy should react to asset prices and asset bubbles (Roubini (2005)).
2. Uncertainty and asset bubble targeting

• “How can we target bubbles if we are not even sure there is one?”
• Uncertainty about the existence of a bubble does not undermine the arguments in favor of asset price targeting
• Like many other types of data uncertainty, uncertainty about the existence and size of an asset bubble only reduces the degree of response of optimal monetary policy to asset prices.
• It does not eliminate some appropriate response of monetary policy to asset prices.
3. Uncertainty about the effects of a bubble

• Even uncertainty about whether bubbles can have damaging effects on the economy (model uncertainty) is not a good argument against targeting of such bubbles as:
  – there is a wide body of empirical evidence showing that such bubbles and their aftermath are costly;
  – uncertainty on the effects of bubbles again only reduces the degree of optimal interest rate response to such bubbles; but it does eliminate completely such a response.
4. Pricking “endogenous” bubbles is also an optimal policy

- Analytical models also suggest that if a bubble is endogenous (i.e. its probability of occurring and its size can be affected by monetary policy), optimal monetary policy requires to try to affect the bubble (i.e. try to "prick it").

- So, attempts by monetary policy to deflate or "prick" bubbles are consistent with the optimal pursuit of monetary policy.
5. Pricking asset bubbles will not lead to recessions and financial distress

• The often heard argument that trying to affect/prick a bubble would require such a large interest response that a severe recession would be triggered (“trying brain surgery with a sledgehammer”) is found to be incorrect both in theory and practice.

• Conceptually, a moderate interest rate response can have an impact on bubbles and reduce the economic distortions caused by them.

• Empirically, the recent experience of the U.K., Australia and New Zealand shows that monetary authorities can successfully control housing bubbles with monetary tightening without causing a severe recession or financial distress.
6. Asymmetric response to bubbles is not optimal

- The Greenspan/Fed argument that the Fed should not react to rising bubbles but should be ready to ease policy to dampen the real costs of bursting bubbles (i.e. an asymmetric response to bubbles) is mistaken and, possibly, a source of moral hazard distortions.
- It is certainly warranted for monetary authority to react to bursting bubbles that may lead to severe liquidity seizures, systemic risk and the risk of a large economic contraction.
- But to prevent such response from creating distorted incentives for investors, monetary policy authorities should also be willing to respond to rising bubbles.
Flaws of asymmetric response to bubbles

- I.e., while a symmetric response to rising and bursting bubbles is efficient/appropriate, an asymmetric response is:
  - conceptually flawed,
  - liable to create distorted incentives ("moral hazard")
  - likely to induce repeated cycles of rising and crashing bubbles that may have damaging economic and financial effects.

- Perceptions of a "Greenspan put" in the markets
- A "Bernanke put" if there is deflation after the bursting of a housing bubble?
Systemic risk and policy role in preventing it and/or responding to it

• Episodes of systemic risk are recurrent:
  – 1987 stock market crash
  – 1994 bond market rout
  – 1998 LTCM near-collapse
  – 2001 post 9/11 liquidity seizure
  – 2005 Ford/GM downgrade

• Possible cases of market over-reaction and lack of market efficiency

• Sudden seizure of liquidity in financial markets that leads to asset price over-reaction

• Causes of systemic risk are varied and complex.
Some characteristics of systemic risk episodes

- Initial easy liquidity/monetary policy conditions
- High leverage ratios
- Searching for yield
- Concentration of risk and positions among a few key market players
- Loosening of risk management standards
Risks of future systemic risk episodes

• Growth of credit derivatives is a black box: no one knows if their pricing is correct
• Counterparty and operational risk is serious
• How would the market react to a widening of credit spreads and widespread corporate defaults in case of a US or global slowdown?
• Regulators are concerned and market participants are also concerned (see CPRMG Report)
GSEs, derivatives and Housing

- Mortgage backed securities and the derivative activities/positions of the Government Sponsored Enterprises (GSEs) are also murky in their systemic implications.
- Implicit government bailout guarantee of GSEs may create moral hazard distortions.
- What would happen if there is a bursting of the US housing bubble, possibly associated with a spike in US long rates?
- What are the systemic risks involved in this?
Policy implications for systemic risk

- Sound policy supervision/regulation may reduce the probability of systemic risk event.
- Should we regulate hedge funds? Controversial issue.
- Easy monetary policy that leads to high leverage and search for yield may increase risk of systemic events.
- Expectations of a “Greenspan put” may also distort incentives.
- Implicit and/or explicit government guarantees (e.g. GSEs) may also distort incentives and contribute to systemic risk.
- Reacting to liquidity seizures in systemic risk episodes is correct but it may exacerbate investors’ perceptions of expected monetary “bailouts” via provision of liquidity and lowering of interest rates.
Conclusions

• Crises are phenomena that, by definition, imply sub-optimal economic outcomes.
• Crises are mostly caused by a variety of macro, financial and policy weaknesses
• But in crises markets, investors and asset prices overreact to the worsening of economic and policy fundamentals, thus exacerbating the crisis
• Thus, crises are often episodes where market efficiency fails
Conclusions for policy

- Sound policies are needed to prevent crises occurring in the first place.
- Poor policies and poor policy credibility leads to policy uncertainty that affects investors’ perceptions of risk and thus leads to asset prices’ over-reaction.
- Thus, appropriate policy adjustment is essential in crisis resolution.
- Policy provision of liquidity may be needed to address runs and market over-reaction in crises.
- But such policies may distort investors’ incentives (moral hazard distortions from expected “bailouts”).
- Liquidity insurance should be limited and conditional to reduce such moral hazard distortions.