Three Reflections on Banking Regulation and Cross-Border Financial Flows

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In this paper, I reflect on three aspects of banking regulation and cross-border financial flows in today's financially globalized world.

First, I look at the incidence of banking crises and assess whether, considering the national and international financial reforms in the wake of the global financial crisis, we can reasonably expect an end to financial crises in the future. My answer is a qualified no. The business cycle, the poor, and financial crises will always be with us. The recent post-crisis financial reforms, if maintained, should contribute to some lessening of the incidence of such crises, but not to their elimination. The virulence of those financial crises that do occur may exceed the force of crises during the three decades before the global financial crisis because the new regulations may help to prevent smaller crises.

Second, I consider the contribution of international capital flows to financial crises. Should we single out short-term cross-border financial flows as a unique source of vulnerability? If the answer is yes, should we encourage countries large and small, advanced and emerging market to use controls to manage such flows? My answers are yes and not as a rule for all countries in all circumstances. Yes, reversals of short-term cross-border financial flows are often the proximate cause of crises, but they are rarely the underlying cause. In a banking or financial crisis, greed on the part of borrowers and lenders that switches to fear when a disturbance—economic, financial, or political--hits. Capital flow management measures, also known as controls, may be necessary or desirable but they are not a panacea. Countries may employ permanent structural measures to discourage short-term flows, but they will be hard-pressed to distinguish between good and bad types of banking flows. Over time any capital control measures will be evaded and become increasingly distortionary. Moreover, is naïve to think that the regulatory and supervisory authorities in the recipient countries will turn off the spigot on such flows, taking away punch bowl just when the party gets going. Political economy considerations will likely dictate that controls will be too little and too late.

Third, I examine the role of the prospects for international cooperation in the management of cross-border financial flows. It is often suggested that source as well as recipient countries should cooperate in the management of such flows. The principal, concrete suggestions for cooperation are that the monetary authorities in the major countries should communicate clearly their medium-term policy intentions and take account of the impact of their policies on other countries. The challenges are that (a) central banks do not want to lock themselves into policy straightjackets and (b) their mandates address exclusively economic and financial conditions in their own economies.

I have long wondered why we worry about the disruptive effects of cross-border financial flows when we tend to worry less about similar domestic financial flows. The conventional answer is that domestic flows occur within a unified regulatory, supervisory, and institutional framework. The key feature of the domestic framework is that it is backstopped by the central bank as the lender of last resort. In the international context, the analogy to a domestic lender of last resort is the global financial safety net (GFSN). Today, the GFSN is at best incomplete.

Have We Abolished Financial Crises?

Reforms in national and international financial regulation since the global financial crisis have not abolished crises. The Reinhart-Rogoff database lists at least one banking crisis in every decade of the 20th century as well as several in the first decade of the 21st century.

Figure 1 presents the Reinhart-Rogoff annual data on banking crises. Some crises started and finished in one year. Others continued for more than one year. Reinhart and Rogoff record 430 years with banking crises in 24 advanced countries and 47 emerging market economies in 31 years from 1980 to 2010, or about 14 per year and in about 20 percent of the countries. The number years with crises peaked in 1975 and declined to the low single digits in the first decade of this century before the crisis-filled years of 2008-2010. For the entire 31-year period, banking crises averaged about 20 percent of the six types of crises that Reinhart and Rogoff categorize.[1] Although the number of years with banking crises did not reach the previous peak during the global financial crisis years, their relative incidence far exceeded the previous peak. This is consistent with the narrative that banking crises drove other crises in these years rather than the other way around as sometimes is the case.

Over the entire period, banking crises were more common in emerging market countries. However, the incidence of crises in those countries declined in the 21st century and rose in the advanced countries. The conventional wisdom associates financial crises with current account deficits. But this identification is false. On average for all six types of crises, almost 40 percent of all crises were preceded by current account surpluses in the crisis country,

[1] In addition to banking crises, they identify currency, inflation, equity market, and external and domestic debt crises.

and a slightly higher percentage for the advanced countries. About a third of all banking crises were proceeded by current account surpluses in advanced countries and less than 30 percent of such crises in emerging market countries.

Systemic banking crises are fueled by weak supervision and regulation combined with alternating periods of greed and fear on the part of leaders of financial institutions. Supervision and regulation can reduce the incidence of such crises but not eliminate the swings of confidence or exuberance affecting banking and financial decisions.

The post-crisis regulatory reform agenda has strengthened major banks and financial institutions. The regulatory reforms associated with Basel III, in particular, are a definite but qualified improvement. The IMF staff (2018, 53) point to several areas where final compromises fell short: the risk-weighted asset floor generated by internal models is lower than earlier proposed, the timeline for introducing this reform was extended, the phase-in of the cap on any increases is risk-weighted assets is slower, some of the risk weights are lower, reforms with respect to shadow banking will be delayed longer, resolution frameworks (especially for nonbanks) are incomplete, and sovereign risk has not be incorporated into the regulatory framework. Most telling is the observation that only a handful of 40 countries that have recently been assessed are in full compliance with the Basel Core Principles on independence and accountability of supervisors.

The IMF staff (2018, figures 1.24 and 1.25) also report that on average banks in six major countries (Canada, France, Germany, Japan, United Kingdom, and Switzerland) have improved their dollar liquidity ratios since 2006, but their dollar stable funding ratios are unchanged.[2] These banking systems still rely to a substantial extent on the foreign currency swap market which is vulnerable in a crisis. This latter situation would be a less of a risk if adjusted cross-border loans to non-banks, the denominator of the estimated stable funding ratios, had declined since the global financial crisis. The IMF staff's *Global Financial Stability Report* presents a carefully crafted estimate of the trend in the denominator for the six countries; see Online Annex 1.2 in IMF (2018). It is not possible to replicate the underlying staff analysis because it relies in part on unpublished data compiled by the Bank for International Settlements. However, one can derive a proxy from the BIS banking locational statistics (https://stats.bis.org/statx/srs/table/a7).[3] For the six countries together, estimated loans to non-banks in US dollars increased by 48 percent between the fourth quarter of 2006 and the first quarter of 2018. The increase was led by Canadian and Japanese banks where the increases were more the 100 percent. Loans declined for banks in Germany and Switzerland and rose for banks in France and the United Kingdom, but by less than in for banks in Canada and Japan.[4]

I conclude that crises in financial sectors broadly defined are not a thing of the past. That is the nature of financial systems. Even if the strongest Basel III and related proposals were adopted and fully implemented, crises would occur in the future. Moreover, if all risk of

[2] With respect to estimates of dollar liquidity ratios, the Japanese banking system is an exception; ratios for its banks on average have declined. With respect to stable funding ratios, the German and UK banking systems are exceptions; ratios for those countries have improved. The ratio for Canadian banks is unchanged.

[3] To create these estimates, I applied the US dollar share of outstanding cross-border claims to cross-border claims on non-banks.

[4] Except for banks in the United Kingdom, these results are consistent with the data presented in figure 1.25.6 of IMF (2018). My proxy shows an increase of 52 percent while the IMF staff record a small decline.

crises were eliminated, the financial sector would have failed in delivering on its primary goal of incentivizing risk taking in our economies through maturity transformation. If the new regulations are conscientiously implemented and not further watered down, we can reasonably expect to have fewer brushfire financial crises, but larger conflagrations probably will occur. To cite the familiar seat-belt analogy, they help reduce the incidence of injuries in low-speed crashes but may encourage more high-speed driving and consequently crashes that are more destructive to human life.

Do Capital Flows Cause International Financial Crises?

Twenty years ago, it appeared that the doctrine of free capital movements would take its place alongside the doctrine of free trade as the long-run objective of policies. Subsequently both doctrines have been under qualification if not outright attack. Critics castigate the United States and the International Monetary Fund for promoting open capital markets in the late 1990s. That is still the dominant narrative today even though it is not well-grounded. The facts are (a) that the US interest was primarily in gaining scope for the establishment of US banks in other jurisdictions subject to national treatment as in the United States and (b) the Independent Evaluation Office of the IMF (IEO 2005) issued a report that concluded that as of the early 2000s the IMF did not have a consistent, coherent message on capital account liberalization that was delivered to member countries in discussions with IMF staff and management. Since the report was issued, the IMF has adopted an "institutional view" on capital flow management (IMF 2012) to guide its surveillance activities. I expressed support for the development of development of a coherent view on capital flow management both in form and substance starting more than a decade ago (Truman 2006, 2010a, and 2011a).

It is important to appreciate where the IMF consensus is today. Three of the principal developers of the IMF's institutional view summarized the extensive research at the IMF on the pros and cons and costs and benefits of capital flow management in a major publication, Ghosh, Ostry, and Qureshi (2017). They are strong, qualified advocates of capital flow management. They write:

> To begin with, certain types of flows—very short-term, highly speculative, hot-money flows—may be such that their costs (in terms of the imbalances and vulnerabilities that they are likely to engender) exceed their benefits. Provided such flows can be identified and targeted sufficiently precisely, it may make sense to have structural (i.e., noncyclically varying) capital controls to discourage them, thus tilting the composition of capital inflows toward more desirable forms of liabilities. . . That said, in practice the set of flows that can *ex ante* be identified as being more trouble than they are worth may be limited. (Ghosh et al 2017, 381-82.)

Thus, the authors are two-handed economists in their policy prescriptions. Their cautions endorsement of capital flow management measures also initially abstracts from consideration of the political economy of imposing either structural or cyclically varying policy instruments. In addition, cyclically varying tools of capital flow management, once imposed, are not easily removed. The "temporary" controls imposed by Iceland in 2008 lasted a decade.

The principal challenge in capital flow management is that they focus necessarily on short-term cross-border flows, but it is difficult, if not impossible, to distinguish beneficial short-term flows from dangerous short-term flows. Moreover, flows with an original maturity that once classified them as medium- or long-term become *de facto* short-term flows that in some circumstances may be difficult to roll-over and, consequently, are a potential drain on a country's international reserves.

Banks are in the business of maturity transformation, but they are not long-term investors. Consequently, when markets are disrupted by some political, economic, or financial event or just become more volatile, the focus is on banks because that is where the observed leakage (sudden stop) is manifested if claims are not rolled over. To illustrate, the consolidated international claims of banks in countries participating in the Bank for International Settlements (BIS) reporting at the end of March 2018 were $14.5 trillion (https://www.bis.org/statistics/b2.pdf). Forty-six percent of those claims had remaining maturities of one year or less. Total claims were divided between claims on banks (23 percent), the official sector (19 percent), non-bank financial institutions (24 percent), and the rest of the private sector (35 percent). [5] Between the fourth quarter of 2006 and the first quarter of 2018, total international claims rose 14 percent and claims with a remaining maturity of one year or less rose 10 percent. From 2006 to 2017, World GDP in US dollars rose 55 percent and that of the advanced countries 26 percent. These data suggest that the risk of runs on (or runs of) banks was somewhat reduced since before the global financial crisis. Nevertheless, when the liquidity of short-term bank claims dries up or a run on a bank cut off its own sources of short-term funding, the result is a crisis for the bank. If many banks are affected, a banking crisis results.

I conclude that capital flows do not cause international financial crises. They are a necessary ingredient for crises because without capital flows there would be no crisis, but they

[5] As of the same date, foreign banks with operations in foreign countries had $12 trillion in claims in local currencies. In a crisis, they pose a different set of challenges if the parent institution decides to cut back its total exposure in the country regardless of its source of funding.

are not sufficient by themselves to cause the crises. They are the tinder assembled by lenders and borrowers until a match is struck.

Can Cooperation Help?

A commonly heard prescription for dealing with unwanted capital flows is that source countries should cooperate in the management of such flows. The content of such cooperation is rarely spelled out. The principal suggestions that have any operational relevance are that the monetary authorities in the major countries should (a) communicate clearly their medium-term policy intentions and (b) take account of the impact of their policies on other countries. The challenges are two.

First, whether the external effects of a tighter or looser monetary policy in a major country negatively impacts another country depends on the circumstances in that second country. Policymakers in some countries will welcome the effects of reduced or increased incentives for capital to flow toward their countries and downward or upward pressure on their own interest rates. Policymakers in countries in a different phase of the business cycle will not.

Second, the mandates of central banks exclusively focus on domestic economic and financial conditions. Moreover, policymakers do not want to lock themselves into policy straightjackets constructed out of guidance that may be interpreted as a hard and fast commitment. At best they can provide guidance about their thinking.

Thus, although clear communication is always better than garbled communication, it does not provide much comfort for those countries experiencing unwanted or insufficient capital inflows.

What is it about the disruptive effects of *cross-border* financial flows that worries policymakers but that do not to worry them nearly as much with respect to similar *domestic* financial flows? The conventional answer is that domestic flows occur within a unified regulatory, supervisory, and institutional framework. The key feature of the domestic framework is that it is backstopped by the central bank as the lender of last resort. In the international context, the analogy to a domestic lender of last resort is the global financial safety net (GFSN).

However, the GFSN is at best incomplete. The IMF is at the center of the GFSN. To play this role the IMF (a) must also have adequate resources at a minimum to backstop temporary funding from other sources, and (b) must be the final arbiter of whether a country needs to adjust its policies if its *ex ante* policies prove insufficient to weather the shock.

At the peak of the global financial crisis, the Federal Reserve provided a financial safety net for much of the international financial system. In December 2008, the Federal Reserve's balance sheet included more than $1 trillion in advances to foreign central banks and to financial institutions that were chartered in other countries: $583 billion in swap lines with foreign central banks, $334 billion using conventional tools (repurchase transactions, discount window advances, and the term auction facility), and an unspecified amount under emergency, Section 13(3) authority, but 15 percent of the $693 billion outstanding in the last category would be a conservative estimate given that almost half of the conventional lending was to non-US institutions (English and Mosser 2018).

In December 2008, total IMF financial resources were only $392 billion. In the fall of 2018, its financial resources are $1.4 trillion consisting of about $700 billion in quota resources and about $700 billion in potential borrowing from the New Arrangements to Borrow (NAB) ($265 billion) and from bilateral borrowing arrangements ($450 billion). But some of those resources are not available because they are derived from commitments by members whose financial conditions are not strong enough for them to advance funds through the IMF and because the IMF always retains sufficient liquid assets to be able to meet future needs, including those of members who need to access their unconditional drawing rights on the Fund.

Moreover, from the perspective of the fall of 2018, the IMF's total, available financial resources could well shrink early in the next decade. The IMF's bilateral borrowing arrangements ($450 billion) will expire in 2020. The United States will withdraw from the NAB in 2022 unless the US Congress authorizes its continued participation ($41 billion). In a worse-case scenario, outlined by Sterland (2017) other participants in the NAB would follow the US lead and withdraw from the NAB. In this scenario and without new bilateral borrowing arrangements, total IMF resources would be cut in half. This amount would be insufficient in a crisis for the Fund to finance fully either of the two types of GFSNs: (1) large adjustment programs involving exceptional access or (2) providing unconditional short-term, unconditional liquidity support.

The current bilateral borrowing arrangements could be replaced by an agreement to increase IMF quota resources. But the prospects in this area are not encouraging. The United States can block any agreement to increase IMF quotas and US Treasury Secretary Mnuchin in July 2018 (Mnuchin 2018) stated, "At this time, the United States finds that the IMF's resources are adequate following the 2016 implementation of the 2010 Quota and Governance Reform." The problem with this statement is that a judgment about the adequacy of IMF financial resources should not be based on estimates of the IMF's needs in the present but in the future, in the decade after 2020.

I have advocated (Truman 2018) that the United States should not block an expansion in the IMF's quota resources but, instead, should step out of the way by either (a) maintaining the size of its current quota while allowing quotas of other countries to increase, implying that its voting share would fall below the 15 percent that allows the United States to block (veto) major IMF decisions, or (b) favoring an increase in the US quota and leaving it up to the US congress to accept the increase and decide whether the United States loses its veto.

Whatever happens with IMF quotas or to the availability of other resources the IMF can draw upon, moral hazard considerations will prevent potential-creditor member countries from providing the IMF with sufficient resources to fund fully the GFSN. They will prefer to rely on ad hoc measures in the form of bilateral lending to the IMF, but those arrangements cannot be established within a few days. Although the IMF has established a flexible credit line (FCL) facility for lending large amounts of money to countries over two-year periods, to date it has had only three clients: Mexico, Poland, Columbia.

The Fund does not have a standing facility to provide very short-term liquidity to members. A modest proposal in 2017, involving prequalification via the Article IV process (IMF 2017), did not garner enough support in the IMF executive board for it to be put in place. Moreover, the suggested amount that each qualifying country could draw, which would have been equal to the normal maximum drawing in one year (145 percent of a member's quota), was small relative to the amounts that four emerging market economies were eligible to draw from the Federal Reserve n 2008-09.[6] I conclude that the GFSN must be funded in the first instance by central banks as was the case in December 2008. In a crisis, central banks are where the money is.

It is an open question whether the Federal Reserve or other major central banks will step up in the next crisis. However, the need for them to do so was recognized in IMF (2018, 46):

> Central bank swap lines should be retained to provide foreign exchange liquidity in periods of systemic stress. This should help prevent foreign currency funding difficulties form spilling over to other parts of the financial system.

Two necessary conditions for central banks to follow this advice are that the IMF (a) has sufficient resources to provide a financial takeout of the central banks and (b) the drawing country must accept that utilizing this type of GFSN will mean that the IMF can exercise a policy takeout of the central banks, in other words impose conditions on the drawing country's economic and financial policies if the country is unable to repay the initial drawing from the central bank or banks.

Many mechanisms have been proposed that could meet the needs of the major central banks for a policy takeout and potentially induce them to be lenders of first resort in the GFSN. Truman (2010b, 2011b, 2013) has outlined several. Beatrice Weder di Mauro and Jeromin Zettelmeyer (2017) sketch another.

[6] Figure 8 in IMF (2017) is difficult to interpret. It purports to measure the amounts that countries could draw relative to large historical episodes of capital outflows. But that is the wrong metric; countries want to be able to draw more than enough. In addition, under the illustrative IMF staff proposal only Brazil and Mexico would have been able draw in 2018 close to the $30 billion that was potentially made available by the Federal Reserve in 2008. Korea's potential would fall short by a third and Singapore's by two thirds.

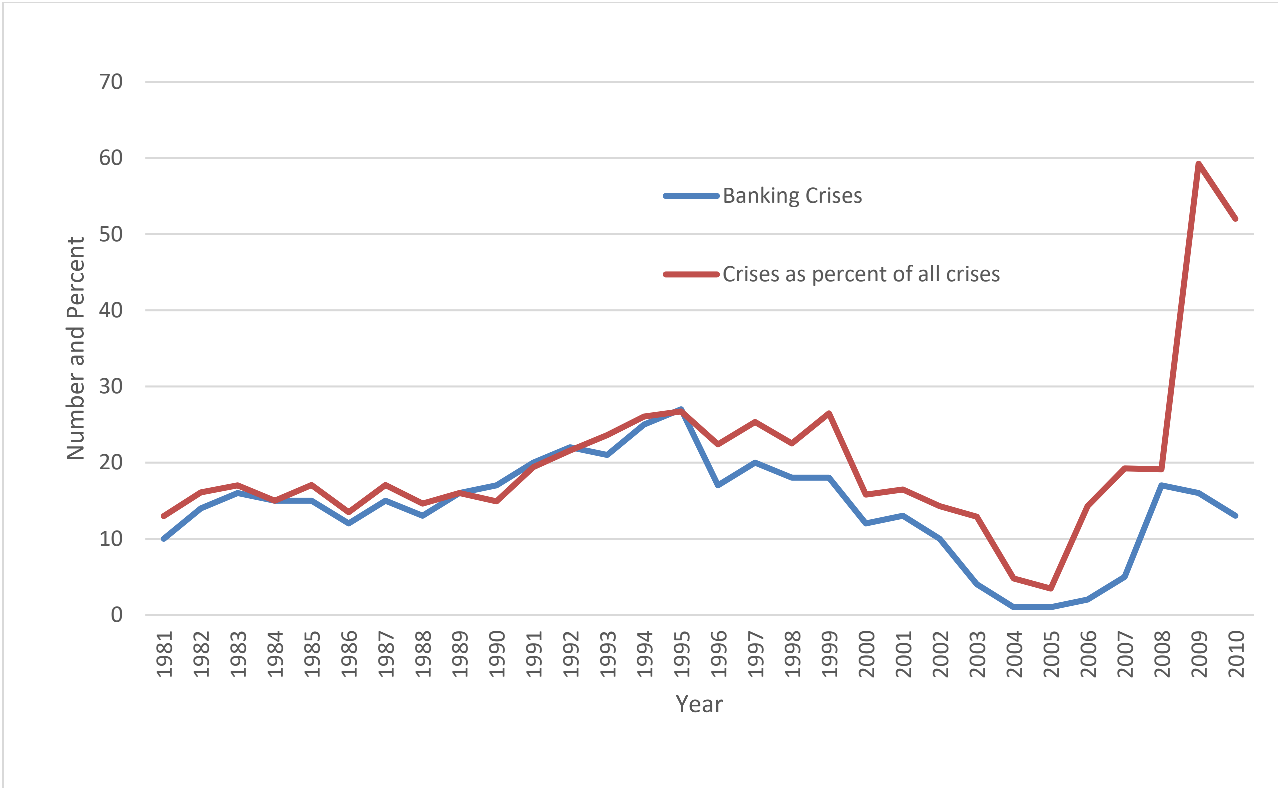
In my view, two approaches dominate: (a) an ex ante procedure in which the IMF finds that a country's policies are sufficiently strong that it would be eligible for an IMF flexible credit line or (b) a commitment by the drawing country that if it cannot repay within a set time period of, say, one year at a maximum, the country would ask for support from the IMF that would be associated with appropriate policy commitments to ensure that the country could repay the Fund for the financing it received and had used to repay the central bank or banks that initially advanced funds to it. A combination of the two procedures would be most appropriate.

It is relevant that in 2008 in granting to the central banks of Brazil, Korea, Mexico and Singapore access to swap lines the Federal Reserve implicitly used both criteria (Sheets at al. 2018). The Federal Reserve staff presented an analysis of the policies and the recent policy history of these four countries (policy takeout) and determined that they were sound. The staff also argued that the reserves of these countries were sufficient to repay the Federal Reserve (financial takeout). The Federal Reserve's announcement of these swap lines included a reference to the IMF's Short-Term Liquidity Facility that was established at the same time. The IMF facility attracted no borrowers and it was terminated in 2009. The reasons are many, but they came down to the stigma associated with drawing on the IMF and the quality of the "seal of approval" by being granted a swap line with the Federal Reserve.

I conclude that cooperation on the establishment of a more robust GFSN of the second (liquidity) type is possible if it is supported in the first instance by the major central banks. But necessary conditions are that the IMF be adequately financed (financial takeout) and that countries drawing on the safety net accept IMF policy conditionality if necessary (policy takeout). Both requirements are in doubt. These conditions are necessary but not sufficient.

The major central banks also must make the policy judgement to lend. Unfortunately, the nature of their mandates dictates that the central banks are only likely to reach such a judgement in a major financial crisis and, then, as an instrument of crisis management that is only deployed once the crisis has reached the conflagration or panic stage. At present, countries must fall a long way before they may possibly be caught by the GFSN.

Figure 1 – Incidence of Banking Crises



Source: Reinhart and Rogoff (2009) database from *This Time is Different*.

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