# Is the global financial safety net at a tipping point to fragmentation?

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The international monetary system is underpinned by a global financial safety net providing a financial backstop during times of economic and financial crises or serious market dysfunction. Since the mid-1940s, safety net resources have primarily been located at the International Monetary Fund, which has provided a forum for international co-operation and co-ordination in the resolution of crises. However, since the Global Financial Crisis, there has been a rapid diversification and deepening of the global financial safety net. On balance, this has been a positive evolution but we argue that we may be approaching a tipping point which, if reached without the intervention of international economic policymakers, puts at risk the appropriate role of the global financial safety net and in the process, global economic stability.

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## Introduction

Financial systems are indispensable to the functioning of modern economies. They direct savings to fund investment, and allow entrepreneurs to implement their innovative ideas. However, they are also prone to instability and crises. The past couple of centuries are replete with bouts of seizures, usually after a period of exuberance, rattling not just individual financial markets but also entire economies. The more severe of such crises put at risk the stability of the international monetary system.

The international monetary system is the institutional structure and conventions that govern cross border financial transactions and flows of capital. Stability of this system is a public good in the sense that: it is non-rival — benefits of the stability accruing to any individual country do not diminish the benefits other countries derive from the same stability; and it is non-excludable — benefits of the stability cannot be denied to any country regardless of how the country contributes to the stability.

The global financial safety net — the safety net for the purpose of this paper — is that set of financial resources and institutional arrangements that provide a backstop during a financial or economic crisis. The safety net is a form of insurance against crises that affect a country's external payments. By addressing this risk to domestic economies, the safety net supports the stability of the international monetary system.

As with any insurance, the ideal state of the world would be where the safety net is not needed at all. During the so-called Great Moderation years, a sanguine view of the international monetary system, expressed by Rose (2006) for example, was that advanced economies with floating exchange rates and inflation targeting central banks had no need for a safety net. That rosy view has been laid to rest by the events of the past few years.

The Global Financial Crisis and subsequent ongoing volatility in financial markets and capital movements has triggered a reassessment of the size and use of the safety net, and reignited debates about its role. This is very much a live debate, as continued volatility in financial markets around the world suggests that the global economy remains vulnerable to shocks. There have been arguments that the safety net should be expanded from its current insurance role to a more active role including intervening in markets to smooth volatility. Against this backdrop, it is timely to reassess the role, size and composition of the global financial safety net.

After the recent period of transformation, the safety net now comprises three distinct layers: the IMF plays a central role, while the second and third layers include regional arrangements such as the Chiang Mai Initiative Multilateralisation and bilateral arrangements that rely on foreign reserves accumulated by individual countries.

While strong domestic policy settings and institutions help to enhance a country's capacity to absorb and respond to shocks, we argue that a safety net is still necessary to mitigate the economic and social impacts of severe economic shocks and market dysfunction. The reality of financial market imperfections as well as government interventions in financial, foreign exchange and capital markets make the need for a global financial safety net evident. An effective safety net relies on a co-ordinated approach to crisis resolution and prevention to ensure that moral hazard risks are managed and the risk of future crises are reduced. To this end, the safety net must be organised with the IMF in a leadership role.

However, the safety net may be approaching an important tipping point. Through a process of expansion of resources unlinked with the IMF, and atrophy in the much needed reform of the Fund, the role of an adequately resourced IMF is being slowly displaced. In this paper, we stress that global economic policymakers, through the G20, must work to ensure that the Fund remains at the centre of the institutional framework providing the safety net. The world economy will be more unstable if the IMF loses its role as the leader of crisis prevention and resolution.

The rest of this paper is organised as follows. First, we provide a brief history of the safety net. The following section addresses the debate around the role of the safety net in the post-crisis world. This is followed by a discussion of the appropriate size and composition of the safety net. The penultimate section discusses the institutional structures underpinning the safety net. Finally, we discuss the implications for global economic policymakers.

## A brief history of financial safety nets

Throughout modern history, the international monetary system has been fluidly changing and with it the role of the safety net. The system is fragile and the role of the safety net must provide an effective backstop to its operation.

Prior to the First World War, the international monetary system was dominated by the gold standard and its system of fixed exchange rates. This relied on all central banks maintaining the convertibility of currency to gold at a fixed rate, thereby, fixing exchange rates between countries. This required open capital accounts so that imbalances were adjusted by the flow of gold. In surplus countries, exporters would exchange the foreign currency received in trade for gold from the foreign central bank and exchange that gold for domestic currency at their own central bank. This would expand the money supply, placing upward pressure on wages and prices and adjusting the competitiveness of the surplus country until it returned to equilibrium.

In the interwar period, the gold standard was re-introduced, but the exchange rates did not reflect the relative circumstances of major economies, in particular the United Kingdom. The revived gold standard failed because the central banks of some countries sought to sterilise the flows of gold and avoid adjustment from surplus positions. The gold standard required central banks to 'play by the rules of the game', a phrase attributed to John Maynard Keynes, for the system to continue to function effectively. Without any genuine avenue for international cooperation and the lack of a safety net, adjustment by surplus countries could not be enforced nor could financial assistance be provided to smooth the adjustment that was required in deficit countries. Consequently, the gold standard collapsed in the wake of the Great Depression.

In 1944, the Bretton Woods system was established based on a centralised rules-based system and a global financial safety net overseen by the newly created IMF. Unlike the gold standard which relied on the market to ensure external adjustment, this system allowed Governments to fix their exchange rates against the United States dollar. In turn, the US dollar was fixed against gold. Exchange rates were, in theory, periodically adjusted to reflect their fundamental value.

As the system was based on limited reserve assets — the gold held by the US Federal Reserve — the system required a safety net at the IMF. The Fund was able to extend liquidity to countries with 'temporary' deficit positions. This enabled countries to buy and sell US dollars as necessary to maintain their pegged exchange rates. However, the Bretton Woods system broke down as surplus countries resisted shifting their exchange rates and the US undertook a broad monetary expansion. Speculative attacks on the US dollar forced the US to abandon the link with gold on 15 August 1971.

By 1973, the major currencies were floating. The IMF was no longer required to act as a conduit of finance to maintain the fixed exchange rate regime and underpin the link of the US dollar to gold.

Members of the Fund are now allowed to maintain any exchange rate system except for pegging to gold.

Unlike the gold standard where monetary policy was bound by the external adjustment mechanism, the post-Bretton Woods system provides greater flexibility to central banks to pursue monetary policy to influence domestic demand while a floating exchange rate adjusts the external position. Therefore, for those countries that adopted floating exchange rates and liberalised their capital accounts, balance of payments crises became less of a cause of concern.

As the IMF no longer oversees a rules-based system of fixed exchange rates, the decentralised post-Bretton Woods system means that the global financial safety net does not need to be solely located in the Fund. Therefore, there has been a proliferation in the financial safety nets that have been developed in response to the increased volatility in the global economy. As a whole, the global financial safety net is now larger, comprises several intersecting layers and is used more flexibly than before.

## Developments since the Global Financial Crisis

In the mid-2000s, questions started to be raised on the need for safety nets, largely due to perceptions that the risk of balance of payments and financial crises was significantly diminished, at least in advanced countries. In his seminal speech delivered to the Eastern Economic Association, Ben Bernanke argued that improvements in monetary policy had played an important role in reducing the variability of both inflation and economic growth over the preceding two decades, a trend sometimes referred to as the Great Moderation. Bernanke (2004) implied that improvements in economic policy settings would mean a less volatile macroeconomic environment going forward.

The incidence of crises among emerging and developing countries was also historically low during this period. Following a number of crises in the 1980s and 1990s — Latin American debt crisis (early 1980s), Mexico (1994), the Asian financial crisis (1997-98), Russia (1998), Argentina (1998-2002) — there was both a fall in the occurrence of new crises, and in the amount outstanding loans from previous crises. The IMF's total lending commitments fell to a low of US$3.9 billion in May 2008, around half a per cent of quotas at that time. Since the IMF relies on its lending activities to generate revenue it operated at financial losses for a period between 2006 and 2008.

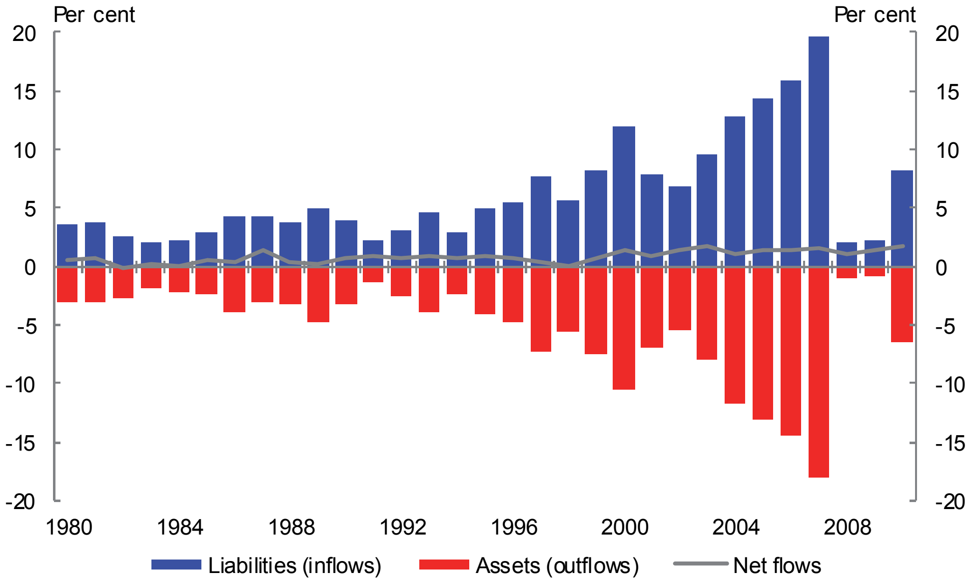
The IMF was facing an identity crisis. In 2007, then Managing Director nominee, Dominic Strauss-Kahn, outlined his view that the two greatest challenges facing the Fund at that time were relevance and legitimacy.

During the later years of the Great Moderation, the attitude of policymakers appears to have been based on an assumption that there had been a systemic fall in the incidence and severity of economic and financial crises. Arguably, however, the Great Moderation was merely a temporary hiatus from financial crises. In fact, the existence of structural imbalances in the global economy with the accumulation of foreign exchange reserves by surplus countries indicated that crises were still a risk.

The onset of the Global Financial Crisis quickly changed perceptions. The collapse of Lehman Brothers in September 2008 and the ensuing turmoil in financial markets demonstrated not only that financial crises in advanced countries were still possible, but also that the degree of interconnectedness and globalisation in financial markets and banking systems elevated the risk of contagion. Volatility in financial markets, including bank-related cross-border flows of capital, has remained elevated since 2008, though the degree of volatility varies widely from country to country.

There was a significant increase in the size of gross flows which was particularly pronounced in the years leading up to the Global Financial Crisis (Chart 1). Global gross flows increased from less than five per cent of global GDP during 1980 to a peak of around 20 per cent by 2007. The bulk of the increase in global capital flows during 2003 to 2007 comprised shorter term flows, including both debt and equity portfolio flows and bank-related flows.

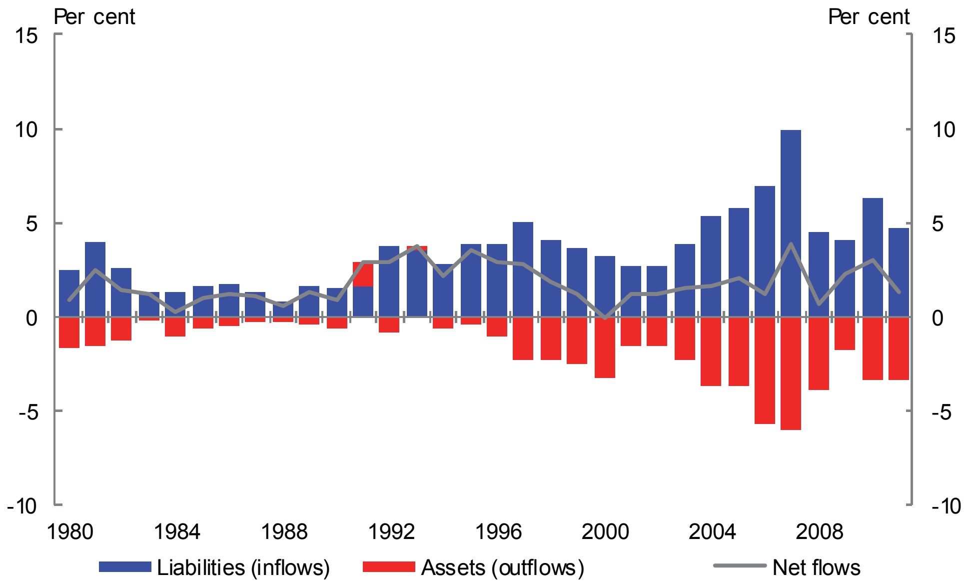
**Chart 1: Gross capital flows as a share of world GDP**




Source: IMF (2012).

Volatility has particularly affected emerging market economies. While flows to and from emerging market economies are still small in the context of total global flows, they increased dramatically as a proportion of their GDP (Chart 2).

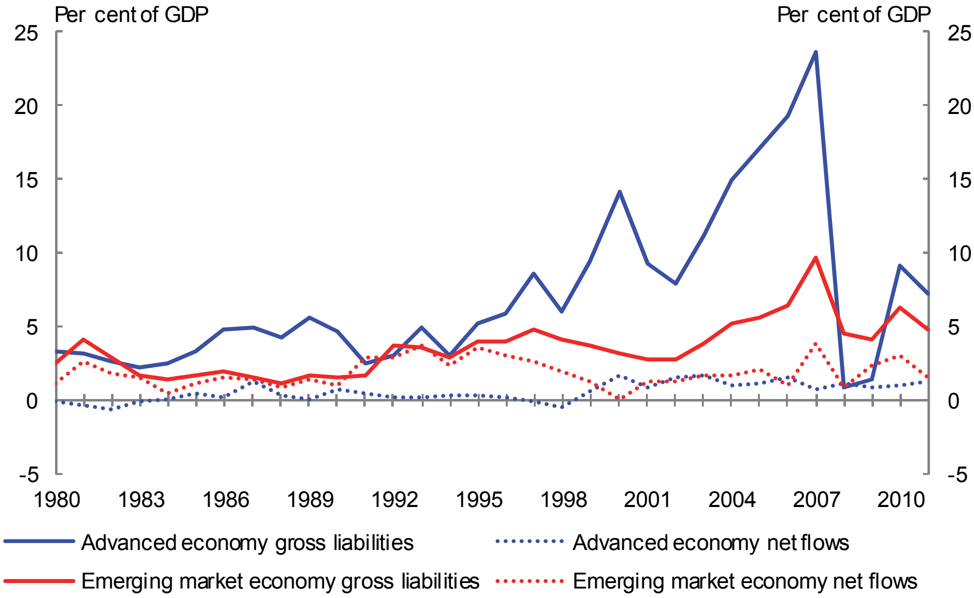
**Chart 2: Gross flows to emerging market economies as a share of their GDP**




Source: IMF (2012).

Importantly, the level of volatility varies by type of flow, by country (or group of countries) and according to what measure of flows is analysed. For example, net flows do not exhibit an increase in volatility over time. It is also worth noting that gross flows to advanced economies are on average more volatile than emerging market economy flows. However, negative correlations between flow types and a high degree of substitutability between flows for advanced economies means that their net positions are not overly affected by changes in one type of flow (Chart 3). Emerging market economies do not necessarily demonstrate the same level of substitutability.

**Chart 3: Gross liabilities and net capital flows**




Source: IMF (2012).

As a result of these developments in the global economy, there have been differing views on the appropriate role of the global financial safety net in terms of how it is used, what level of resources are required and where those resources should be located.

## Role of the global financial safety net

The global financial safety net is a form of insurance against economic or financial crisis that affects a country's external payments and can be 'purchased' by governments through entering official arrangements at a global, regional or bilateral level. In a crisis, official financing can smooth painful adjustments and prevent the destruction of accumulated physical and human capital which would otherwise reduce the output potential of an economy.

Therefore, the role of the safety net is to support economic and financial stability by acting as a financial backstop, providing emergency official financing for a country (or countries) unable to meet external payments and unable to access markets for finance.

Variations in country circumstances and policies mean that the benefits of participating in financial safety nets will differ. However, the structure of the safety net is necessarily imperfect in recognising this through the costs of participation; for example, it would be practically difficult to place a surcharge on riskier countries. There is a disjunct between domestic policy settings, the costs of which are borne domestically, and insurance provided through financial safety nets, the costs of which are mutualised with other countries.

Therefore, a key challenge in the design of financial safety nets is managing the risk of moral hazard. Moral hazard refers to the incentive for the insured to change their behaviour as losses will be compensated by the insurer. In this case, it is the risk that countries will not make domestic policy changes that would ameliorate the risks of a balance of payments crisis in the knowledge that assistance will be provided by the safety net.

Minimising moral hazard must be balanced against the effective utilisation of financial safety nets during economic and financial crises. To explain this further, let us consider two circumstances where a country may be unable to meet its payments, loses access to market financing and needs to draw on the safety net.

First, countries may encounter issues meeting external payments as a result of domestic structural issues or policy failures (sometimes referred to as a solvency crisis). There is a well-established approach to managing moral hazard risks associated with providing assistance to countries in these circumstances.

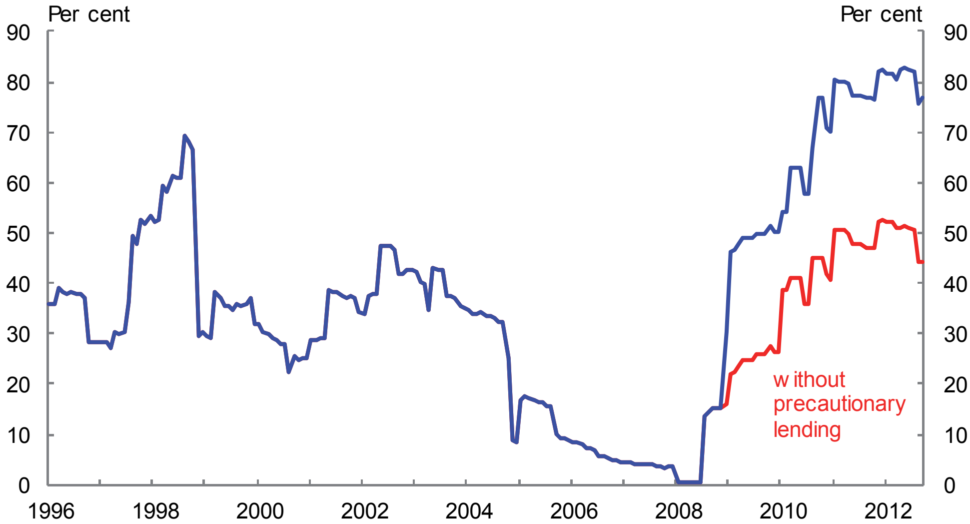
In these cases, IMF assistance will have conditionality requiring country authorities to make adjustments to their domestic policies to address underlying problems that have caused external imbalances and closes the financing gap in the medium term. This can have painful adjustment costs, which in turn, will tend to have high political costs for country authorities. Country surveillance by the Fund aims to assist members in addressing domestic issues prior to a crisis, thereby, also highlighting to country authorities the potential costs of an economic or financial crisis. In addition, IMF assistance will have escalating costs for borrowing countries depending on the level of access.

Debt restructuring or maturity extensions that will reduce the resources required and by imposing losses on private sector lenders will assist in addressing the separate moral hazard risks of excessive lending by the private sector if bailed out by official financing.

Second, countries with sound domestic policies may lose access to markets due to a global or regional shortage of liquidity during a financial crisis (sometimes referred to as a liquidity crisis). Bystander countries may suffer a shortage of liquidity due to a flight to safety or a broad withdrawal of capital associated with market panic. In this context, financial safety nets can have an important role in intervening early to restore confidence by providing support that makes a credible and strong statement regarding the soundness of the domestic settings of that country. In the long-run, this may be less costly than waiting until a full-fledged IMF program is requested.

Precautionary lending has become a more prominent part of the IMF’s lending toolkit since the Global Financial Crisis, and has required the commitment of large contingent lines of credit, tying up significant amounts of IMF resources (Chart 4). There is, therefore, a limit on how widely available these programs can be used with the Fund’s current resourcing.

**Chart 4: IMF lending commitments as a share of quotas**




Source: IMF Financial Data.

In 2009 and 2010, the IMF created the Flexible Credit Line (FCL) and the Precautionary Credit Line (PCL) (which has since been superseded by the Precautionary and Liquidity Line (PLL)). The FCL and PLL are both designed for countries with very strong economic fundamentals, policies and track records of policy implementation. They are intended to provide market confidence to countries that are hit by market disruptions and have minor or no domestic vulnerabilities contributing to funding pressures.

Despite having targeted or no conditionality, there remains a stigma attached to requesting support from the IMF inhibiting the take-up of these programs. Only three countries — Mexico, Poland and Columbia — have used the FCL and two — Macedonia and Morocco — the PLL. In these cases, the IMF has found that these programs have largely met their objectives with bond spreads and exchange rate volatility falling around the time of the arrangements.

Those countries who request an FCL or PLL program attract the stigma of IMF support, whereas comparable countries, that the market considers would otherwise be eligible for the same programs, also attract market confidence without the cost. To address this issue, one option that has been widely discussed is prequalification for these facilities. Truman (2010) suggests that the Fund could deem a country suitable for access to precautionary lending at the time of its annual Article IV review.

However, any further easing of access would involve a greater risk of moral hazard. It is crucial to distinguish between support extended to 'crisis bystanders' that is for liquidity problems resulting from exogenous shocks, and any support given to those countries with domestic vulnerabilities that require adjustment. Prequalification would remove the ability to make this judgment at the time assistance is requested.

A different idea is linking central bank swap lines with the IMF's precautionary lending. This would maintain ex-ante conditionality (that is, qualification criteria) set by the IMF but deepen the resources available under these programs and potentially reduce stigma. A formalised network of swaps would augment IMF resources such that it may be viewed as having no funding constraint as it could call on the liquidity of central banks. This would risk creating a dangerous expectation that countries will be bailed out regardless of the size of their financing need. In addition, as noted by Weber (2011), it would also interfere with the monetary policy operations of central banks.

In contrast, the ad hoc approach to swaps taken by central banks during the Global Financial Crisis, worked reasonably well. Therefore, a further variant would be to establish a less formalised approach where central banks contribute resources in conjunction with the IMF's precautionary lending on a case-by-case basis. However, the merits of this approach are doubtful as it would be likely that markets would perceive a participating central bank as relying on the assessment of the IMF rather than making their own assessment of a country's economic position, thereby not addressing the effect of stigma. If markets take the alternative view, this would in practice be central banks conferring their credibility to the IMF, which they may be reluctant to do, and in any case would be better addressed by the IMF dealing with its own credibility issues (which we address in the section on Institutional Framework).

Given this, it can be concluded that designing assistance provided to bystander countries that appropriately manages moral hazard risks is not possible without difficult judgments on the level of conditionality and terms of access.

To further complicate matters, recent history is colouring perceptions with some arguing that recent volatility is solely a result of unconventional monetary policy action in advanced countries. If, however, recent volatility reflects the realisation of markets that crises are not as unlikely as was widely assumed during the Great Moderation, the effects on countries should be proportionate to their domestic vulnerabilities. This appears to be the case with differentiation in volatility across countries.

Given the imperfect nature of determining the cause of crises, we argue that it is crucial that the global financial safety net is structured in such a way as to properly incentivise countries to use domestic policy settings as a first line of defence against economic and financial crises. There are some common principles for consideration.

- First, flexible markets and a floating exchange rate can help a country absorb shocks and act as automatic stabilisers. Demand for exports will be stimulated during depreciation of the exchange rate and will result in increased output if markets are flexible. During appreciation, monetary policy will have freedom to support domestic demand as a result of the deflationary impact of imports.

- Second, capital account liberalisation develops and deepens domestic financial markets. Underdeveloped markets will allocate less efficiently if market participants do not have confidence that markets are liquid, or they are not able to access financial instruments to manage different types of risk. In particular, the strength of financial markets and supporting institutions will be a factor in the type of external flows — for example, foreign direct investment, portfolio flows or debt — that a country receives.

- Third, the domestic economy must be underpinned by credible macroeconomic arrangements including monetary policy that targets price stability and sustainable fiscal management.

- Fourth and finally, effective prudential oversight of the financial system. This will assist in minimising the risk of sudden stops in cross-border flows.

This said, countries are at different stages of development and will require time to nurture the strong institutions and well-established markets that resilient domestic settings rely upon. Further, even with the right domestic settings, financial imperfections in global markets mean it is important for countries to have access to safety nets as insurance against severe economic and financial crises.

Another approach — as put by Fisher (1999) and Fernández-Arias and Levy-Yeyati (2011) — is that, as the world has grown more susceptible to liquidity crises, the role of the safety net be extended to be a global lender of last resort. A global lender of last resort would go beyond the orthodox role of the safety net by providing a largely uncapped amount of liquidity, on demand, at penalty interest rates and without conditionality except for predetermined criteria for access which is applied automatically.

In part, this is a role that was fulfilled by the US Federal Reserve at the height of the Global Financial Crisis as it made available around US$600 billion through swap arrangements with central banks around the world. The majority of these swap arrangements were with advanced economy central banks with the aim of supporting US dollar liquidity in international financial markets.

However, in addition to swap arrangements with major advanced economy central banks, the Federal Reserve entered into swaps with Brazil, Korea and Mexico. The swaps provided liquidity to domestic central banks to act as a domestic lender of last resort where domestic bank liabilities were held in US dollars so that they were not required to draw down foreign exchange reserves which would have sent a negative signal to capital markets. These swaps were designed to minimise moral hazard risks by being limited to short-term financing of financial institutions of up to three months conducted by tender. In effect, it allowed the Federal Reserve to extend US dollar liquidity to financial systems outside of the US on a short term basis.

This intervention was justified due to the dominant role of the US dollar in international finance impairing the ability of domestic central banks to use their own balance sheet to support their role as a domestic lender of last resort. However, implementing an institutionalised global lender of last resort would involve moral hazard issues that would be difficult to mitigate. Whether the causes of a crisis are domestic or are a result of an exogenous shock could not be determined in advance through a process of pre-qualification. Therefore, to make this workable, harmonisation of financial sector regulation arrangements would be required to minimise the risk of governments competing to attract capital flows through lax regulation in the knowledge that they had access to automatic liquidity support. Eichengreen (1999) notes that it would require global integration of rules and institutions in relation to the banking sector to eliminate these moral hazard risks. While there has been some progress in aligning financial regulation through international norms, such as through the Basel agreements, these are not always implemented consistently or enforced consistently.

We are, therefore, not persuaded that a global lender of last resort is a viable option as it would involve ceding a degree of national sovereignty that seems unrealistic.

## Size and composition of the global financial safety net

Commitments made to the safety net inevitably carry costs and risks to those contributing. A commitment to lend represents a contingent liability, and in the case of IMF quotas, paid-in capital is required. Paid-in capital and assets lent to the IMF earn interest; however, the interest earnt will typically be less than other low risk commercial assets. Similarly, reserve holdings also carry both direct financial and opportunity costs, and participation in currency swaps carries credit, foreign exchange and sovereign risks that are difficult to mitigate. Further, taxpayer money committed to the safety net carries an opportunity cost as this money cannot be used for other purposes.

Conceptually, the appropriate size of the safety net is where the marginal benefit to global economic and financial stability from committing an additional dollar to the safety net no longer exceeds the financial and opportunity costs associated with committing public taxpayer funds to the safety net.

This depends greatly on forward-looking assessments of the markets of both the probability of crises occurring, and the expected cost associated with responding to those crises. Expectations around the cost of resolving a crisis depend on the size of capital accounts, banking sectors and the fiscal position of countries that may need assistance. The probability of a crisis occurring is assessed by market participants and indicators could include movements in bond yields or sudden movements of capital.

The benefits to stability will be the highest where committed resources can be used in the largest number of countries and are most assured of being able to be accessed in a crisis situation. This means that resources committed to the IMF will have greater benefits on a dollar for dollar basis compared to other layers of the safety net. This particularly applies to the Fund's permanent base of resources that is required for isolated country crises that could be expected to occur at regular intervals.

However, the heightened risks of contagion and the provision of assistance to crisis bystanders means that the benefits of multilateral resources are not as pronounced as they were before the Global Financial Crisis. In particular, where risks are more homogenous and shocks are likely to affect the world simultaneously, the benefits from diversification of committed resources are less as many countries may need support at once.

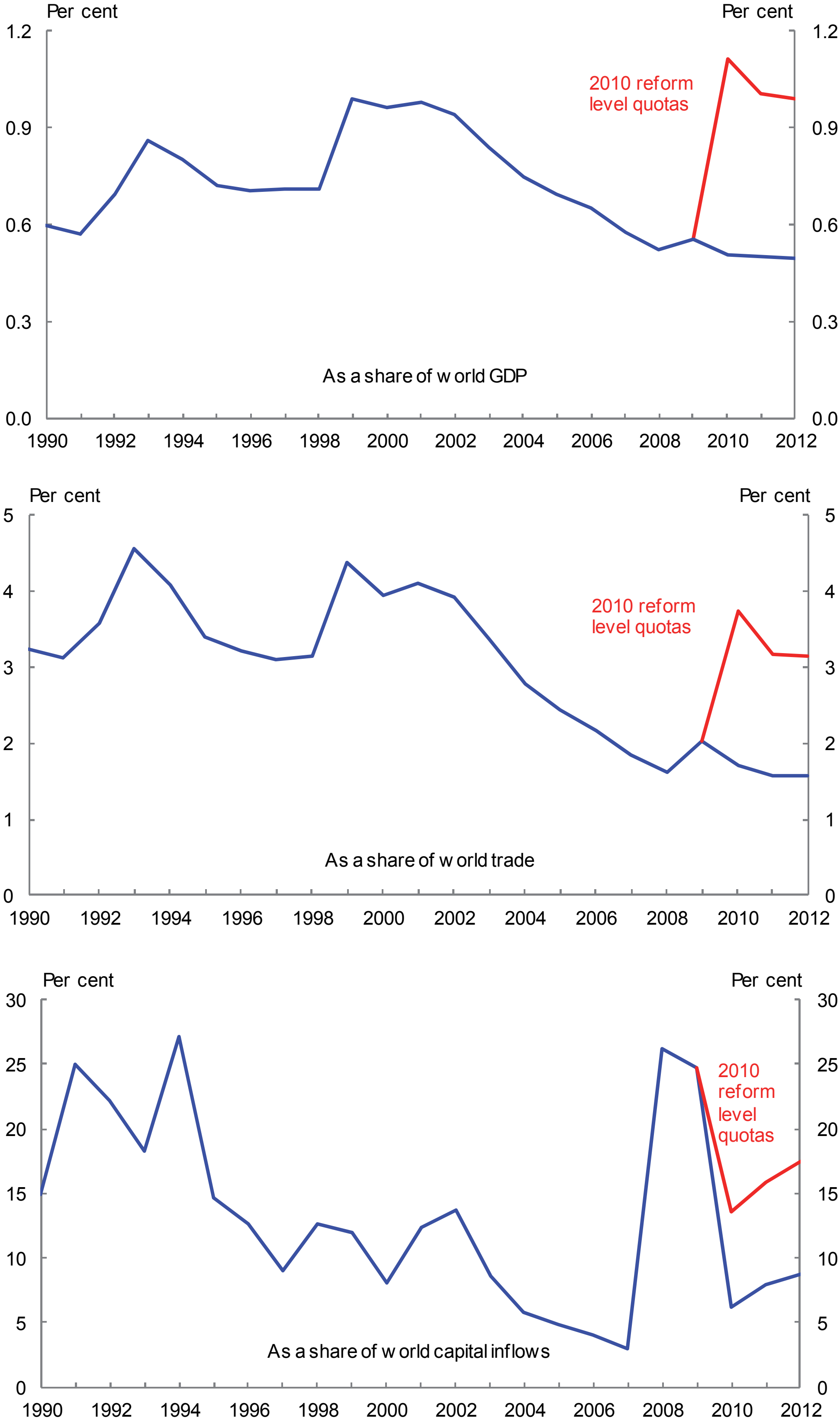
Consequently, a mix of permanent and temporary resources is ideal. This also has the advantage of minimising participation costs and the risk of moral hazard. Making all resources available to financial safety nets permanently may create the expectation that financial assistance will always be available regardless of the circumstances.

Benefits will be highest for the commitment of permanent resources that convinces markets that the safety net is sufficient for responding to a 'once in a decade crisis'. Ideally, these resources would be located at the IMF. Once markets are convinced that the IMF has sufficient resources to respond to the 'expected' crisis, additional permanent resources will have diminishing returns. It should then be sufficient for there to be credible mechanisms to temporarily raise the resources needed for a 'once in a century crisis'. In this respect, regional and bilateral swaps will have a particular role to play.

Against this framework, it is possible to make some qualitative assessments of recent developments in the safety net. From the early 2000's until the Global Financial Crisis, resources available in multilateral financial safety nets were stagnant. No additional resources were committed to the IMF over this period and as a result, in real terms, the size of the safety net was falling. This is largely because market participants and policymakers alike under-estimated the probability of crisis prior to 2008. The permanent resources of the IMF, member quotas, fell to half a per cent of world GDP in 2007. The ratio of quotas to other measures of economic integration fell more markedly (Chart 5).

As a result, an unprecedented commitment of new resources to the safety net was required from 2009 as the full effects of the Global Financial Crisis became clear.

**Chart 5: IMF quotas**




Source: IMF (2012), IMF (2013a) and IMF (2013b) and authors calculations.

At the IMF, the expansion of the New Arrangements to Borrow in 2009 by around US$500 billion by rolling in a similar amount of bilateral borrowing committed to the IMF a year earlier signalled that additional permanent resources were required in the global financial safety net. The agreement of the

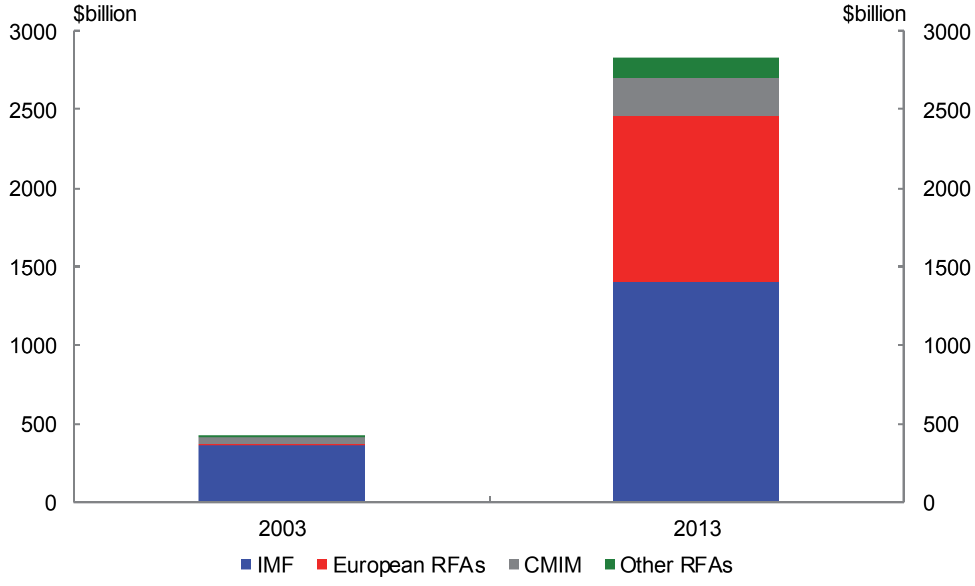
Fund's membership in 2010 to fold a large proportion of this into the permanent quota resources of the Fund confirmed this view, though this has yet to come into effect. In 2012, the commitment of around US$460 billion in bilateral loans, typically with a life of two to four years, to the IMF represented a temporary pre-commitment of resources to what was considered at that time as a rising possibility of an intensified Euro crisis.

Regional arrangements have also gained prominence in the safety net, largely due to a dramatic increase in the lending resources of some existing regional arrangements and the establishment of new regional arrangements in response to the Global Financial Crisis and the European sovereign debt crisis.

In 2010, the European Union and euro area members set up the temporary European Financial Stability Facility, with a lending capacity of €440 billion (US$576.4 billion). This has since been rolled into the European Stability Mechanism, established as a permanent crisis resolution mechanism for euro area member states in 2012. In 2012, ASEAN+3 members agreed to double Chiang Mai Initiative Multilateralisation resources to US$240 billion. Most recently, Brazil, China, India, Russia and South Africa signalled their intent to establish the BRICS Contingency Reserve Arrangement, with a lending capacity of US$100 billion.

In our view, the level of additional resources that has been committed to the safety net is broadly appropriate. However, it has altered the balance of resources within the safety net. While total IMF resources have also increased over the past decade (from US$365 billion in 2003 to approximately US$1.4 trillion in 2013), relative to regional arrangements and as a proportion of the total safety net, the IMF is less dominant than it was (Chart 6). It is critical that the doubling of quotas, as part of reforms agreed in 2010, is completed to provide assurance of the IMF's permanent resources. Beyond this, there is a strong case for a further moderate expansion in the permanent resources of the IMF recognising that crises are likely to be larger and more frequent.

**Chart 6: Composition of the global financial safety net**

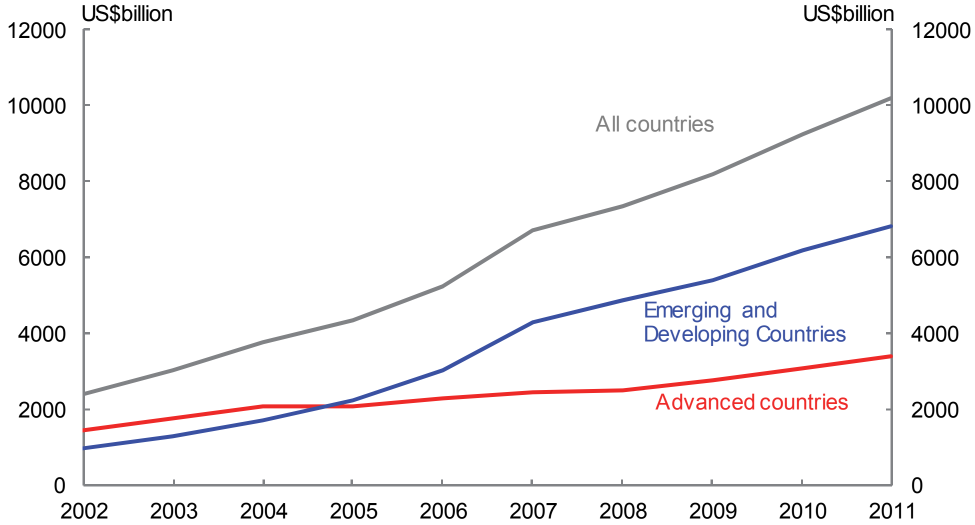



Source: Authors calculations.

At the bilateral level, many countries have sought to establish bilateral swap lines or stand-by loan facilities, though the former often have broader purposes than purely for insurance. Outside of Europe, currency swaps have proven to be a preferred form of financing for countries in need. For example, Korea drew on a US$30 billion swap agreement with the US Federal Reserve for precautionary liquidity support during the Global Financial Crisis.

In addition, emerging markets and developing countries, particularly those in Asia, have also significantly expanded their foreign exchange reserve holdings during the last decade or so. In 2011, emerging markets and developing countries held a total of nearly US$7 trillion in foreign exchange reserves compared to less than US$1 trillion in 2002 (Chart 7).

**Chart 7: Foreign exchange reserves**




Source: COFER database.

## Institutional framework

The actions taken at different levels of the safety net means there is now greater diversity than in the past. While the increase of safety net resources at an aggregate level appears appropriate, a critical question is how different institutions and arrangements within the safety net work together. It is crucial that they are complementary and that the institutional framework supports a consistent approach to crisis prevention and resolution. A fragmented approach will not only be costly and distort global resource allocation but also risks inconsistent and potentially counter-productive responses to crises.

### The IMF's role

The IMF provides the only forum for addressing systemic issues facing the international monetary system. A diverse membership and long history provides the Fund with several unique characteristics that are irreplaceable at a regional or bilateral level. With 188 members, the IMF has the greatest capacity to raise resources in times of need and to ensure that credit risk is diversified to the greatest extent possible. The diversity in its membership means that it is less likely to be captured, giving it a greater degree of autonomy and independence compared to other institutions.

Given the difficulty of assessing the likelihood of crises, distinguishing the various causes of crises and the greater risk of crises spilling over to bystander countries, there is an important role for the IMF to use its expertise and experience in leading crisis resolution. It is uniquely placed to conduct surveillance on the global economy and the linkages between systemically important economies.

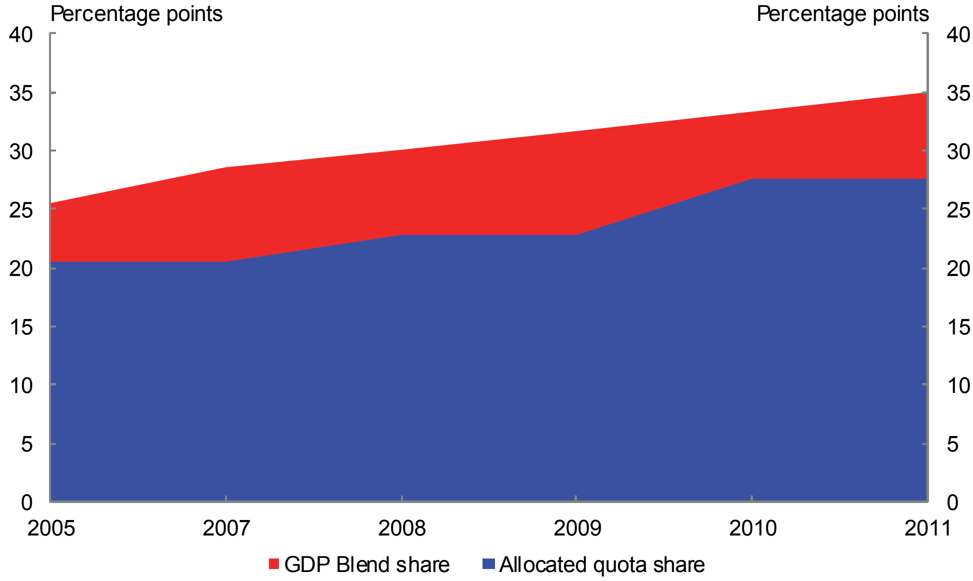
For these reasons, the global financial safety net must be structured with the IMF as its linchpin. However, the centrality of the IMF to the safety net depends on its leadership being accepted by its member governments. This is being undermined by the representation of countries not being aligned with their position in the world economy. In recent years, the allocated quota shares (which is also the primary determinant of voting shares) of strongly growing emerging and developing countries have lagged behind their position in the world economy.

Landmark reforms to the IMF agreed in 2010 will result in a shift of over six per cent of quota shares to emerging market and developing countries. These reforms will also double the Fund's quota resources with a corresponding winding back of the New Arrangements to Borrow. This is critical for enhancing the Fund's permanent base of funding.

However, these reforms are not yet effective as they require support from at least three-fifths of members and members holding at least 85 per cent of the Fund's voting power. As at February 2014, the first condition had been satisfied but the second has not, and relies entirely on ratification of the reforms by the US Congress. The United States holds approximately 16.7 per cent of the Fund's voting power and therefore, holds an effective veto over these reforms.

Even following the completion of the 2010 reforms, the gap between the representation of strongly growing emerging market and developing countries and their weight in the global economy is not being closed (Chart 8). These countries' share of the world economy in 2011 (measured using the GDP blend component of the IMF quota formula that is calculated with a mix of market exchange rates and purchasing power parity rates) is 12.2 percentage points higher than their allocated quota share. This gap will only narrow to 7.4 percentage points following completion of the 2010 reforms.

**Chart 8: Quota shares of selected emerging market and developing countries**




Note: Selected emerging and market and developing countries are those countries who have a purchasing power parity GDP share greater than their allocated quota share and who are not over-represented in allocated quota share compared to their quota formula result by more than 25 per cent. GDP Blend is a component of the quota formula that calculates GDP with 60 per cent at market exchange rates and 40 per cent at purchasing power parity rates.
Source: IMF (2013a) and authors calculations.

The IMF also faces perception problems that stem from three inter-related factors. Firstly, there are deeply-held grievances with the conditionality imposed by the Fund on Asian countries that participated in programs during the Asian financial crisis. Secondly, there are perceptions that recent IMF lending to European countries with a sovereign debt crisis have been on 'easier' terms than was provided to countries affected by the Asian financial crisis. For example, Schadler (2013) argues that in designing the European programs, the Fund compromised, under political pressure from key European members, on its principles that were supposed to ensure the sustainability of sovereign debt. This raises doubts about the Fund's independence. These factors potentially make it politically difficult for some country authorities to seek IMF assistance. This is also linked to 'IMF stigma' —the notion that if a country is on an IMF program then it must have major problems. This is the third perception problem faced by the Fund.

A failure to make progress in these areas increases the risk of countries pursuing other forms of insurance, such as regional and bilateral arrangements, and dislodging the IMF from its central role to the global financial safety net which is crucial for effective crisis prevention and resolution.

## Regional and bilateral arrangements

Regional financial arrangements can make a strong contribution to the safety net, if they operate in a way that complements, rather than undermines the IMF. Since the Global Financial Crisis, the presence of large regional arrangements has deepened and diversified the resources available in safety nets. Countries within a region will have closer relationships with their neighbours and are generally more invested in their well-being, compared to a country on the opposite side of the world. This may be partly for political reasons, but it may also reflect greater economic and financial inter-dependence when close neighbours are involved. As such, countries may be willing to contribute more resources to a regional arrangement, as opposed to the IMF.

Regional arrangements may also benefit from greater access to data and information, given that close neighbours may be more willing to share information with each other. Related to this, regional institutions may be able to provide valuable regional perspectives to program design and surveillance. Finally, neighbours within a regional arrangement may be able to exercise suasion over other member countries in a way that the IMF cannot.

That said, there are also significant risks associated with the rise of regional arrangements, particularly if it comes at the expense of an effective, credible and well-resourced IMF.

The closeness of countries that participate in a regional financial arrangement means that imposing potentially painful but necessary reform as a condition for assistance can be difficult and uncomfortable. To date, no regional arrangement has undertaken a large assistance program without the involvement of the IMF. A narrower base of resources means they are less reliable, less diversified and therefore more risky for contributing countries. Therefore, for similar benefits, a greater level of resources needs to be committed to regional arrangements relative to the IMF.

More critically, the rise of regional arrangements has changed the balance of resources in the safety net. A significantly over-resourced global financial safety net would encourage countries to seek assistance on as favourable terms as possible. Competition between the IMF and other institutions would put at risk the importance of policy conditionality and introduce a greater risk of moral hazard. Policy conditionality should remain the responsibility of the IMF as it possesses the expertise, credibility and global perspective to fashion appropriate lending programs.

In a similar vein, the surveillance of regional arrangements will be incomplete as they will lack the access to data and information outside of the region which is crucial for assessing global risks. Regional arrangements must rely on the IMF for assessments of the vulnerabilities of countries and whether the causes of crises at a country level are externally or domestically generated.

On balance, the advantages that regional arrangements bring to the safety net are positive if the risks are correctly managed. In particular, the weaknesses of these arrangements will only become critical if they seek to compete with the IMF. Henning (2011) proposes criteria for deeming regional arrangements to be consistent with the IMF including that regional arrangements: must not create a conflict with members obligations under the IMF's Articles of Agreement; be as transparent as the IMF; have sound rules for financing by lending to countries with liquidity shortfalls at premium interest rates and with assurance of repayment; and have sound conditionality or link with IMF lending.

The strengths of the IMF mean that an effective global financial safety net must be centred on the Fund. The IMF should have the lead role in designing programs and conditionality, while regional arrangements are able to contribute additional resources and regional perspectives to program design, surveillance and technical assistance.

As with regional arrangements, bilateral lending and swap arrangements can also play an important role in the safety net, either by supplementing IMF programs and other forms of support, or in their own right to address short-term liquidity shortages in bystander countries. However, due to their ad hoc nature bilateral arrangements tend to be less consistent in managing moral hazard issues. When utilised for safety net purposes, bilateral swaps should form a temporary source of resources.

## Foreign exchange reserves

Foreign exchange reserves can provide a form of self-insurance over which a government has autonomy in addition to the broader safety net. As reserves are within the control of domestic policymakers, they can be deployed rapidly to forestall liquidity shortfalls and maintain payments in a fast moving crisis. While there are various ways of assessing the adequacy of reserves, it is prudent for countries to hold a moderate level of reserves that can be used until other safety net resources can be mobilised.

Furthermore, unlike the other aspects of the safety net, reserves are held for a number of reasons that go beyond precautionary or self-insurance purposes. For countries with fixed or managed exchange rates, a certain level of reserves is needed to maintain and give credibility to the exchange rate. While countries with floating exchange rates may not have this need, they still need a certain level of reserves to perform critical functions such as the conduct of monetary policy, to support government transactions requiring foreign exchange, and to smooth periods of extreme volatility and market dysfunction.

However, foreign exchange reserve accumulation to substitute for holding resources in multilateral or regional safety nets is both costly and inefficient. At a domestic level, there are significant opportunity costs on top of the carry costs that most central banks need to incur to hold US dollars. While there are various methods for calculating the opportunity cost, at its highest it is all of the returns, both internal and external, that would come from utilising those reserves for public investments, for example, infrastructure.

Excessive reserve accumulation also carries an undesirable consequence of distorting exchange rates, and therefore the flows of capital and trade. Over time, this increases the risk of global instability by perpetuating imbalances between long-term surplus and long-term deficit countries.

In addition, there are questions about the effectiveness of relying on reserves for self-insurance purposes. Running down reserves risks sending a negative message about the fragility of the domestic economy which, in turn, could exacerbate volatility and reinforce negative perceptions held by financial markets.

## Future directions

Recent developments have shown the adaptability of the safety net. Global economic policymakers, at various levels, have been able to work together to provide financial backstops at short notice. Furthermore, new approaches to crisis prevention and resolution have been developed to meet the challenge of a more volatile world.

While these innovations have been borne out of necessity due to the scale of recent crises, they should be seen as a positive evolution of the safety net. More resources can be brought to bear on financial crisis than ever before, while the resources are now increasingly diversified between various layers of the safety net.

In our assessment, the efforts to increase the size of the safety net have been appropriate policy responses to the recognition that the probability of crises is not as low as thought before the Global Financial Crisis and that larger assistance packages are likely to be required to deal with future crises. One challenge facing international economic policymakers insofar as the safety net is concerned is to decide whether the distribution of resources between various layers of the global financial safety net is appropriate for satisfying its core function.

Our conclusion is that the composition of resources between permanent and temporary resources could be rebalanced towards additional permanent resources that are ideally located at the IMF, and supplemented by maintaining resources in regional institutions which are structured to be temporary and as a complement to the IMF. This will support an appropriate balance in the institutional framework of the global financial safety net.

However, there is a real risk that continued stagnation in reform of the IMF will result in the opposite. Unabated growth in regional and bilateral resources will create challenges for co-ordination of crisis resolution and prevention. At worst it risks a situation where assistance is provided to countries without addressing moral hazard issues, thereby increasing the likelihood, magnitude and severity of the next crisis.

Unless international economic policymakers act decisively, we may well be approaching a tipping point beyond which the global financial safety net will fragment because of a combination of stasis at the IMF and increasing concentration of safety net resources that are unlinked with the Fund. The G20 must work to avoid this tipping point, ensuring that the various elements of the global financial safety net are complementary and work together to achieve a common set of objectives.

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