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### Crises and the International System

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# Crises and the International System

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**ABSTRACT** This paper reviews the recent experience of financial crises since 2007, including the continuing crisis in the euro zone. I seek to answer three main questions: In what respects (if any) is the recent experience of crises novel? How special is the euro crisis? And what changes in the international financial architecture can reduce the chances of future crises?

**KEY WORDS:** Financial crises, international monetary system, euro zone, capital controls

## 1. Introduction

The sharp global slowdown over the years 2007–2009 was arguably the most dramatic internationally synchronized contraction since the interwar Great Depression. Not only was the global contraction sharp, but the recovery has been slow and halting in the United States, Japan, and especially Europe. There, concerns over the weak state of public finances have discouraged fiscal activism after the initial efforts of 2008, and in some countries even induced a procyclical fiscal response.

Figure 1 illustrates the real output effects of the crisis itself and the aftermath, illustrating the relatively slow return to growth of the long-industrialized countries, as well as the continuing negative growth gap between their output performance and that of most emerging regions. Figure 2 illustrates the particular experience of Korea, which is fairly typical of the group of four newly industrialized Asian economies. For Korea, growth stalled in the recent crisis but with

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This article was originally published with errors. This version has been corrected. Please see Corrigendum (821783).

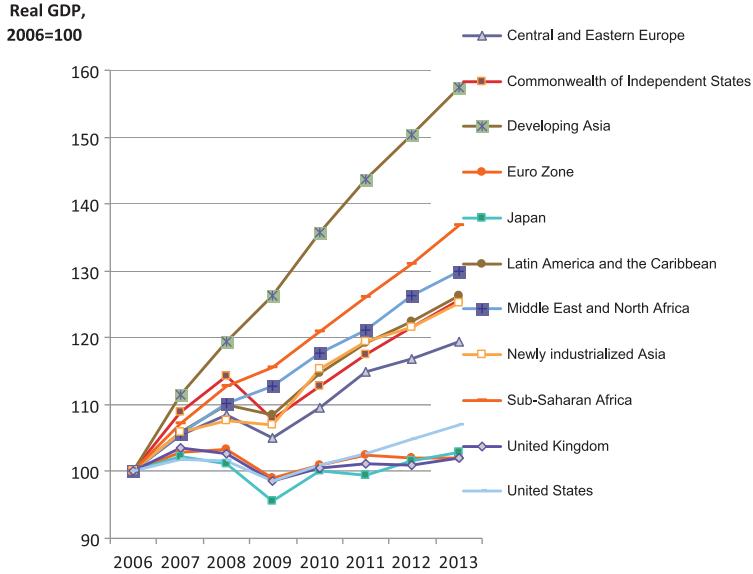


Figure 1. Real GDP relative to 2006 levels.  
 Source: IMF, October 2012 WEO database; forecasts.

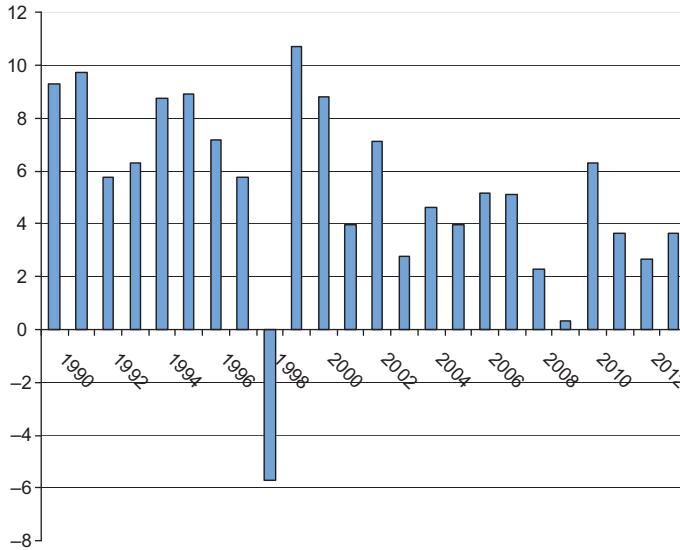


Figure 2. Korea's real GDP growth rate (percent per year).  
 Source: IMF, October 2012 WEO database; forecasts for 2012, 2013.

output effects not nearly as severe as during the Asian crisis of the late 1990s. And growth has returned after 2009, but not quite as strongly as during the mid-2000s.

Policy failures at the national level bear significant blame for the crisis, but this essay argues that weaknesses in the *international* financial architecture have

**Table 1.** Currency, banking, and default crises, 1973–2006.

	Currency	Banking	Default	Number of countries
Advanced	43	5	0	22
Emerging	84	57	74	57
Total	127	62	74	79

Source: Gourinchas and Obstfeld (2012), based on authors' calculations and judgment as well as data from Bordo, Eichengreen, Klingebiel, and Martinez-Peria (2001), Laeven and Valencia (2010), Reinhart and Rogoff (2009), Sturzenegger and Zettelmeyer (2007), and others.

also played key supporting roles. The challenge for policymakers is to address these weaknesses, but to do so will require a higher degree of international governmental cooperation than might be politically feasible at the present time. This is obviously true within the euro zone, but it is also true at the global level.

To support this viewpoint, I advance tentative answers to three questions:

- In what respects is the recent experience novel?
- How special is the euro crisis?
- What changes in the international financial architecture can reduce the chances of future crises?

## 2. How Different Was This Time?

The short answer is: not very. This crisis bore most of the signatures of earlier financial crises, of which there have been many throughout the world since the early 1970s. Crises were comparatively rare in the postwar period through to the early 1970s, a period of widespread financial repression. But between the invention of banking and the Great Depression – which led to an array of constraints on previously free-wheeling financial markets – crises were likewise fairly frequent.

In recent work, Gourinchas and Obstfeld (2012) have tried to catalog the incidence of different varieties of crisis (banking, currency, and sovereign default), ending up with the results in Table 1 for the period 1973–2006. Of course, our classification is based on judgments about timing and magnitude that necessarily are somewhat arbitrary. There are certainly instances where two or more types of crisis overlap in time for a particular country – crisis twins and even triplets. My point is, there clearly were lots of crises before 2007, especially in the developing world.<sup>1</sup> The years 2007–2010 saw a further six external default episodes, nine currency crises, and 21 banking crises (both systemic and ‘borderline systemic’ banking crises, mostly in advanced economies). And that does not include the euro crisis.

<sup>1</sup>For advanced economies our definition of ‘currency crisis’ was considerably more lenient than for emerging economies, so as to capture episodes in which speculative attacks led only to limited depreciation (for example, France in the 1992–93 ERM crisis).

Even though the majority of these crises were country specific and did not result in major contagion to the rest of the world economy, there have been some important near misses that showed up institutional weaknesses similar to those revealed again in recent years, and which should have led to more systematic efforts at reforming the world financial system. The foreign-exchange related failures of Bankhaus I.D. Herstatt and Franklin National Bank in 1974 disrupted international financial markets, inspiring the founding of the Basel process of international regulatory cooperation.<sup>2</sup> The developing-country debt crisis that erupted in 1982 could have wiped out the capital of the biggest US banks, but it was contained through a concerted lending strategy orchestrated under the pressure of official agencies, notably the Fed and the IMF. The Federal Reserve likewise intervened to prevent the collapse of Long-Term Capital Management, fearing incalculable possible consequences for global financial markets. Although on each of these occasions the dogs of financial reform barked, the caravan of willy-nilly financial globalization basically moved on.

Not only have crises recurred frequently, a large body of econometric research suggests that the buildups to crises have definite signatures, which make crises somewhat predictable. A complete survey is beyond the scope of this essay, but Gourinchas and Obstfeld (2012) survey some of this literature, and try to add to it. Different studies make use of different data sets, different covariates of crises, and different crisis definitions, so there is some heterogeneity in the variables that various researchers have found to have the most predictive value. Gourinchas and Obstfeld suggest that the two most robust indicators of future financial crisis, for emerging and industrial countries alike, are domestic credit expansion and real appreciation of the currency. For emerging markets, a key variable seems to be the level of foreign exchange reserves, with higher reserves implying a lower probability of a future crisis. The policy implications of this last finding, which obviously would be quite relevant for countries such as Korea that have purposefully accumulated substantial precautionary reserves, are ambiguous. It may be that holding more reserves lowers a country's vulnerability, but reverse causation might also be at work. Countries that become less vulnerable for other reasons may experience financial inflows and, depending on exchange-rate intervention policies, an increase in foreign reserves. I will discuss the role of international reserves more fully below.

One key element raising the vulnerability to global crisis and contagion has been the explosive growth of financial transactions with a cross-border or cross-currency component – a process that was only getting under way at the time of the Herstatt-Franklin National collapses. An important indicator of the rapid progress of financial globalization is found in countries' gross external assets and liabilities, measured relative to GDP. Figure 3 shows how the numbers have increased over time for the world's high-income and emerging economies, with

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<sup>2</sup>Interestingly, the troubled Franklin National had to rely on the Federal Reserve for its foreign-currency needs. The Fed, in turn, obtained the foreign exchange from European central banks – a reversal of the official lending flow that began late in 2007 when the Fed provided dollar swaps to foreign central banks for a similar purpose (as is mentioned below). See Spero (1980, p. 149).

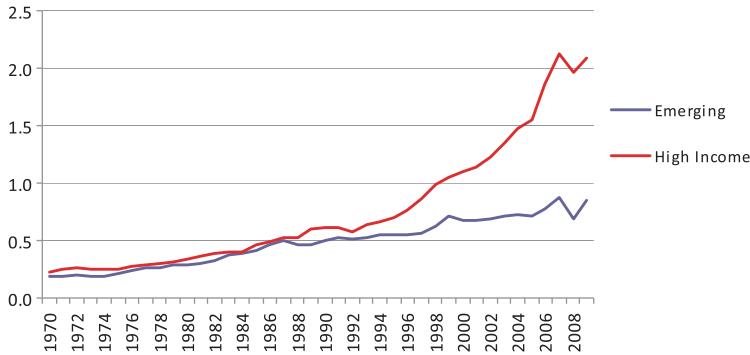


Figure 3. Average of external assets plus liabilities (percent of GDP).

divergence and accelerating growth for the group of high-income economies starting in the mid-1990s. In tandem with its general graduation to high-income status, Korea has substantial (and quite volatile) ratios of external assets and liabilities, which contribute to a volatile *net* foreign asset position. (I will say more about Korea's external balance sheet later.)

In principle, higher levels of gross foreign assets and liabilities may result from a stabilizing process of international diversification, in which countries efficiently share risks, for example, risks attached to domestic equity markets. In practice, however, many if not most external liabilities take the form of debt, including short-term bank debt, with attendant dangers of destabilizing runs and defaults.

### 3. How Special is the Euro Crisis?

Again the short answer is: not very. True, the euro's architecture has specific design features – in some cases better described as design flaws – that have made the euro crisis particularly virulent. Yet, the prologue to the crisis very much follows the empirical regularities I sketched in the previous section. No surprise, because the roots of the euro crisis are planted firmly in the soil from which the 2007–2009 events also grew.

In my view, the euro crisis has been primarily a crisis of banking and financial markets.<sup>3</sup> In the environment of copious global credit during the euro's first decade, the single currency brought institutional changes (including a big decline in currency risk) that increased the access of the peripheral euro zone borrowers (initially Greece, Ireland, Italy, Portugal, Spain) to external funding on terms virtually identical to those of Germany. The ability to run large current account deficits (see Figure 4) allowed the peripheral countries to maintain high levels of consumption and investment despite postponing necessary structural reforms, such as those in labor markets and in the public finances.

Initially these current accounts were viewed as indicative of a healthy convergence process: in the euro zone, as distinct from the rest of the world, capital

<sup>3</sup>See Obstfeld (2013) for a more detailed argument.

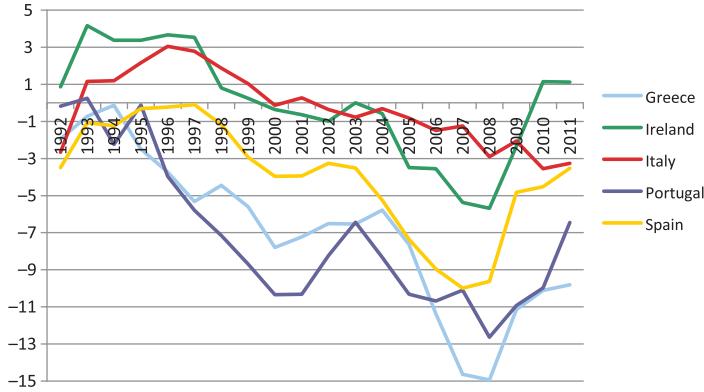


Figure 4. Current account balance of peripheral euro zone countries.

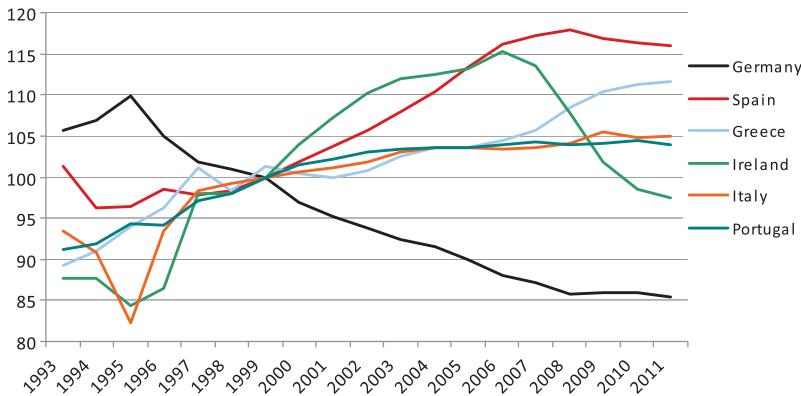


Figure 5. Harmonized Eurostat international competitiveness index based on GDP deflators.

was flowing ‘downhill’ from richer to poorer countries, consistent with basic economic theory. In reality, however, the pattern of gross as well as net capital flows in the euro’s first decade set the stage for the subsequent crisis.

Foreign banks (but especially banks from the core euro zone countries) happily provided finance to the peripheral countries, fueling increasing private-sector indebtedness, as well as irrationally exuberant asset-price inflation. Not only were house prices affected in countries such as Spain and Ireland; Greek government debt also could be considered a bubble, in the sense that it could have traded near par (as it pretty much did until 2009) only on the basis of implausible expectations about the Greek political system’s ability to generate an adequate stream of primary government budget surpluses. Much peripheral investment went into non-tradable housing, making it largely unavailable to repay foreign debts. Banks in northern Europe actually shifted their portfolio composition to favor lending to peripherals, and they took on added leverage so as to be able to lend more, making their balance sheets both more fragile and bigger relative to the fiscal capacities of their home governments.

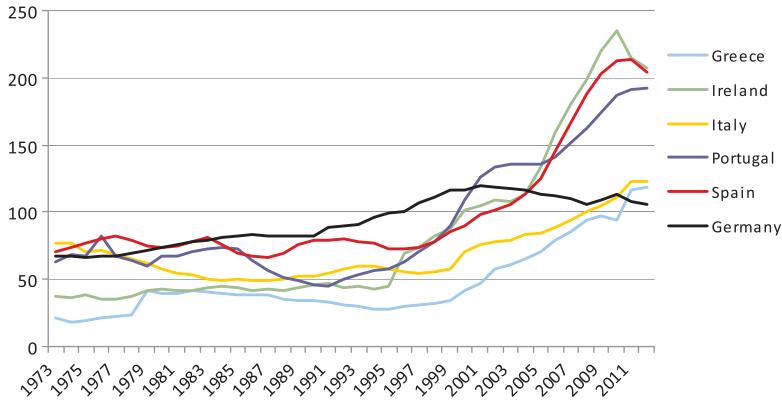


Figure 6. Domestic credit to the private sector (percent of GDP).

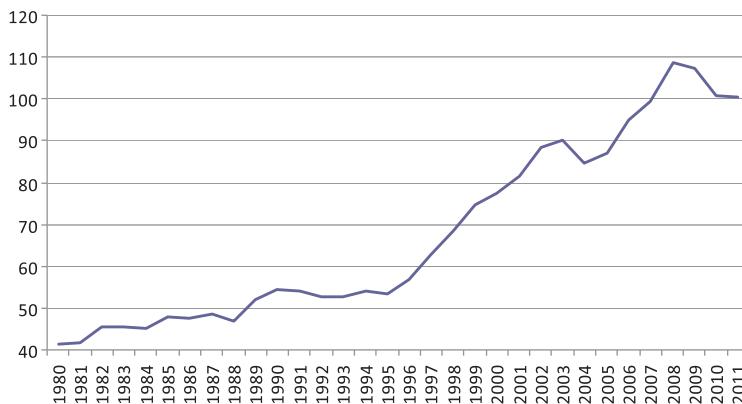
As a result, euro zone data well illustrate the stigmata of the typical crisis as described in the last section. As low nominal borrowing rates fueled spending, ongoing price inflation led to real appreciation (Figure 5), simultaneously lowering domestic real interest rates. The fall in real interest rates, in turn, was a further spur to spending, inflation, and real appreciation. Productivity developments that might have offset increases in domestic production costs were largely absent in the euro zone periphery, unlike in Germany, where structural reforms of the early 2000s had a big payoff in terms of external competitiveness.

The other notable precursor of financial crises in general, rapid growth in domestic credit, also appears in the run-up to the euro crisis (Figure 6). Of course, credit extended by banks grew in some of the more northerly euro zone countries as well, in line with the concurrent global credit boom, but not so much in Germany (which had no housing boom itself but nonetheless, like some of the other northern euro countries, suffered a systemic banking crisis in the latter 2000s).

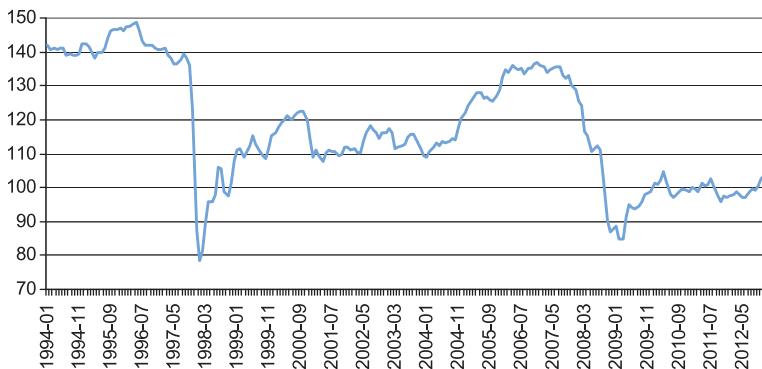
So the euro zone crisis has a familiar aspect but it has been made more intractable by several idiosyncratic features of EMU:

- Absence of currency devaluation option other than depreciation of the shared currency.
- Currency union without fiscal union.
- Excessive austerity a condition for loans, a result of ideology and diverse national politics.
- Treaty and political constraints on the ECB's role and on fiscal bailouts.
- Banks' excessive exposure to local sovereign debt.
- Absence of banking union (with supervisory, resolution, and deposit insurance capacities) and the threat to national solvency from the sheer size of bank balance sheets – completing the 'doom loop' linking banks and sovereigns.

Korea, too, has experienced rapid domestic credit growth (see Figure 7) since the middle of the 1990s. Some financial deepening is to be expected for a rapidly



**Figure 7.** Domestic credit to the private sector in Korea (percent of GDP).



**Figure 8.** Real exchange rate of the won (index, 2010 = 100).

*Source:* BIS broad.

and successfully industrializing economy, but the incidence of crises with domestic roots – in the Asian crisis and during the credit card crisis starting in 2003 – suggests that credit growth has at times been too rapid and perhaps not discriminating enough. These episodes, along with the global crisis of 2007–2009, have led the Korean government to tighten its financial oversight through time and also to impose several recent prudential restrictions on financial market activity. These measures dovetail with continuing concerns about high levels of household debt in Korea. As Figure 8 shows, the won appreciated sharply in real effective terms prior to the global crisis, and fell precipitously during the crisis, but since then it has risen slightly and remained depreciated compared with its level of the mid-2000s.

#### 4. How Should the International Financial Architecture be Strengthened?

The euro crisis has naturally raised serious questions about gaps in the existing governance and architecture of the euro zone. Likewise, the 2007–2009 global

crisis highlighted deficiencies in the global financial and monetary systems. In essence, the basic problems involved have quite a bit of overlap.

One notable area of concern is funding liquidity, where shortages have threatened financial stability in both the global and euro crises. The Maastricht Treaty setting up the EMU purposely did not detail a lender of last resort function for the European System of Central Banks, nor did it discuss what fiscal backup might be provided should problems of liquidity turn out to be, or turn into, problems of solvency, involving tangible ex post fiscal losses. Moreover, the no-bailout provision in the Treaty seemed to preclude any sort of community liquidity support to member sovereigns facing lenders' strikes – a difficulty that countries with their own central banks can solve, in principle at least, by printing money.

To contain the current crisis, the ESCB has indeed evolved into a de facto last-resort lender to financial institutions. Moreover, it has progressively lowered the standards of acceptable collateral in order to fulfill its role, probably to levels well below what Walter Bagehot would approve. The biggest fiscal risks are taken by national central banks within the ESCB, and supposedly maintained as potential liabilities of national governments rather than risks to the system's capital, under the label of Emergency Liquidity Assistance. Yet, many of the basic rules governing ELA seem to be purposely obscure.

Lender of last resort arrangements for euro zone sovereigns have also evolved. One notable innovation is the European Stability Mechanism (operating since September 2012), which can lend to sovereigns and ultimately may be able directly to recapitalize troubled banks. The ECB has also effectively entered this line of business, first through its Security Market Program and lately through the promise of Outright Monetary Transactions (OMT), although details of the latter function are still awaited. The ECB justifies these initiatives, not as emergency sovereign financing, but as measures to protect the integrity of the single currency and the transmission of ECB policy throughout all euro zone countries.

Through its *troika* of crisis managers (EU, ECB, IMF), the euro crisis presents the rather odd spectacle of a currency zone borrowing its own currency from abroad (the IMF) so as to support member entities that have lost capital-market access. While the ECB as a technical matter could be a source of unlimited liquidity within the euro area, statutory and political constraints limit its operations more severely than is usual for central banks. This explains the need of euro zone crisis countries for alternative and even external providers, such as the IMF. The more commonplace problem is that of countries that require assistance in obtaining convertible foreign currencies. This conventional problem of international liquidity remains a problem area in the international system.

After the Asian crisis of 1997–98, a number of emerging market economies, Korea included, built up large stocks of foreign exchange reserves. These holdings allow countries to self-insure against the possibility that external liquidity dries up. At the present time, their reserve holdings amount to around 30% of the GDP of emerging and developing economies, much higher than for the advanced economies, where the ratio is about 5%. For some countries, particularly in Asia, a motivation for reserve accumulation was to avoid needing to request an IMF program in the event of a crisis. These reserves proved valuable during the

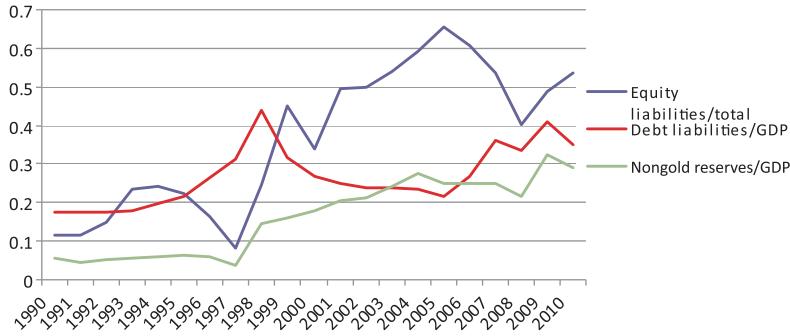


Figure 9. Korea's external debt and equity liabilities and foreign reserves.

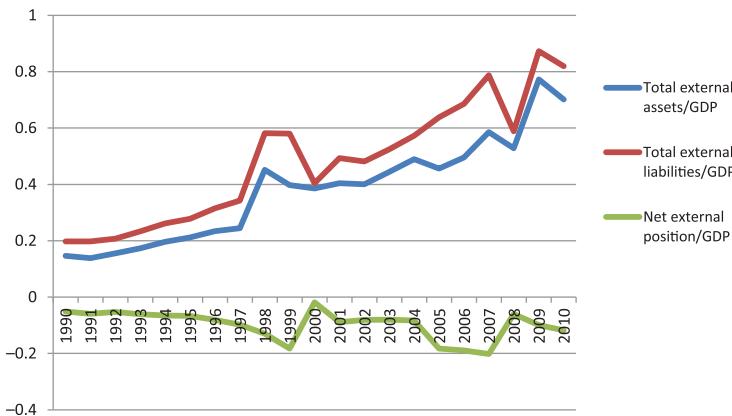


Figure 10. Korea's external investment position, gross and net stocks (percent of GDP).

recent crisis, as many countries (again, Korea included) were able to deploy these resources to address the foreign-currency liquidity needs of systemically sensitive actors.

Korea's external balance sheet provides a nice illustration of the risks emerging countries face and the ways they have coped with them. Figure 9 shows Korea's external equity liabilities as a fraction of total external liabilities, along with external debt liabilities and foreign exchange reserves relative to GDP.<sup>4</sup> Figure 10 shows Korea's total gross foreign assets and liabilities, along with its net international investment position. In common with other emerging economies, Korea has seen an increase in gross liabilities relative to output, but it has financed much of that increase through equity rather than debt. Overall debt liabilities rose sharply prior to the Asian crisis, falling afterward through the mid-2000s, when they again begin a steep ascent to rise above foreign exchange reserves. In both cases, higher foreign debt relative to GDP raised the country's financial vulnerability. Fortunately, however, like a number of other emerging economies (see Prasad, 2011),

<sup>4</sup>Korea's foreign exchange reserves stand just about at the overall average for the group of emerging and developing economies (as a fraction of GDP).

Korea also has a healthy proportion of foreign equity finance. Equity liabilities expanded as the domestic stock market boomed after the dot-com collapse, and then crashed in the global crisis, inflicting big losses on foreigners but providing a shock absorber for Korea's net international position. It is also evident from the picture that on the asset side, foreign reserves were run down during the crisis, but since have been more than rebuilt.

Emerging countries in general have continued to accumulate reserves at a rapid pace. Self-insurance on this scale involves potential drawbacks, some of which are discussed in Obstfeld (forthcoming). These drawbacks apply both to the individual accumulating countries and, perhaps more seriously, to the international financial system. As usual, the fact that higher reserves enhance the security of an individual holder need not imply that the system becomes safer when all countries self-insure on a large scale.

Advanced countries have held fewer reserves and have greater proportions of debt, much of it bank debt, in their external liabilities. In the 2007–2009 crisis, many European-based banks (those without some access to Fed discounting or eligible collateral) found that they could not roll over the short-term US dollar liabilities that served as a counterpart to their suddenly illiquid holdings of US asset-backed securities. At the same time, the euro/dollar forward swap market was distorted, making it impractical to borrow euros from the ECB and swap them into dollars. To solve this problem, the Federal Reserve in December 2007 initiated swap lines through which foreign central banks could borrow dollars and pass them on to European banks, absorbing all credit risk on their own books (Goldberg, Kennedy, & Miu 2011).

Eventually this swap network grew (along both extensive and intensive margins) and the Fed credit line was even extended to a select group of emerging markets, including Korea. Korea had used up substantial reserves by then and was reluctant to see them decline too low. The US\$30 billion swap facility therefore played an important role both directly, by allowing a high level of gross reserves to be maintained, and indirectly, by signaling Fed support for Korea. The episode illustrates one of the systemic drawbacks of self-insurance through gross reserve holdings: the marginal value of my reserves increases with my neighbor's holdings, as a major goal is to discourage capital flight by appearing *relatively* strong. An 'arms race' in reserves can result.

The need for the swap network illustrates that globally active financial institutions may need lender of last resort support in *multiple* currencies: the traditional home LLR may not be able to provide such support unless it holds reserves itself, which it is willing to make available, or can itself borrow foreign exchange (possibly a problem in a crisis). The swap framework provides a mechanism for solving this problem without the need for large gross holdings of reserves by central banks and governments. Of course, the practical obstacles to setting up such a swap network, not least of which are political, are daunting; see Obstfeld (forthcoming) for further discussion. Enhanced liquidity support for sovereigns, in the form of greater and more readily accessible IMF resources, also should be a priority. However, the last requires an expanded fiscal commitment from IMF members.

The potential liquidity problems of euro zone members are to some degree different from those of standalone sovereign states, as I noted above, but there is much more similarity when we turn to the problem of regulating banks and other financial institutions in a context of free cross-border capital movements. The EU is moving haltingly toward some sort of banking union, having moved away from subsidiarity and vested the ultimate responsibility for oversight with the ECB. The process is, however, incomplete absent agreement on a common resolution mechanism and area-wide deposit insurance (see Obstfeld, 2013, for further discussion).

But even at the global level, the need for international regulatory cooperation is well known and similar. Prudential oversight, when delegated to national regulators, leads to inefficiency due to informational gaps, opportunities for regulatory arbitrage, and the failure of decisions based on national welfare to account for international spillovers. The latter are inevitably large in a world of globalized finance, and they are growing larger all the time. From the macroeconomic as well as financial perspectives the evolution of global credit should be an area of common concern to policymakers (see Borio, McCauley, & McGuire, 2011): I consider this to be another major lesson of the global crisis and its *sequelae* in Europe.

Similar inefficiencies arise when it is time for insolvent large cross-border institutions to be resolved. But financial-market expectations about the resolution process surely influence behavior prior to resolution, and hence, financial stability. An effective global resolution regime will, like an expanded IMF, require some degree of fiscal backstop from member countries, and thus entails an element of enhanced international fiscal cooperation. This is especially true when some banks become so large that rescuing them would overwhelm the fiscal capacities of their home governments.

Within the euro zone (and more generally the EU), capital controls are normally ruled out; moreover, there is a decades-old tradition of gradually ceding national control over some economic policy areas to the EU level. Thus, for Europe, and especially the countries that use the euro, there is the real prospect of a genuine banking union (although it may be as much as a decade away, and Britain's role is problematic).

The financial trilemma proposed by Schoenmaker (2013) states that countries cannot simultaneously enjoy financial stability, financial integration across their borders, and national autonomy over financial policy. If Europe represents a possible resolution based on the sacrifice of autonomy, this seems unlikely for the rest of the world. The likely result, therefore, is some use of capital controls, most likely under the guise of macroprudential regulation. Korea has recently introduced several macroprudential measures, among them measures that directly limit some cross-border transactions, notably a variable tax on banks' non-core foreign exchange liabilities introduced in August 2011 (see International Monetary Fund, 2012). I would not be surprised to see more countries eventually moving in this direction.

## Acknowledgements

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