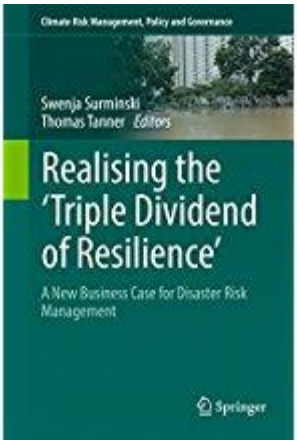
Chapter 7 in:
Surminski, S. and Tanner, T.M. (eds.) (2016)
Realising the Triple Resilience Dividend: A New Business Case for Disaster Risk Management.
Springer International Publishing, Dordrecht.

Griffith-Jones, S. and Tanner, T.M. (2016) **'Financial Crises and Economic Resilience: Lessons for Disaster Risk Management and Resilience Dividends'**, in Surminski, S. and Tanner, T.M. (eds.) *Realising the Triple Resilience Dividend: A New Business Case for Disaster Risk Management*. Springer International Publishing, Dordrecht.



Chapter 7: Financial Crises and Economic Resilience: Lessons for Disaster Risk Management and Resilience Dividends

Stephany Griffith-Jones[i] and Thomas Tanner[ii] [1]

[i] Colombia University, sgj2108@columbia.edu
[ii] Overseas Development Institute, +44 (0)20 7922 0300. t.tanner@odi.org.uk

Abstract

The development progress achieved by many countries, and particularly by low-income countries, is at risk of being undermined or even wiped out by the range of shocks and resulting crises they face. Since the turn of the millennium, there has been growing recognition of the importance of climate and disaster risks for development progress; the global financial crisis of 2007/08 also had profound implications for economies around the world. Partly in response to this experience, anticipatory risk management systems have become an increasingly popular approach to tackling both economic and disaster resilience. This chapter examines the impacts of financial crises on development at the national level and the responses of major international institutions in terms of coping with and anticipating such shocks. It then examines the lessons from these risk management mechanisms for understanding and recognising the dividends of resilience emerging from disaster risk management.

[1] Many thanks to Swenja Surminski and Mook Bangalore for insightful comments and inputs.

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7.1 Introduction

The development progress achieved by many countries, and particularly by low-income countries (LICs), is at risk of being undermined or even wiped out by the range of shocks and resulting crises they face. Since the turn of the millennium, there has been growing recognition of the importance of climate and disaster risks for development progress. The global financial crisis of 2007/08 also had profound implications for economies around the world (Benson and Clay 2003; Te Velde et al. 2011). In response, anticipatory risk management systems have become an increasingly popular approach to tackling both economic and disaster resilience. This chapter examines the impacts and costs of financial crises on development at the national level and the responses of major international institutions in terms of coping with and anticipating such shocks. It then explores the lessons from these financial risk management mechanisms for promoting investment in resilience by emphasising the co-benefits of investment that can be realised even in the absence of future shocks.

Crucially, while there has been a more concerted effort and investment to tackle uncertainty and damage caused by financial crises, as well as shocks through trade channels, investment and progress in disaster risk management (DRM) has regularly been outstripped by the increase in hazard burdens and vulnerability around the world (UNISDR 2015). There are a range of reasons for this underinvestment, including limited understanding of risks and impacts, a sheer lack of resources in poor countries, political myopia and attractiveness of more visible post-disaster support initiatives, as well as pressure to use scarce resources to respond to other urgent competing needs such as infrastructure, education and health (Vorhies 2012; Wilkinson 2012; World Bank 2013).

Beyond these relatively well-known challenges there is one aspect that has only recently gained the attention of DRM and development experts. There is growing evidence that underinvestment also occurs owing to a failure to capture the wider range of development dividends that DRM creates, both through reductions in the background level of risk that enable individuals to take positive risks (e.g. innovation and entrepreneurship) and through the 'ripple effects' of wider social, environment or economic co-benefits of investment (Rodin 2014; Tanner et al. 2015). In other words investment in DRM makes sense even in the absence of disasters, which presents a strong argument in favour of undertaking these preventive measures. Financial crisis prevention and management mechanisms can similarly be defended for the wider benefits of stability and growth, including for the overall global system.

The impacts of the series of financial crises hitting developing countries in the past three decades have been compounded by the effects of the global financial crisis of 2007/08, which started in the industrialised economies. As a result, growing concern has arisen about uncertainty from the world economy and particularly about the lower resilience of developing and emerging economies to external shocks, which undermine their long-term development (Didier et al. 2013; Griffith-Jones and Ocampo 2009). This concern has presented itself both among industrialised and industrialising countries that are increasingly integrated into global trading and financial systems and among countries that are the poorest, smallest and most vulnerable to external shocks. The latter group have faced significant challenges to their financial capacity to address their vulnerabilities, rebuild their pre-2007/08 crisis financial buffers and build new capacities for resilience in the face of persistent or frequent crisis. The situation has also led to uncertainty about how resources for development will be secured, on the scale and with the degree of reliability needed to absorb new external shocks as they come, so enabling these countries to eradicate poverty and to achieve higher levels of growth and sustainable development.

Experience during both recent and earlier financial crises has led to growing consensus that external shocks can disrupt both short-term growth and long-term development. There is clear evidence that financial crises have become more frequent and more damaging, as economies and financial systems have become more integrated within the global economy, and as financial systems have become more

liberalised, without corresponding regulation (Griffith-Jones and Gottschalk 2012). The response to exogenous economic shocks (and especially shocks arising from financial crises) has been twofold: 1) crisis management, including provision of international liquidity and development finance to countries hit by shocks, to help sustain both short-term growth and long-term development, and 2) crisis prevention, to help make crises less likely and smaller if they do occur.

Strengthening the resilience of financial systems can yield benefits in the event of financial crises, but also provide greater stability outside times of crisis. This chapter therefore looks to draw lessons from growth in financial risk management mechanisms for the policy and practice of DRM. Section 7.2 summarises the impact of economic shocks on national and international economies in terms of short- and long-run growth and development. Section 7.3 then examines international responses to the global economic crisis of 2007/08, with analysis of the International Monetary Fund (IMF) and World Bank responses in Section 7.4. Sections 7.5 and 7.6 draw lessons for DRM from understanding the mechanisms for improved financial risk management at the national and international level.

7.2 The case for prevention: financial crises and the costs to growth and development

7.2.1 Costs of crisis to economic growth

Addressing shocks once they occur, or minimising the likelihood of their occurrence by preventive action, is vital to achieving long-term growth and development. External economic shocks tend to have very large negative effects on developing economies' growth, investment and poverty. When a developing country suffers an external shock, the balance of payments, the fiscal accounts and the overall level of economic activity suffer. The initial effects on these key macroeconomic variables feed through the entire economy, with very negative social and economic effects taking place through reduced tax revenue, lower government spending, lower private and public investment, lower wages, higher unemployment and therefore higher poverty.

External economic shocks traditionally came more through the trade channel, as developing economies were integrated into the global economy through trade. Economies therefore suffered in the event of declines in the prices of one or more of the main exports of a country, a fall in their volume or an increase in the price of imports. Such shocks could be temporary or more permanent. If the shock were temporary (e.g. brief deterioration of terms of trade) and were to be financed quickly for a high proportion of the shock through official liquidity, any negative impact on growth and poverty could be avoided. Official liquidity could allow levels of imports to be maintained, which implied maintaining economic activity. This was what the IMF created the Compensatory Financing Facility (CFF)—the first official multilateral liquidity facility created for this purpose by the international community—for in 1963 (Griffith-Jones 1983).

More recently, and as a result of increased integration of a growing number of economies into private financial flows, shocks have more frequently come from the capital account, because of either changes in the level of net capital flows and/or their cost. Often, such changes in the net capital flows or their cost have implied a very high proportion of a country's gross domestic product (GDP). Countries hit by the 1997/98 East Asian crisis experienced a reversal of net capital flows of more than 10% of GDP, leading to currency and banking crises, with significant costs to growth and investment. For some countries, changes in the level of remittances also became a potential source of external shocks, especially during the global financial crisis, which originated in the developed economies and started in 2007/08. In this and other crises, several exogenous economic shocks occurred simultaneously, hitting developing and emerging economies through different channels at the same time.

Evidence shows the problem in poor countries is not just a failure to achieve long periods of sustained economic growth but also the frequency of downturns (Winters et al. 2010). Low-income countries

(LICs) increased their per capita GDP by only 11% between 1960 and 2007. Either halving negative growth rates, by halving the severity of downturns, or halving the percentage of years of negative growth between 1960 and 2007 would have increased GDP by about 70%. But if negative growth rates could have been completely eliminated, GDP per capita for LICs would have more than doubled, with average annual growth increasing significantly to over 2% from the 0.23% achieved over this period (ibid.).

Poor countries remained poor because they have periods of deeply negative growth that more than cancel out prior periods of positive growth. Such periods of negative or low growth are often caused by external shocks. LICs are often poorly equipped to deal with, and recover from, adverse shocks (Aiello 2009). Consequently, there is growing consensus that international shocks financing is particularly significant for low-income and small vulnerable economies, especially as they become more integrated into the world economy. This has parallels with climate change-related and other disasters, with poorer countries generally more at risk from impacts at the same time as having fewer resources with which to invest in DRM and climate adaptation (Olsson et al. 2014). Combined with ethical issues around the unequal distribution of causes of climate change, this has reinforced calls for greater external resources for these purposes.

Financial crises have very high costs for emerging and industrialised economies. Eichengreen (2004) estimated the cost of currency and banking crises at 0.7% of developing country/emerging market GDP per year, equivalent to an annual amount of $107 billion. His estimates draw both on historical work that estimates output losses by examining crises during the past 120 years and on looking at average output losses per year during the 1980s and 1990s in Latin America and Asia. Eichengreen estimates that, during 25 years, currency and banking crises reduced incomes of developing countries and emerging economies by around 25%. Griffith-Jones and Gottschalk (2007) estimated the output loss emerging market countries suffered between 1995 and 2002, when crises were prevalent in emerging economies, as a direct result of major currency and twin crises, by comparing potential and real economic output. They estimated an annual average of around $150 billion of lost GDP for that period, implying a total loss of $1,250 billion for the 1995-2002 period (a figure similar to but somewhat higher than that of Eichengreen). The forgone output in that period resulting from crises corresponds to 54% of the combined GDP of the East Asia and Pacific region and 65% of the combined GDP of Latin America and the Caribbean in one year (Griffith-Jones and Gottschalk 2007).

Looking at a very large number of financial crises, Reinhart and Rogoff (2008) estimate that banking crises lead to an increase of the unemployment rate of on average 7%, lasting for on average four years. The recent Eurozone crisis has led to even far higher increases in unemployment, with explosive growth in unemployment among the young, especially in Greece and Spain. Reinhart and Rogoff further estimate output falls (from peak to trough, so not considering output lost as economy grew less than trend) of an average of over 9%. Some financial crises have led to far higher declines in output. One recent example is that Greek GDP has fallen by over 25% since the financial crisis started there.

A US Federal Reserve Bank of Dallas paper (Atkinson et al. 2013) estimates the cost for the US economy of the recent US financial crisis as an output loss of between $6 and $14 trillion between 2008 and mid-2013. The paper compares output to a baseline trend that might have existed absent the crisis, arguing that this amounts to the equivalent of 40-90% of one year's economic output of the US. Per US household, the cost is estimated at $50,000-$120,000. It is noteworthy that studies highlight that total costs may be higher if long-term growth does not return to pre-crisis levels. They also stress other dimensions, such as lower employment and individual welfare.

One important area that is important relates to the negative effects that interruptions to growth caused by exogenous economic shocks or climate shocks have on private investment. Investment, especially lumpy infrastructure, often declines during a crisis because investment decisions are sensitive to

uncertainty about the future outcomes of key variables (Dixit and Pindyck 1994). An increase in uncertainty can change the investment decision and lead to the cancellation or at least postponement of lumpy investment projects with long-term negative implications for development. In key social aspects (such as reduced nutrition and withdrawal of children from school), countries that recover growth after a period of no or negative growth can see irreversible costs for their economies and for the poor (Cornia et al. 1987; Harper at al. 2009). Severely malnourished children or those who have missed longer periods of schooling may suffer effects for the rest of their lives and can even pass these negative effects to their own children, implying greater future poverty and lower prospects for growth.

7.2.2 The growth in preventative action

Developing countries are increasingly recognising their inherent structural vulnerability to exogenous shocks, including both economic shocks and those from the natural environment, and have highlighted the need to review, systematise and expand shocks facilities (Griffith-Jones and Gottschalk 2012). The international financial institutions (IFIs), such as the IMF, the World Bank and the regional development banks (RDBs), as well as regional bodies like the European Commission (EC), have increasingly (and especially since the 2007/08 financial crisis) accepted the importance of shocks facilities and have moved forward to expand existing ones, as well as creating new ones, as we detail below.

As financial crises become more frequent, deeper and thus more costly, and spread more widely via contagion owing to financial globalisation, there is growing acceptance by institutions like the IMF and the World Bank of the necessity to devote an increasing share of their resources to fund developing and emerging countries' needs arising from external economic shocks. There is growing consensus that official international liquidity and development finance (both concessional and non-concessional), as well as grants, need to play an important role in mitigating the impact of economic exogenous shocks. This seems to clearly imply the desirability of allocating a higher proportion of official resources to shock financing in order to help developing and emerging countries, especially those that are more vulnerable and lack resilience to address shocks.

An important policy question beginning to be discussed as regards to economic shocks is therefore whether more emphasis should be placed on dealing with shocks, to help avoid growth declining in the short term and therefore harming long-term development and poverty alleviation, and, more specifically, how the potential trade-off in allocating less funds to other development activities can be addressed, as well as minimised. One way to reduce such a trade-off is to use the resources to increase resilience, especially if funds allocated to shocks for a certain period are not used during most of the period. Another way is to emphasise the overall benefits that can be derived from an anticipatory risk management approach, creating stability and favourable institutional conditions irrespective of whether or not crises occur.

7.3. Enhanced international support following the 2007/08 international financial crisis

Since the 1960s, the IFIs and the EC have put in place a range of so-called compensatory or shocks facilities to help countries deal with the above-described shocks, mainly focusing on economic shocks but increasingly including natural hazards. However, the global financial crisis that began in 2007/08 prompted IFIs to make a significant effort to attempt to shelter developing and emerging economies from the resulting shock, with the aim of protecting their growth and poverty reduction. They did this by both increased lending through existing facilities and by creating new facilities, as well as expanding the limits on existing ones. The increase in the capital of the World Bank and the RDBs, as well as in the resources available to the IMF, were important to facilitate the granting of significantly more credit.

At a conceptual level, there seemed to be a significant breakthrough in terms of recognising the important counter-cyclical function, which development banks (such as the World Bank and the RDBs) had to play in light of major events like the global financial crisis, especially to help sustain priority investment (both public and private). This investment had often been cut in the past when exogenous economic shocks hit countries, damaging future development. Thus, it was important not just to have additional international official liquidity as typically provided by the IMF to deal with Balance of Payments aspects (although this was clearly key where countries became foreign exchange constrained), but also to have counter-cyclical official international development finance, via both concessional and non-concessional lending, as well as increased grants where appropriate.

In what follows, we describe the main features of this international response, which was on a large scale, albeit significantly smaller than the contraction of private flows.

The IFIs—including the IMF, the World Bank and the RDBs—increased their lending to developing countries very significantly as a response to the global financial crisis. This had a positive impact in terms of ameliorating negative effects from the financial crisis on these countries' growth, investment and poverty reduction. Total lending commitments to developing countries jumped dramatically, from around $50 billion in 2007 to around $175 billion in 2009 and thereafter to an average of just over $200 billion annually in 2010-2011, resulting in a quadrupling of total lending commitments between 2007 and 2010-2011 (Griffith-Jones and Gottschalk 2012). Particularly large was the increase in IMF lending during those years, but the World Bank and RDBs also increased their lending significantly.

This response was significant and covered a large proportion of African, Caribbean and Pacific (ACP) countries' export shortfalls, especially in 2007 and 2008 (te Velde et al. 2011). This large compensatory and generally counter-cyclical IFI lending, combined with other domestic factors and measures, not only helped avoid crises but also limited growth declines in developing countries in the face of major external shocks. These domestic factors included the existence of valuable buffers in developing countries, including high fiscal space (linked to prudent fiscal policies in good times), in many cases high levels of foreign exchange reserves and lower levels of external debt, as well as fairly prudent domestic financial regulation. Indeed, developing countries accumulated higher levels of foreign exchange reserves and lower levels of external debt, as well as regulating their domestic financial systems better as protection against future financial crises, based on their previous experience of financial crises, which had been so costly in terms of their development. Here, an important parallel, or even lessons, for natural disaster management can be drawn: taking preventive action at a national level *ex-ante* may have valuable pay-offs later, once an exogenous economic shock or a natural disaster hits.

In the event, growth in LICs, which had averaged 6.5% annually in 2005-2007, fell to 5.7% in 2008 and to 4.7% in 2009, according to World Bank data. Although undesirable, such a decline could have been far worse given the magnitude of the shocks (especially in these cases on the trade account), and was followed by recovery to an average of 6.0% growth in 2010-2011.

The global financial crisis hit middle-income country (MIC) growth more seriously, largely because MICs are more closely integrated with the international economy, especially via private capital flows; as discussed below, the contraction in private capital flows to these countries was initially so large that official flows—even though significant—could compensate for this decline only very partially MIC growth, which reached 8.0% annually in 2005-2007, fell to 5.7% in 2008, and significantly to only 2.6% in 2009, although it recovered to 7.0% annually in 2010-2011.

There are two important caveats to this overall fairly impressive response to the 2007/08 crisis by the IFIs. Perhaps most importantly, total lending commitments to LICs went up by far less than the total for all developing countries, from $17.5 billion annually in 2007-2008 to over $23 billion annually in 2009-2011—that is, by around 33%, significantly less than the increase in commitments to MICs,

which grew from $34 billion annually in 2007-2008 to $179 billion annually in 2010-2011, a rise of over 430% (see Table 1).

Table 1: LIC and MIC lending commitments for all IFIs ($ millions)

	2006	**2007**	**2008**	**2009**	**2010**	**2011**
LIC	14,516	17,582	17,416	23,092	23,456	23,630
MIC	40,234	32,092	36,584	149,266	179,594	178,937
Total	54,750	49,674	54,000	172,358	203,050	202,568

Source: Griffith-Jones and Gottschalk 2012

Secondly, the most important increases only happened in 2009-2010, well after the crisis started. This picture is even clearer if we look at actual disbursements, which often lagged commitments quite significantly. Although International Development Association (IDA) commitments increased quickly in 2007 and 2009, disbursements hardly grew in those years, and they increased only modestly in 2008 and especially in 2010—that is, well after the shocks had hit LICs. There were also delays for World Bank (International Bank for Reconstruction and Development (IBRD)) lending to MICs. IFIs' cumulative disbursements are continually less than commitments from 2008 onwards, with the cumulative "disbursements gap" increasing to over $250 billion by 2011 (Griffith-Jones and Gottschalk 2012).

7.4 International financial crisis: Responses of the IMF and the World Bank

In what follows, we examine and evaluate recent reforms made to shocks facilities at the IMF (both concessional and non-concessional) and the World Bank (focused on IDA).

7.4.1 A reform to IMF shocks facilities for LICs and MICs

In recent years, the IMF has made important changes to its lending facilities, especially as a response to the global financial crisis. Above all, it responded rapidly to the crisis, with commitments to developing and emerging countries increasing very sharply from $2 billion in 2008 to $83 billion in 2009 and $127 billion in 2011. This included, for Poverty Reduction Growth Facility-eligible countries (basically the LICs) increases in commitments from $657 million in 2008 to $1.5 billion in 2009 and $3 billion in 2010.The fairly strong increase of IMF lending to LICs was facilitated by a doubling of access as a percentage of quotas for all facilities in 2009.

Although the latter were large and welcome increases in IMF lending for LICs, two particular features of the IMF's response both during the immediate crisis and more recently have proved challenging. First, as pointed out above, the increases were far smaller for LICs than for MICs**,** and, more importantly, these facilities did not sufficiently compensate for the large scale of the external shocks. Second, some aspects of the more recent changes in IMF compensatory financing facilities have proved disappointing and seem, in several aspects, even to imply steps backwards.

More broadly, especially since the crisis started in 2007, reforms to IMF concessional financing facilities have put increased emphasis on shocks support. Such a change of emphasis, which has resulted in a greater proportion of IMF lending to LICs going to shocks support, is to be welcomed, although it is still insufficient in proportion to the magnitude of shocks during the period. This followed two decades in which the IMF's financial support to LICs was channelled mainly through three-year high-conditionality financial arrangements, and shocks were addressed by augmenting financing only under these arrangements. This greater emphasis for LICs lies in contrast with the trend for MICs, which, unfortunately—for trade shocks, as we discuss below—has broadly been going in the opposite direction, reducing for these countries the importance of IMF compensatory financing for shocks. Nevertheless, the IMF has successfully implemented a facility for capital account shocks for MICs, which is positive.

The shift for LICs signals recognition by the IMF that the size, frequency and economic cost to the poor of external shocks tends to be higher in LICs than in other economies, increasing risk and uncertainty for private agents and governments, and that shocks can set back gains in increasing investment and growth as well as reducing poverty. Given their heavy reliance on commodity exports, LICs, particularly in Sub-Saharan Africa, experience median terms of trade volatility nearly twice as high as those in the rest of the world (IMF 2011). The new approach also recognises that, with improved macroeconomic policies and institutions and growing global integration of LICs, the importance of external shocks in driving output volatility has increased, compared with idiosyncratic domestic shocks, linked mainly to incorrect policies (Raddatz 2008).

Recognising improved macroeconomic management and the growing importance of short-term shock-related financing needs, reforms were undertaken that created two short-term financing instruments in January 2010: the Rapid Credit Facility (RCF**)** for emergency support and the Standby Credit Facility (SCF**)** for short-term quite high conditionality support. The SCF provides short-term financial arrangements and is applicable to shocks as well as many other circumstances. These new facilities replaced previously existing facilities. The aim of these changes was to streamline and simplify existing facilities and adjust them better to LIC needs (IMF 2009, 2011, 2012).

A broad question to ask is how much is gained through fairly small frequent changes in facilities that require a lot of effort in design by the IMF and understanding of changes by busy policy-makers in borrowing countries. It would seem far more worthwhile to make a significant change in terms of scale (so the lending would cover a bigger and more significant proportion of shocks), and a reduction or elimination of conditionality, which is not appropriate for external shocks or natural hazards; as we point out below, elimination of conditionality would also increase the speed of disbursement of IMF loans.

There were positive features in the reforms of the IMF LIC facilities**.** Consolidation simplified some of them, concessionality was increased and the RCF had longer maturity. IMF lending to small vulnerable economies was enhanced: often, such countries are also most at risk from disaster events. IMF emergency facilities were also consolidated in the RCF for post-conflict and natural disasters as well as external economic shocks, although the scale of lending, at only 25% of the quota initially, was very small. Finally, the IMF streamlined conditionality for the SCF.

However, the new facilities have several shortfalls, especially for LICs**.** First, the original concept of IMF compensatory financing—as providing countries facing purely external shocks (whether they be exogenous economic or originating in nature) with almost automatic, very rapid liquidity constituting a significant proportion of the shock—continues to be sharply diluted. The only low-conditionality IMF shocks financing facility for LICs that remains is the RCF. At a level of 50% of quota annually, with a total cumulative limit of 125% in the case of external shocks, it is small (Berensmann and Wolff 2014). Only nine countries applied to this RCF new instrument during 2010-2013, for funds totalling around $230 million, implying rather modest scale in the use of this no-conditionality but small-scale instrument.

Furthermore, the CFF for terms of trade shocks for MICs, so widely and successfully used in previous decades (see detailed data in Griffith-Jones and Ocampo 2008), had previously been abolished. This is very problematic when terms of trade turn strongly against commodity exporters.

The IMF had explored for some time the creation of a preventive facility to deal with capital account shocks in MICs, which is valuable given increased importance of reversals of capital flows in those countries. Several attempts at creating instruments were not successful. In 2009, the IMF created the Flexible Credit Line for MICs, which it perceives as having very strong fundamentals but as risking facing capital account shocks. This facility was successful in that it has been used several times.

However, as regards to shocks on the trade account for MICs, there was a step backward from the purpose for which the IMF CFF was created (Goreux 1980: p3 (emphasis added)): "The facility would enable a member to borrow when its export earnings and financial reserves are low and repay when high, so its import capacity is unaffected by fluctuations in export earnings caused *by external events*." This was clearly based on the approach that IMF official liquidity should help avoid unnecessary negative effects on growth and poverty reduction. The CFF was created in 1963 as a low-conditionality facility to deal with external shocks relating to trade; through the years, there was a gradual increase in conditionality. From 2000, when CFF conditionality was raised to upper-credit tranche level, MICs stopped using it.

With a small-scale exception—the RCF—all compensatory financing for LICs took on upper-credit tranche conditionality. This both is inappropriate for external shocks and delays lending, making it thus less effective for its counter-cyclical role.

Limiting, or practically eliminating, low-conditionality shocks financing at the IMF both for LICs and MICs seems particularly undesirable in a world where external shocks are far more common as a result of frequent and increasingly global financial crises. Such an evolution of the world economy would seem to require more and especially tailored shocks financing, rather than far less and more diluted resources, as seems to emerge from some of the evolution of IMF facilities. Furthermore, more emphasis needs to be added to financing for disaster management.

Furthermore, IMF reforms of shocks financing are in contrast with overall positive trends, of lightening of structural conditionality at the IMF, reflected in the fact that, in 2009, the link between disbursements of IMF loans and performance on structural conditions was eliminated; and the somewhat greater emphasis on more counter-cyclical macroeconomic policies in light of the crisis. Greater commitments of IMF lending in general during periods of shocks is also very useful, even if it is not channelled through shocks facilities.

As a result of the crisis, there is growing consensus on the desirability of enhancing the predictability of shock financing, for instance by broadening options for contingent support, including making access to IMF resources automatic under certain circumstances. For example, for countries that have three-year IMF programmes, these could have an option for the country to request an automatic increase of the loan if certain economic external shocks—for example a reduction in their terms of trade by over 5% or a certain natural disaster—take place. Even the scale of additional resources could be broadly stipulated *ex-ante*, linked to the potential magnitude of shocks. The IMF has in the past used such contingent clauses in very specific programmes; such a practice could be very beneficially expanded to, for example, all IMF three-year programmes. Ideally, the additional access would be less constrained by access limits linked to quotas and more closely linked to country needs.

Significantly increasing access to low-conditionality shocks, IMF facilities would also be desirable. This could most easily be done by significantly expanding the low-conditionality RCF for LICs.

To conclude on IMF financing, the response to the global financial crisis was important in terms of scale, and relatively speedy; it was better for MICs than LICs. However, even in MICs, the increase in IMF lending was far smaller than the initial contraction of private flows. In future, the shocks facilities need to expand—in terms of both scale and the more explicit inclusion of disasters originating from nature—and to become less conditional. The latter will also guarantee a quicker response, which will reduce negative impacts of shocks on investment, employment and poverty reduction. These shocks facilities need to be closely coordinated with those of other international institutions, such as the World Bank, to which we now turn.

7.4.2 The response of the World Bank

Multilateral development banks (MDBs) rapidly increased lending commitments in response to the financial crisis. The World Bank almost doubled lending commitments, from $25 billion in 2008 to $47 billion in 2009 and $59 billion in 2010. Some RDB responses were also very large, with the African Development Bank increasing loan commitments by 137% between 2008 and 2009 (see Griffith-Jones and Gottschalk 2012).

The World Bank delivered its response through four different mechanisms:

First, a pilot IDA Crisis Response Window (CRW) was created. For IDA 16, a permanent CRW was established with resources capped at 5% of the total IDA 16 replenishment resources. This new permanent facility represents a more systematic approach for IDA in dealing with economic shocks and large natural hazards. The triggers for disbursement from the facility included:

a) A projected decline of GDP growth of at least 3 percentage points in a significant number of IDA countries is required. This is a very stringent requirement as it has been empirically verified that few country projections of GDP growth reach a fall of 3% or more; the probability of several LICs projecting such a sharp fall is even smaller.
b) A key CRW objective is to protect core fiscal spending in the short term to avoid derailing long-term development objectives, which is very valuable. Therefore, fiscal indicators are included here.

The volume of the CRW was quite small, at just over $ 1.3 billion, or just over 4% of IDA's envelope during the IDA 16 period. One important reason, as discussed above, for such a restricted allocation seems to be that the CRW—as currently conceived—binds scarce concessional resources that can be used for other purposes; however, this trade-off could be minimised if such resources could be used to build resilience against future likely shocks, particularly relevant for disasters originating in natural shocks.

Second, the World Bank approved the Immediate Response Mechanism (IRM), enabling LICs quick but limited access to funding after shocks, with emergency finance provided within weeks. IRM is not additional to agreed IDA country allocations, but is drawn from funds committed but not disbursed. It allows IDA countries to rapidly access up to 5% of their undisbursed IDA investment project balances following natural disasters and severe economic shocks. For IRM to be effective, it is necessary for countries to incorporate contingent emergency parts in existing IDA investment projects. This, like augmentation arrangements in IMF programmes, seems positive and could be expanded (World Bank 2011).

Third, the World Bank Group set up the Global Food Crisis Response Programme to provide immediate relief to countries hard hit by high food prices. Between 2008 and 2010, $2 billion of World Bank funds was made available.

And fourth, the World Bank created the Rapid Social Response Programme to support LICs in social protection and access to basic social services.

Overall, MDBs responded substantially to the financial crisis. The crisis demonstrated the crucial counter-cyclical role they can play when shocks occur. While the international community had previously emphasised the role MDBs play in poverty reduction and provision of global public goods, this counter-cyclical role was not clearly recognised before. This meant many lessons from past experience were missed, which indicated that, aside from provision of liquidity during crises, it is equally important to provide official long-term finance when private finance dries up, or after natural hazards, and also to maintain the dynamics of investment**.** In addition, a very positive feature of the MDB response was that a number of targeted large regional initiatives were launched. The massive

needs the crisis caused pushed these institutions to collaborate; such a fruitful approach could be applied more intensely to increasing resilience to natural hazards and financing disaster relief.

At the same time, however, a number of important factors constrained the scale and timeliness of the MDBs' response. In part, these constraints stemmed from limitations in the MDBs' capital. An important lesson is that there should be sufficient headroom available in the capital, and lending capacity, of MDBs, so they can respond quickly to shocks. As noted above, the response to the needs of LICs was also insufficient. Finally, the dynamics of rapidly expanding commitments were not reflected in disbursements, which for the World Bank grew far slower in 2008-2009 than the level of commitments.

In considering the role of MDBs in responding to future crises, there are several opportunities to strengthen responsiveness, some building on pilot and other limited initiatives trialled to date**.** There is strong scope for MDBs to introduce lending instruments that make developing countries less vulnerable during crises, either because they reduce currency mismatches by lending in local currency (which MDBs pioneered in some cases) or because they adjust the maturity of repayments of loans in a counter-cyclical manner, so net lending can increase more in bad times. An interesting mechanism would build on the successful example of Counter-Cyclical Loans used by the Agence Française de Développement, which provides debt holidays on its concessional loans to LICs that experience export shocks. This could be broadened to include shocks originating in nature.

7.5 Prevention, risk management and co-benefits: lessons for DRM

As a result of crises, there is growing consensus on the desirability of enhancing the predictability of shock financing, for instance by broadening options for contingent support, including making access to IMF resources automatic under certain circumstances. For example, for countries that have three-year IMF programmes, these could have an option for the country to request an automatic increase of the loan if certain external economic or natural shocks take place—for example a reduction of their terms of trade by over 5% or the occurrence of a certain natural disaster. Even the scale of additional resources could be broadly stipulated *ex-ante*, linked to the potential magnitude of shocks. The IMF has in the past used such contingent clauses in very specific programmes, as discussed above; such a practice could be very beneficially expanded to, for example, all three-year IMF programmes. Ideally, the additional access would be less constrained by access limits linked to quotas and more closely linked to country needs. By reducing uncertainty, such measures could lead to higher private investment, employment and growth.

Significantly increasing access to low-conditionality shocks facilities would also be desirable. This could most easily be done by significantly expanding the low-conditionality RCF for LICs. There would be a far better fit between the nature of the shock (external) and the instrument the IMF would use: a low-conditionality facility. As pointed out, a second key advantage would be greater speed in commitment of resources, which would increase the counter-cyclical nature of the lending instrument and avoid unnecessary costs to growth and poverty reduction. The smoothing of economic activity would also encourage higher and more sustained private investment, valuable for higher growth. More generally, the amount of financing provided by the World Bank, the RDBs and even the IMF was smaller than the initial contraction of private capital. Therefore, preventive measures, to avoid financial crises, need to be taken.

The examination of economic shocks presents clear parallels with the growing burden of disaster events and losses linked to changing hazard burdens and changing human exposure and vulnerability. A similar need therefore arises as in the case of economic shocks, to increase efforts and funding for DRM. From the development point of view it is essential to consider how a country can cope with different shocks occurring in close succession or simultaneously.

Te Velde et al. (2011) examine the impact of shock absorber schemes for Benin, Burundi, the Democratic Republic of Congo and Mauritius, especially since 2006. An important conclusion from the four case studies is that government spending, and government investment, as a proportion of GDP increased when shocks facilities were higher in response to shocks than what they would otherwise have been. These case studies show clearly the value for both short-term growth and long-term development of shock financing. There were some exceptions to this positive evolution, especially in countries particularly badly hit by external shocks or especially vulnerable to them. Countries that were hit by both external economic shocks and natural disasters seemed to suffer particularly strong declines of output and employment, as well as greater difficulties in recovering. This shows the significance of having strong and large international responses for both exogenous economic shocks and natural hazards

A key policy lesson here is to ensure that both appropriate lending facilities and sufficient resources are in place before crises and other major shocks hit, and that shocks facilities can be disbursed quickly, requiring low conditionality and forward-looking triggers. Furthermore, it may be more appropriate to use special shocks facilities to provide most of the financing, rather than relying also a great deal on broad lending or grant mechanisms, as occurred in 2006-2011.

There are two further important features to highlight. First, the IFIs' broad response to the crisis was driven by a significant increase in overall lending, and much of the response was channelled through regular, rather than crisis, facilities. Notwithstanding this, shock financing through special facilities by IFIs also increased significantly for LICs, from very low levels in 2006-2008 to just over $2.5 billion in 2010, the peak year. There seems to be a case for having in place *ex-ante* larger shocks facilities to respond rapidly and at a sufficient scale both to large exogenous economic shocks and to large natural disasters, as well as sufficient resources for such large shocks facilities to be rapidly disbursed. This would require greater commitment to grants for this purpose, to make higher concessional resources available for lending to LICs. In the case of the World Bank and the RDBs, this may require further increases of their capital as well, to allow them to borrow greater amounts on the capital markets once exogenous crises and/or natural disasters hit.

Similarly, the European Union (EU) could increase the proportion of its resources devoted to financing shocks facilities; these are currently made as grants to the ACP countries only. Two proposals are relevant here. One is to expand the countries covered to all developing countries, and not just former colonies of EU member countries, which practically all the ACP countries are; this would need to be accompanied by greater contributions from non-EU developed countries. Another proposal is to evaluate the possibility that funding provided to relatively less poor countries, especially if they have relatively low levels of debt, could be made through highly concessional loans, which would have the virtue of greater funding availability, covering a higher proportion of the shock (see te Velde et al. 2011).

There are also compound links between disasters and financial crises. First, when natural disasters interact with external economic shocks, they seem far more damaging to short- and long-term economic prospects. As a consequence, they seem to require far higher international support. Second, natural disasters can be either frequent or one-off phenomena; furthermore, their effects can be either temporary or more permanent. As in the case of exogenous economic shocks, the latter distinction seems very important: if effects are temporary, international official liquidity may be the more appropriate instrument, whereas if the impact is more permanent, international official lending and especially grants may be more appropriate, particularly for poorer and more vulnerable economies.

An important policy question for both economic and disaster risk management concerns trade-offs in resource allocation. If more emphasis is placed on dealing with shocks, via specialised facilities, to increase the speed and scale of the response, how can the potential trade-off in allocating fewer funds

to other development activities be addressed, as well as minimised? One way to reduce such a trade-off is to use the resources to increase resilience, especially if funds allocated for shocks for a certain period have not been used during most of the period. This is very relevant for IDA lending, as well as for EU resources, where funds per period and per country are broadly allocated. One example, in the field of trade—and the exposure to trade shocks by countries relying mainly on one or two export commodities—is to help fund investment in the diversification of the economy, especially in tradeables, so as to reduce the impact of falls in prices of specific commodities exported or rises in specific imports, such as food and energy. Such a policy of investment in diversification not only reduces the economy's vulnerability to shocks but also, by increasing resilience and opening new economic sectors to private and public investment, is likely to have additional development benefits, available even if shocks do not occur.

Furthermore, such allocation from international funding could be increased if the country itself is dedicating resources (e.g. through the public budget or as part of the plans of the ministry of the economy or of planning that encourage private investment towards such diversification). Such an approach is particularly relevant for disasters, given the special importance of increasing resilience *ex-ante*. Again, funds allocated to DRM for a certain period could, if no such disasters occur during most of that period, be allocated to investment in increased resilience to such disasters in the future. Examples could include investment in housing far from areas that are likely to be flooded.

Also, resources from abroad, such as from the World Bank, could be higher if the country itself were dedicating resources to building such resilience, for example through the budget (via the finance ministry) or via plans prepared by the ministry of planning or the environment to encourage private investment. Thus disbursement from such international lending facilities, when done *ex-ante*, could not just finance DRM through the resources lent or granted but also encourage finance and other ministries to devote more national resources to the important task of building resilience *ex-ante*. However, once a disaster happens, there should be no preconditions or conditionality for international disbursements, as time is of the essence to help rebuilding where appropriate, and more broadly to minimise damage to growth and poverty reduction

Meanwhile, targeted large regional initiatives were launched as a response to the global financial crisis, mainly through joint collaborations among institutions, notably the World Bank working together with RDBs, but also with close coordination with the IMF. Examples are the Joint Plans in Africa, Latin America and the Caribbean and for Central and Eastern Europe. The massive needs the financial crisis caused pushed these institutions to collaborate rather than compete. A similar approach of close coordination and, where necessary, collaboration should be used in the future, and not only after major crises occur but also in programmes for building resilience *ex-ante*; this is especially relevant in investment to prevent natural hazards. Often, in such cases, it may be desirable to have collaboration both between international institutions and between them and regional programmes, as the most effective way of increasing resilience.

More broadly, it seems important to think in terms of a design of an integrated shocks architecture, which deals in a consistent fashion with both exogenous economic shocks and natural hazards, across the international and regional institutions providing loans or grants in the face of shocks. Alongside this, consideration should go to *ex-ante* enhancement of resilience that will both reduce vulnerability to shocks and promote long-term development. Such an integrated shocks architecture should be adequately funded, and should be permanent, so as to be able to disburse quickly when shocks or disasters hit. A review of existing facilities with a view to establishing a more permanent, well-coordinated, simple and financially sustainable shocks architecture has become important.

7.6 The triple co-benefits of DRM and financial risk management

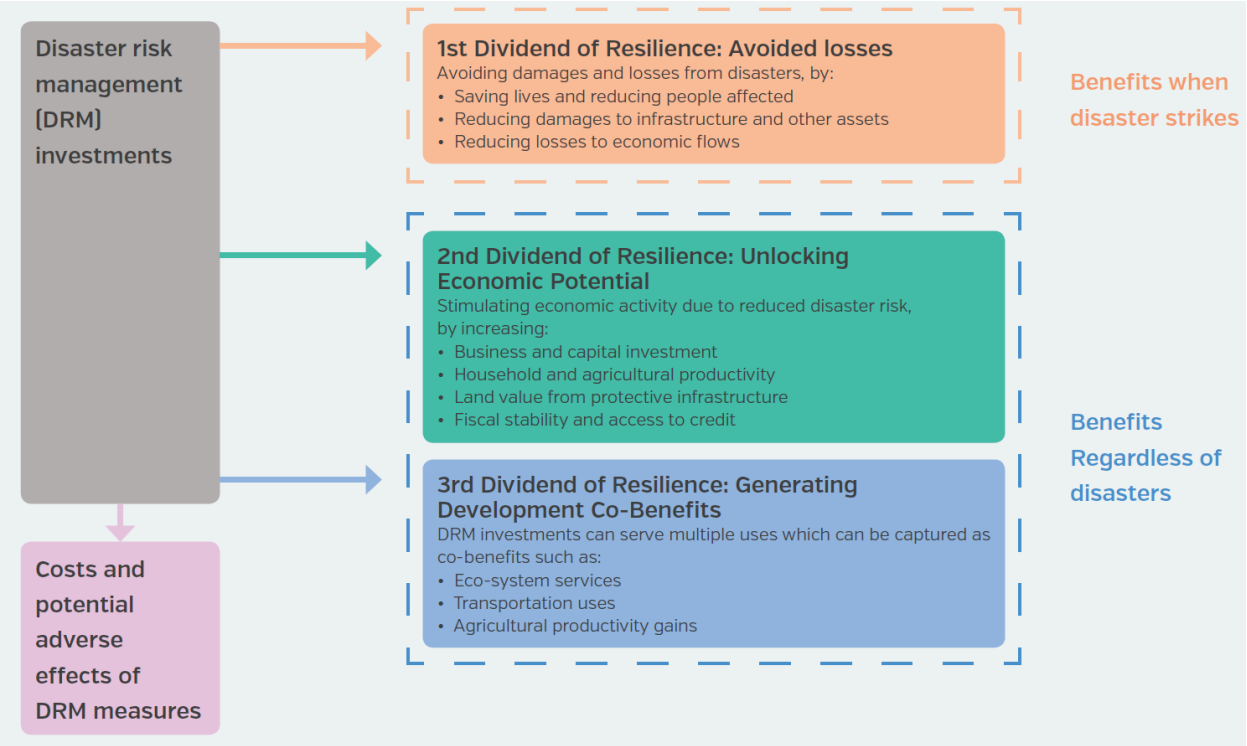
The case for the prevention of financial crises suggests greater national and international resources being channelled to disaster prevention and management would have not just immediate short-term

benefits for growth and poverty reduction but also long-term benefits in terms of sustaining investment (both public and private) that is both disrupted by disaster events and inhibited simply by the risks of disaster. Financially, this economic investment is vital to helping sustain long-term development as well as long-term poverty reduction—a benefit that accrues regardless of the occurrence of a disaster.

The multiple benefits of financial risk management can therefore be seen in relation to the concept of the "triple resilience dividend" employed in DRM (Tanner and Rentschler 2015). This argues that disasters do not cause devastation only in their aftermath; the risk of a disaster also can cause economic inefficiency and losses even before disaster strikes. While the benefits of avoiding losses and damages have been widely studied and documented, there has been far less focus on how investments in DRM can yield a real dividend, even in the absence of a disaster. Figure 5 highlights the triple dividend for investments in DRM. Reducing losses and damages in the event of a disaster is often the key motivating factor for DRM (first dividend).

However, even if the anticipated disaster does not occur for a long time, increased resilience means background risk is reduced and economic development potential is unlocked (second dividend). In addition to these primary objectives of DRM, investments in resilience may yield further social, economic and environmental co-benefits (third dividend). In the medium to long run, these benefits can trigger a wide range of benefits across society, income groups, geographic regions, government entities, industries and supply chains.

Figure 5: The triple dividend of resilience



Source: Tanner et al. (2015).

7.6.1 First dividend—avoided losses

For crisis management, this dividend relates to maintaining and enhancing growth, investment or employment in the face of economic shocks. Stability of growth is likely to lead to facilitate greater sustainability of fiscal policy and debt management.

Key factors in successful crisis management are centred on enhanced automaticity, which is reflected in both greater speed of commitments and disbursements and the large scale of purely automatic facilities. For the IMF, speed of disbursement relates to the ability to fund imports and prevent Balance of Payments crises by providing short-term official liquidity. For World Bank, MDB or EU disbursements, it is related to longer-term finance linked to maintaining investment in projects and sectors in the face of shocks, preventing business and investment interruptions that can be damaging to long-term growth.

7.6.2 Second dividend—reduced background risk

For economic resilience, an important way of reducing background risk is through regulatory measures that reduce the risk of future crises. Developing and emerging economies had generally become more cautious of the risks of financial crisis as a result of their past experiences, and more willing to introduce and implement financial regulation. Developed economies have been more willing to do so following the major crisis that started in 2007. Financial regulation can include increased capital, liquidity and leverage requirements, especially in the banking sector. It also includes separating within banks any activities relating to "regular" commercial activity from more risky speculative activities (e.g. following Vickers rule (in the UK) and Volker's rule (in the US)).

Reduced speculation makes it possible to use bank deposits increasingly to finance working capital and longer-term investment. This leads to higher, more efficient and more stable growth. It also reduces excessive risk-taking activity, leading to less pro-cyclical economic conditions, which will encourage private investment. However, financial regulation for stability has to be carefully designed to avoid negative impacts on longer-term investment and growth. There are concerns, for example, that tight regulation to demand higher liquidity for the insurance industry (done for prudential regulation purposes) may discourage the channelling of such funds into productive investments.

7.6.3 Third dividend—co-benefit of financial risk management

Following from repeated financial crises, there has been growing recognition that a more diversified financial system can also reduce risks to stability and growth. In particular, there is growing acknowledgement of the valuable role national public development banks can play in providing counter-cyclical funding.

Furthermore, the funding of these banks on the private capital markets can help channel longer-term finance for funding national priorities. This can include the financing of public goods that otherwise may not take place, such as investments in DRM, climate change adaptation or renewable energy. Where such public goods have significant social or environmental externalities, loans from these banks can more easily be blended with public subsidies. In situations where fiscal resources are scarce, development banks also provide a good source of leverage of the public resources invested in their capital by raising finance in private capital markets as well as co-financing with private bank lending and private investment.

More broadly, prudent fiscal management will also assist in crisis prevention, as large fiscal deficits can be an important cause of financial crisis, as the case of Greece illustrates. Furthermore, the absence of financial crises helps maintain fiscal health, as crises are often extremely damaging to public revenues and add significant demands to public spending, for example bailing out banks and increased payments for benefits as unemployment increases (see Chapter 4).

7.7 Conclusions and suggestions for future research

There are interesting parallels and lessons for DRM from financial crisis prevention and management. A particularly relevant one is the value of crisis prevention, as well as enhancing resilience *ex-ante* in the case that crises do occur. Both in the case of economic shocks, and financial crises in particular, and in DRM, valuable benefits from a development perspective can be accrued from such measures, not only if crises occur but also even if they do not, as the greater certainty will encourage higher investment as well as new economic opportunities. Naturally, it is crucial that *ex-ante* measures need to be complemented by sufficient and sufficiently speedy external economic and natural shocks *ex-post* compensatory facilities.

Further research is needed on the broad issues of potential trade-offs of devoting more resources *ex-ante* versus *ex-post*, but above all on how best to make both mutually complementary, while maximising both their effectiveness in avoiding the costs of natural or economic shocks to development and the positive impacts of resources deployed, under all circumstances. This broader understanding needs to be applied to the design of a shocks architecture, as well as effective mechanisms within it, in order to—in the most cost-effective way—maximise the impact on development, especially for poorer and more vulnerable countries. Flexibility built into regular mechanisms, speed of disbursement once shocks hit, accompanied by very low and appropriate conditionality, and the possibility of transferring resources from prevention to resilience are key criteria that need to be applied

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