International coordination in addressing spillovers: Problems and solution strategies

Ila Patnaik*
Macro/Finance Group
National Institute for Public Finance and Policy
New Delhi

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Abstract

The G-20 requires mechanisms for surveillance to measure and monitor risks arising from spillovers of Unconventional Monetary Policies. In this role, the G-20 should promote regulatory changes that help to monitor and reduce systemic risk emerging from the spillovers at the national level. A second area of work is financial data reporting standards, especially for firms that operate across boundaries. This would be supported by protocols and data management systems at the national level, and frameworks for cooperation and sharing of regulatory information to measure and contain risks at the international level.

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Contents

1 Introduction 3

2 Measuring and monitoring spillovers of UMP 7

3 Role of Surveillance 8

4 Global Policy Cooperation 9
   4.1 Currency management ................................. 9
   4.2 Monetary policy coordination ....................... 11
   4.3 Regulatory reform .................................. 12
   4.4 Monitoring systemic risk ............................ 12
   4.5 Macroprudential policy coordination ............... 14

5 Way forward 15
1 Introduction

Unconventional monetary policy in advanced economies led to an increase in net capital flows to emerging economies. The continuation of a regime of low interest rates has created risks of asset price bubbles in financial markets across the world. The response of financial markets to the speech by Ben Bernanke in May 2013 which referred to possible tapering indicates how jittery markets may respond to the unwinding of QE.

Figure 1 shows that after the first round of quantitative easing began, net capital flows to emerging markets rose. The levels of the capital flows were comparable to the capital surge of 2007. The vertical lines show the quantitative easing announcement dates.

Depending on the exchange rate regime, capital account openness and macroeconomic fundamentals, emerging markets have responded to pressure in foreign exchange markets. Some emerging markets let their exchange rates float while others intervened, cut interest rates or imposed capital controls. Figure 2 shows the nominal exchange rates against the US dollar for some emerging markets. To enable comparability across different currencies, each is expressed as an index with the value in Jan 2006 as the base value. An increase in the index shows depreciation of the currency. The graph shows
Figure 2 Nominal exchange rates, Indexed to 100 in 2006

![Graph showing nominal exchange rates indexed to 100 in 2006.](image)

Source: International Financial Statistics, IMF, Author’s calculations

that EM currencies appreciated after QE1 was announced.

Figure 3 shows the build up of reserves by emerging economies. Part of the pressure to appreciate was absorbed by a build up of foreign exchange reserves. This continued until QE3 was announced.

After the first round of quantitative easing, some emerging markets cut interest rates (See Figure 4). This was also because global shock had adversely affected business cycles, liquidity and credit. Many central banks cut rates to ease the stance of monetary policy. Others did so to relieve the pressure on the exchange rate.

Apart from using the standard tools of interest rate and foreign exchange intervention defences, emerging markets also used capital flow management (CFM) measures. These measures were implemented by some emerging markets to dampen the volatility of capital flows during the quantitative easing period. At the same time, the overall picture is one where despite the pressure on emerging markets, there was no significant imposition of capital controls (See Figure 5).

Domestic factors influenced the vulnerability of emerging market exchange rates (Fratzscher, 2012; Ahmed and Zlate, 2013). Capital flows to emerging markets have complex “push” and “pull” factors and emerging markets have
Figure 3 Foreign exchange reserves

Source: International Financial Statistics, IMF

Figure 4 EM treasury bill rates

Source: International Financial Statistics, IMF
tried to find the right combination of mechanisms from their policy toolkit. In this paper we explore:

1. The evidence for measuring and monitoring spillovers of unconventional monetary policy particularly of the quantitative easings of the US Fed;

2. The role of surveillance;

3. Policy alternatives for responding to spillovers, and

4. The need for global policy coordination, the way forward and the role of the G-20.

2 Measuring and monitoring spillovers of unconventional monetary policy

At present most efforts to measure spillover risks look at measuring stock market risk, asset price bubbles, credit growth, interest rates, other financial variables and real variables. The BIS and the IMF have taken the lead in monitoring cross border spillovers and global liquidity through their consultation and coordination role with national central banks and governments respectively (Eickmeier et al., 2013), IMF (2011b, 2012, 2013). This macro-finance perspective relies on high frequency data from financial markets, and attempts to capture macroeconomic imbalances and asset price bubbles.

The G-20 has emphasised the risk of systemically important financial institutions (SIFIs) and has started high level coordination with finance ministries and regulators in its member countries under the aegis of the Financial Stability Board (FSB). The FSB has worked towards setting standards for effective resolution regimes and enhancing risk management practices.

In addition to the official measurement and monitoring of spillovers, a new literature has emerged on the empirical evidence of the impact of quantitative easing. The evidence is mixed. Most papers find evidence that unconventional monetary policy by the US Federal Reserve had spillover effects, but evidence on the magnitude and transmission of these effects is inconclusive. Morgan (2011) finds that around 40% of the increase in US monetary base during QE1 and 33% of the increase in monetary base during QE2 leaked out in the form of increased gross private capital outflows. IMF (2011a) finds that quantitative easing announcements were associated with higher capital inflows to emerging market bonds and equity funds. Chen et al. (2012) find that the impact of the US shock is more persistent on emerging markets as compared to advanced economies. The US term spread shock affects variables such as real gross domestic product, inflation, stock prices, bank credit, exchange rates and money growth.

Fratzscher et al. (2012) also find that the effects of US quantitative easing measures on capital flows to emerging markets have been relatively small compared to other factors, but they have exacerbated the pro-cyclicality of emerging market capital flows similar to the findings in Morgan (2011). They find no evidence that exchange rate or capital controls helped countries shield themselves from the spillovers. Responses to Fed policies were seen to be related to country risk The findings suggest that US monetary policy since 2007 has contributed to portfolio reallocation and to a re-pricing of risk.
in global financial markets.

3 The Role of Surveillance

Following the first official reference to upcoming tapering off of U.S. quantitative easing on May 22, global financial market volatility increased sharply. Capital exited from emerging markets, liquidity in local bond markets evaporated, bond yields increased, and currencies depreciated. The IMF (2013) suggests that spillovers from an exit from quantitative easing, should, in principle, be manageable for all except for countries with the highest vulnerabilities. But, as developments in recent months have shown, even with a weaker US recovery the tapering process could be bumpy, with U.S. interest rates rising earlier and more sharply than desired. Shin (2013) suggests that the dynamics of quantitative easing tapering will be different from the global financial crisis of 2008 and therefore, need a different set of crisis indicators. The speed of readjustment in global financial markets makes forward looking surveillance and monitoring more important.

The existing framework is yet to effectively monitor financial intermediaries who link up and integrate global financial markets. Many financial firms are systemically important (SIFI’s) and their failure will have cross-border implications. There is a greater role for the G-20 to play in monitoring spillovers which extends beyond the current measuring and monitoring systems (Bradford and Lim, 2013). In section 4.3 we describe our proposal for this greater role.

4 Global Policy Cooperation

There are broadly 5 avenues of policy coordination where the G-20 can play a significant leadership role:

1. Currency management
2. Monetary policy
3. Regulatory changes
4. Systemic risk monitoring
5. Macro prudential policies
4.1 Currency management

When currency management is attempted by one country, or capital controls are imposed by one country, capital flows would get pushed towards another country. This leads to a “bubble thy neighbour” scenario where imposing controls could, in principle, impose externalities upon neighbours. Consequently, the imposition of capital controls has a domino effect where imposition of controls by one country encourages other countries to impose them.

The recent literature on capital controls has found evidence suggesting that the impact of capital controls should not be examined in the context of only the country that is imposing those controls. For example, Straub et al. (2013b) find that an increase in Brazil’s tax on foreign investment in bonds causes investors to significantly decrease their portfolio allocations to Brazil in both bonds and equities. Investors simultaneously increase allocations to other countries and decrease allocations to countries viewed as more likely to use capital controls. They also find that a majority of the effect of capital controls on portfolio flows appears to occur through signalling rather than the direct cost of the controls. This evidence of externalities from capital controls suggests that any assessment of controls should consider their effects on portfolio flows to other countries.

The main implication of this work is that if a large economy or a number of economies implement controls simultaneously, these could create substantial distortions in other economies and global capital flows, triggering a bubble thy neighbour effect which may lead to retaliation across countries and reduce global welfare. These results support a role for international coordination or oversight of the use of capital controls (Straub et al., 2013b). An argument of oversight on capital controls is also made in Jeanne (2012).

Often times individual countries may come under short-term political pressures. Actions taken by one country, under stressed market conditions, may adversely affect other countries. There is the risk of retaliation such as currency wars as seen in the case of trade wars. While the adverse effects of protectionist policies in trade are well understood, the effects of capital controls is inadequately understood, especially on the externalities upon other countries and the world economy at large. In the context of international co-operation it is important to support research and surveillance on these less understood aspects of capital controls.

In order to prevent “bubble thy neighbour” policies undertaken by one coun-
try in uncoordinated fashion, the G-20 should establish a coordinated policy framework for currency management. Any actions in these three fronts should only be taken in a coordinated manner by all countries. G-20 must setup a surveillance mechanism to monitor imposition of controls and their impact.

4.2 Monetary policy coordination

Emerging market economies have argued that unconventional monetary policy has created a “monetary tsunami” which has led to currency wars and protectionism. The Fed argues that quantitative easing alone did not cause capital flows to emerging markets and that emerging markets have the requisite policy toolkit to deal with capital flow surges.

The post crisis economic landscape has been shaped by unprecedented monetary expansion by US Fed, ECB and BoJ. The scope for coordination on monetary policy among the G-20 has been a topic of discussion. While emerging economies have argued that they may be adversely affected, and that the US Fed should take this into account, the appropriate channel for this might be through the linkages with the rest of the world and global financial markets in Fed models and monetary policy making. Forward guidance should be continued and remains an important tool as one of the modes of co-operation.

In the present legal framework and mandate of independent central banks and MPC and FOMC structures, in the short run, there is limited scope for monetary policy coordination. All three central banks are bound by law to meet domestic policy objectives. For instance, the mandate of the US Fed is to maintaining price stability and full employment in the US. The ECB and BoJ have price stability mandates as well.

The G-20 can play a role in coordinating global liquidity safety nets and swap arrangements between central banks (Mohan and Kapur, 2013). The G-20 can also play a role in helping member central banks improve their communication and forward guidance stance. Further technical assistance could


also be provided to emerging markets to assess risks arising from aggressive versus delayed tapering. This technical assistance could also be extended to a long term advisory role advising G-20 ministries of finance in matters of monetary, exchange rate and regulatory reform.

4.3 Regulatory reform

The G-20 played a key role in transforming Financial Stability Forum (FSF) into the expanded Financial Stability Board (FSB). The FSB has done critical work in setting standards for regulation of systemically important financial institutions and ending “too big to fail”, implementing Basel III, over the counter derivatives reform and enhancing risk management practices amongst member countries especially with regards to shadow banking entities.4

The G-20 however, has not actively monitored government’s progress in financial reform process. Bradford and Lim (2013) argue that given the IMF’s limited mandate, the FSB should now take the lead on financial reform. Callaghan (2013) has proposed the creation of a new “Minister of Finance and Central Bank Governors Committee on Financial Regulation” and that Spring meetings of G-20 ministry of finance are devoted to reviewing the FSB agenda. Reform of the legal framework for regulating finance is a political agenda and the G-20 would be much better placed in promoting it than any other technical form.

Regulatory coordination is also useful when we deal with issues of transition into new risk management standards like Basel III. Basel III imposes additional capital requirements on participating banks. Irregular and uncoordinated implementation of Basel III leads to deposit flight form countries that are early adopters and causes capital flows to late adopting countries. Okubo (2013) has argued that the need for cohesion and harmonisation in regulating financial markets is greater than it was 5 years ago at the time of the global financial crisis, with the G-20 having a major role in creating a policy space for coordination.

4.4 Monitoring systemic risk

Systemic risk regulation is rooted in systemic risk measurement. Most regulatory authorities today, in any one country have a limited view of the activities of financial firms and the positions on markets in the country. This hinders the ability of the authorities to understand, measure or monitor systemic risk. The first building block of systemic risk analysis is mechanisms for building up ‘comprehensive financial data repositories’, in each country, that have a comprehensive view of the entire financial system. Most G-20 countries are presently implementing projects that construct such repositories. As an example, in the US, the Office of Financial Research (OFR) set up by the Dodd-Frank Act within the US Treasury has a statutory mandate for data and research functions to support the Financial Stability Oversight Council (FSOC). This involves:

1. Data and analysis support to the Council
2. High quality research
3. Promotion of data related standards
4. Publication of data and reports
5. Management of human and financial capital to build the OFR
6. The Office of Financial Research also supplies data to agencies like the US Federal Deposit Insurance Corporation (FDIC)

In all countries, efforts of this nature are taking place in an uncoordinated way. As an example, in India, the Financial Data Management Centre (FDMC) will be the comprehensive financial data repository, and serve the systemic risk regulation function which is placed at the Financial Stability and Development Council (FSDC). In addition to this work that is presently underway in most G-20 countries, there is a need for a G-20 scale effort on coordination and harmonisation.\(^5\)

\(^5\)An important initiative proposed by the G-20 is the global legal entity identifier (LEI). In today’s interconnected financial system, companies and the products they trade are represented by different naming conventions depending on which market/platform their financial instrument trades in. The proposed global identification system will be a number assigned to every market participant, whether a corporate issuer of securities; a counterparty in a swap or foreign exchange transaction or a sponsor of a pension plan. LEI will give regulators an unambiguous global identification system which will allow them to identify key trades and positions in case of a systemic event or the speedy resolution of a financial entity. Only an empowered multilateral organisation like the G-20 can undertake such a
Standards Most large financial firms deal with multiple regulators worldwide. All financial firms are being asked to connect into comprehensive financial data repositories such as the US OFR or the Indian FDMC. Costs of compliance will be reduced if international standards are agreed to for data formats. The IT systems of all financial firms would then have the ability to speak in international standard data formats. Conversely, the implementation of such data repositories in each country would also become easier if systems are built around standards.

Cooperation between countries In a crisis, there is a role for better sharing of information between countries. As an example, when a Lehman failure takes place, it should be possible for authorities in all countries to rapidly exchange information through computer systems so as to arrive a full picture of exposures, related entities, etc. This will require a combination of computer protocols for information sharing, and a structure of Memorandums of Understanding (MOUs) between systemic risk regulation agencies in all countries. The G-20 could play a lead role in defining the framework through which such cooperation can take place.6

Strengthening systemic risk oversight The construction of comprehensive financial data repositories, and their analysis in understanding systemic risk, is a challenge facing all G-20 countries. To help speed up the development of systemic risk capabilities worldwide, and to help avoid the spillovers that arise from systemic crises in any one country, the G-20 can usefully devise an array of initiatives to strengthen the quality of these data repositories and the systemic risk measurement that is conducted using them.

We recommend that G-20 design a ‘International Financial Data Reporting Standard’ (IFDRS) which should be a set of data standards and data exchange protocols through which:

1. Data formats and protocols for electronic filing into comprehensive financial data repositories across countries are harmonised.

2. Electronic protocols and draft legal contracts that support data ex-

complex global coordination exercise like the LEI. Once implemented, the LEI will provide regulators a better understanding of global systemic risk through financial firm positions and exposures across different jurisdictions. The present proposal, for G-20 initiatives on comprehensive financial data repositories, carries forward this line of thought.

6For an analogy, the ISDA master document defines a framework for the contracting of an OTC derivative. The presence of the ISDA master has made it easier to enter into contracts, the world over.
### Table 1 Macro-Prudential measures by various emerging markets

<table>
<thead>
<tr>
<th>Policy tools</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Changes in reserve requirements</strong></td>
<td>Brazil (2010), China (2010), Peru (2010), Russia (2009), Taiwan (2010), Turkey (2010-11)</td>
</tr>
<tr>
<td><strong>Real estate measures</strong></td>
<td>China (2010-11), India (2010), Hong Kong SAR (2009-10), Korea (2009), Malaysia (2010), Hungary (2010)</td>
</tr>
<tr>
<td>Lowered LTV ceiling, DSR and caps on DTI for mortgage loans</td>
<td></td>
</tr>
<tr>
<td>Ceilings on FX positions, additional capital requirements for FX credit exposure</td>
<td></td>
</tr>
<tr>
<td><strong>Elements of dynamic provisioning</strong></td>
<td>China (2010), India (2009-10), Israel (2010), Mexico (2010), Turkey (2009-10)</td>
</tr>
<tr>
<td>Countercyclical provisioning scheme, capital buffers on loans</td>
<td></td>
</tr>
<tr>
<td><strong>Taxes on capital inflows</strong></td>
<td>Brazil (2009-12), Korea (2011), Peru (2010), Thailand (2010)</td>
</tr>
<tr>
<td>FX loans, FX investment on short-term currency futures, FX investment on fixed income</td>
<td></td>
</tr>
<tr>
<td>Reduced deductibility of interest expenses on foreign debt</td>
<td></td>
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<tr>
<td><strong>Interest rate ceiling on external borrowing</strong></td>
<td>India (2009-10)</td>
</tr>
</tbody>
</table>

Source: Pereira (2013)

1 measures reversed in 2011; 2 measures reversed in 2012; 3 measures reversed in 2011

change between systemic risk regulators across countries.

### 4.5 Macroprudential policy coordination

Given the failure of micro-prudential regulation in detecting systemic risk imbalances, policy makers from around the world have started implementing macroprudential risk management measures. Macroprudential measures are supposed to address issues of concentration risk, systemic risk and build countercyclical resiliency in financial markets (Galati and Moessner, 2012). There is however great variation in the kind of macroprudential measures various countries have used post the global financial crisis of 2008.

Capital flow management measures have included both capital controls and macro prudential policies. New evidence from Straub et al. (2013a) and Aizenman and Pasricha (2013) suggest that capital flow management measures rarely achieve their stated macro-economic objectives while they might have unintended effects on other financial stability variables.

Straub et al. (2013a) shows that macro-prudential measures can significantly improve specific measures linked to financial fragility, such as bank lever-
Figure 6 Most measures are pure capital controls, not prudential-type measures

Source: Pasricha (2012)

age, inflation expectations, bank credit growth, and exposure to portfolio liabilities.

Scope for policy coordination exists first in cataloguing macroprudential measures then subsequently researching the impact of such measures.

5 Way forward

Responding to systemic risk arising from unconventional monetary policy requires, as prerequisites, measuring and monitoring the risk and putting in place frameworks to share data both about system wide concerns and about firms with cross-border operations. This paper has outlined the role of G-20 in measuring and controlling risk and in preventing “bubble thy neighbour” policies through international cooperation. The response to rising risk will depend on the kind of risk, level of risk, the tools available and from the point of view of international coordination, the possibilities of sharing information available with regulators.
References


