



The Triple Crisis and the Global Aid Architecture

Addison, Tony; Arndt, Thomas Channing; Tarp, Finn

Publication date:
2010

Document version
Publisher's PDF, also known as Version of record

Citation for published version (APA):
Addison, T., Arndt, T. C., & Tarp, F. (2010). *The Triple Crisis and the Global Aid Architecture*. Helsinki.



UNITED NATIONS
UNIVERSITY

UNU-WIDER

World Institute for Development
Economics Research

Working Paper No. 2010/01

The Triple Crisis and the Global Aid Architecture

Tony Addison,¹ Channing Arndt,² and
Finn Tarp¹

January 2010

Abstract

The global economy is passing through a period of profound change. The immediate concern is with the financial crisis, originating in the North. The South is affected via reduced demand and lower prices for their exports, reduced private financial flows, and falling remittances. This is the first crisis. Simultaneously, climate change remains unchecked, with the growth in greenhouse gas emissions exceeding previous estimates. This is the second crisis. Finally, malnutrition and hunger are on the rise, propelled by the recent inflation in global food prices. This constitutes the third crisis. These three crises interact to undermine the prosperity of present and future generations. Each has implications for international aid and underline the need for concerted action.

Keywords: financial crisis, global food prices, climate change
JEL classification: F0, O1

Copyright © UNU-WIDER 2010

¹UNU-WIDER Helsinki; ²University of Copenhagen.

This study was prepared within the UNU-WIDER project on New Directions in Development Economics.

UNU-WIDER gratefully acknowledges the financial contributions to its research programme by the governments of Denmark (Royal Ministry of Foreign Affairs), Finland (Ministry for Foreign Affairs), Sweden (Swedish International Development Cooperation Agency—Sida) and the United Kingdom (Department for International Development).

Acknowledgements

This paper was prepared for the African Economic Research Consortium (AERC) international conference on Rethinking African Economic Policy in Light of the Global Economic and Financial Crisis, Nairobi 6-8 December 2009. An earlier version was presented at the UNRISD conference on Social and Political Dimensions of the Global Crisis: Implications for Developing Countries, Geneva, 12-13 November 2009. We are grateful to participants at these two conferences for useful comments and advice, to Machiko Nissanke for her comments as a discussant at the Nairobi conference, and to Tseday Jemaneh Mekasha for excellent research assistance. The usual caveats apply.

The World Institute for Development Economics Research (WIDER) was established by the United Nations University (UNU) as its first research and training centre and started work in Helsinki, Finland in 1985. The Institute undertakes applied research and policy analysis on structural changes affecting the developing and transitional economies, provides a forum for the advocacy of policies leading to robust, equitable and environmentally sustainable growth, and promotes capacity strengthening and training in the field of economic and social policy making. Work is carried out by staff researchers and visiting scholars in Helsinki and through networks of collaborating scholars and institutions around the world.

www.wider.unu.edu

publications@wider.unu.edu

UNU World Institute for Development Economics Research (UNU-WIDER)
Katajanokanlaituri 6 B, 00160 Helsinki, Finland

Typescript prepared by Lorraine Telfer-Taivainen at UNU-WIDER
Published by UNU-WIDER, Helsinki

The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the Institute or the United Nations University, nor by the programme/project sponsors, of any of the views expressed.

ISSN 1798-7237

ISBN 978-92-9230-236-8 (internet publication)

1 Introduction

The global economy is passing through a period of profound change. Three global crises are interacting to undermine the welfare and prosperity of present and future generations. The immediate concern is with the financial crisis, originating in the North. The financial crisis affects the South via reduced demand and lower prices for their exports, reduced private financial flows, and falling remittances. This is the first crisis. Simultaneously, climate change remains unchecked, with the growth in greenhouse gas emissions, and concomitant rises in temperatures and sea level, exceeding previous estimates.¹ This is the second crisis. Finally, malnutrition and hunger are on the rise, propelled by the recent inflation in global food prices. This constitutes the third crisis.

The shock from the global financial crisis has required unprecedented monetary and fiscal responses across developed and developing countries. But, if this medicine succeeds, and growth recovers, then emissions will accelerate again in the absence of determined action to shift to low-carbon economic models. At the same time, the trend towards lower real food prices, which has persisted for a century or more, may finally be over. In the medium term, food-price inflation seems likely to return once growth resumes. Climate change could reinforce food price inflation through reductions in agricultural productivity and via mitigation policies that encourage the reallocation of land to biofuel crops. Given these interactions, we describe the present global economic situation as one deeply affected by *the triple crisis*.

To meet the triple crisis, the South needs resources. Some may be found internally. But external resources, including both official and private capital flows, are critically needed—especially for the poorest and most vulnerable countries. The financial crisis has, however, cut private capital flows and put aid budgets under significant pressure (at a time when aid effectiveness is again under attack). Many Southern governments have also seen their tax revenues decline as their economies contract. In summary, the resources available to meet the triple crisis have, in spite of soaring needs, not risen—they have *fallen*.

The interconnection between finance, climate, and food requires urgent attention. These three interconnected challenges currently sit in their respective policy silos—reflecting a deeper failure in global governance to act together to address global problems. There is still a stubborn scepticism about the merits of public action at a global level. Distrust of development aid is one manifestation. The slow pace of international co-operation on climate change is another.

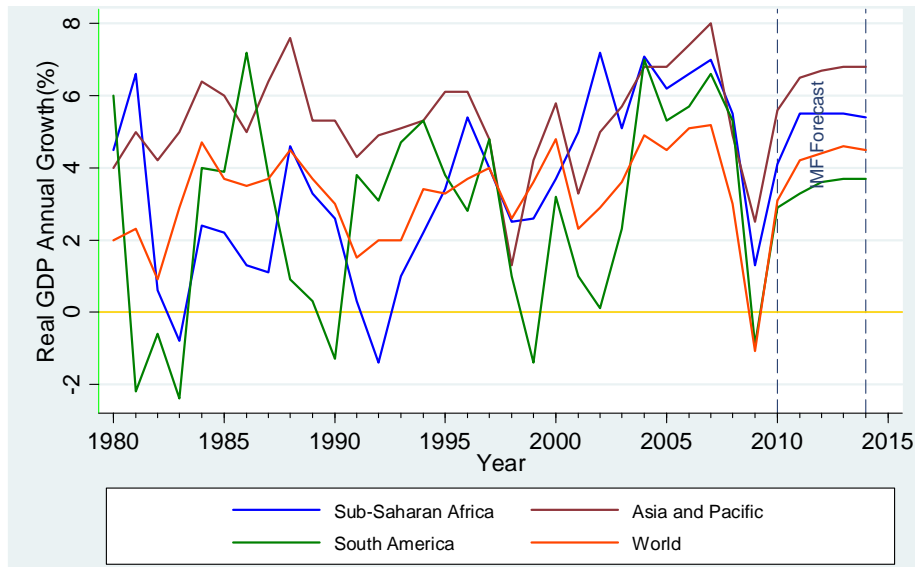
This paper focuses on the finance dimension of the triple crisis. In section 2, we discuss the nature of the global financial crisis, and whether recovery can be sustained. Section 3 draws out the implications for development aid, especially to Africa. Section 4 discusses how recovery from the financial crisis will exacerbate the climate crisis, in the absence of a sustained shift to low-carbon models of growth. Regardless of the growth model pursued, biofuels represent a potential paradigm shift in food markets implying an end to the era of surplus food production and declining real food prices. Section 5 concludes by emphasizing the need for a new global aid and food architecture together with enhanced social protection and the creation of low-carbon growth.

¹ See Sokolov et al. (2009).

2 The global financial crisis: resolved?

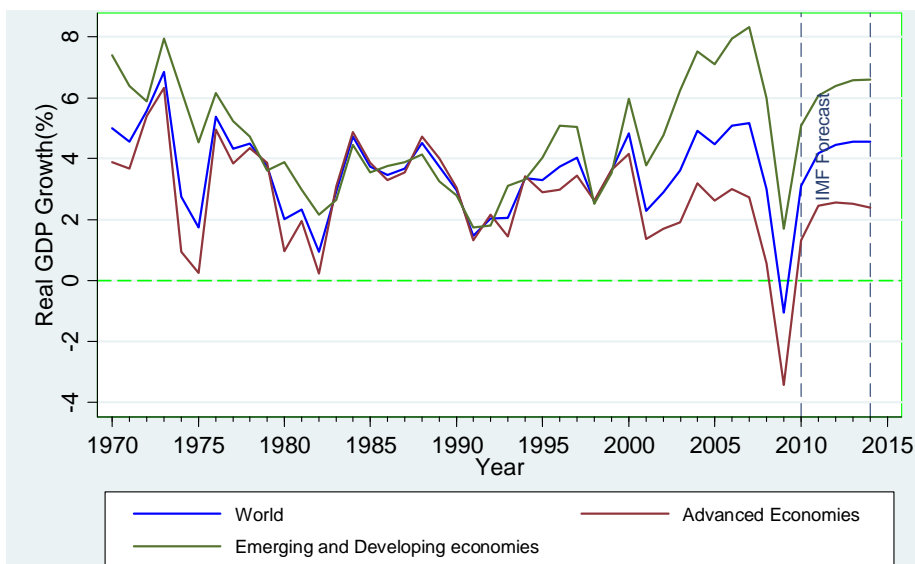
The year 2009 began in deep gloom. No region of the world remained untouched by the downturn in the global economy that started in 2008, driven by turmoil in the North's financial system (Figure 1). The world recession of 2009-10 has been the deepest of the last 60 years. It exceeds the recessions of the first and second oil price shocks of the 1970s, the Latin American debt crisis of the 1980s, the 1998 Asian financial crisis, the 2000 'dot-com' bust, and the 9/11 terrorist attacks (Figure 2).

Figure 1: Real GDP growth in world and major regions (1980-2014)



Source: IMF World Economic Outlook, October (2009).

Figure 2: Real GDP growth in world and major economic groupings (1970-2014)

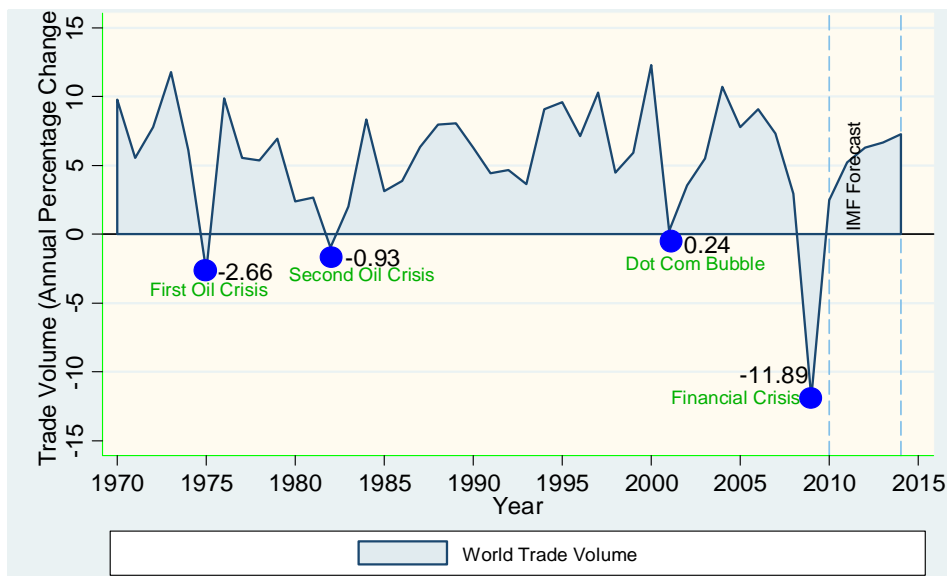


Note: The IMF group of Advanced Economies consists of: Australia, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Malta, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan Province of China, United Kingdom, and United States of America.

Source: IMF World Economic Outlook, October (2009).

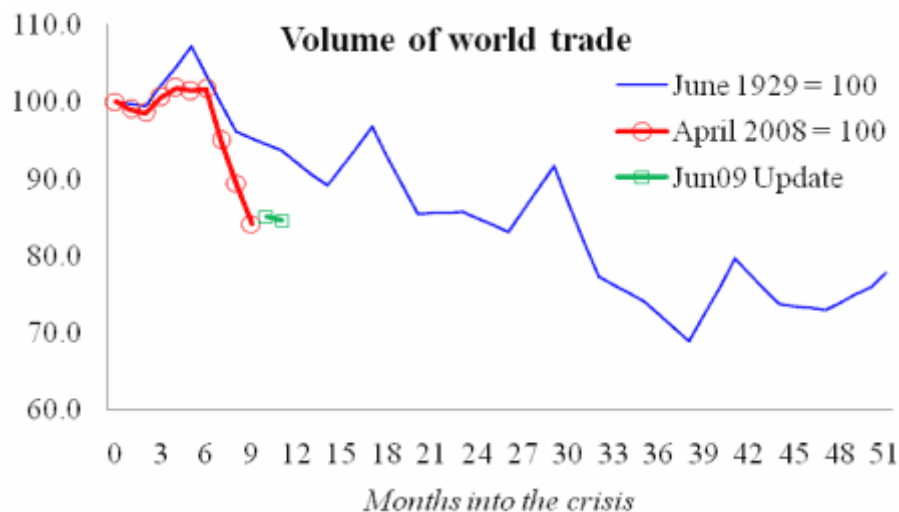
World trade has experienced its sharpest decline in decades (Figure 3). The size and origin of this shock—spreading out from the USA, the world’s largest economy—reduced global demand, and the banking crisis reduced the availability of trade finance. The responsiveness (‘elasticity’) of world trade to output has risen with globalization, amplifying the shock (Freund 2009). The spectre of the 1930s returned. According to Barry Eichengreen and Kevin O’Rourke (2009) the 2009 fall in trade has exceeded that of the Great Depression; Figure 4 reproduces their chart.

Figure 3: World trade volume (1970-2014)



Source: IMF World Economic Outlook, October (2009).

Figure 4: Volume of world trade

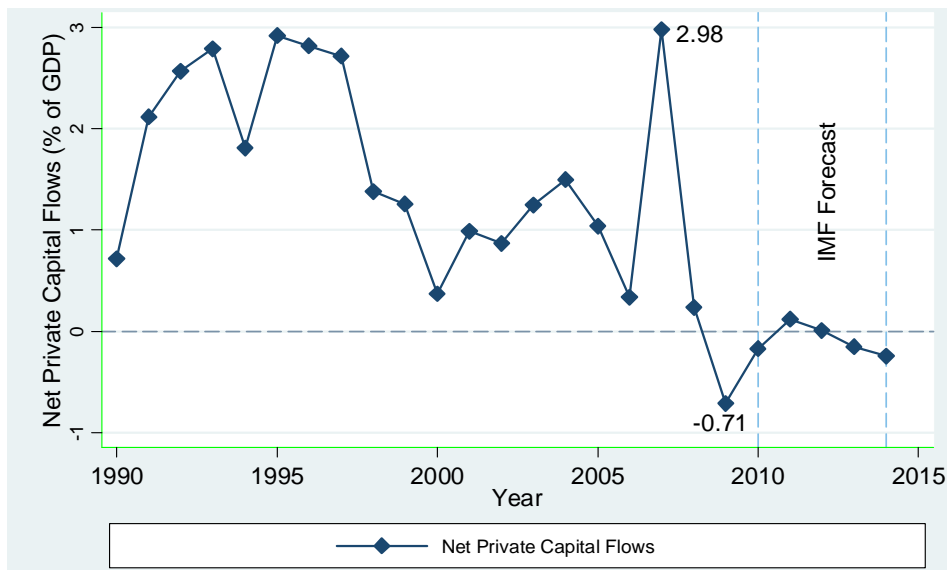


Source: Eichengreen and O’Rourke (2009).

The South experienced a fall in export volumes and commodity prices as global trade turned down. Private capital flows to the South fell in aggregate (Figure 5) and to every region, except for the Middle East and North Africa (Figure 6). Growth in global FDI inflows turned negative after years of expansion (Figure 7). Remittances, which have perhaps the closest

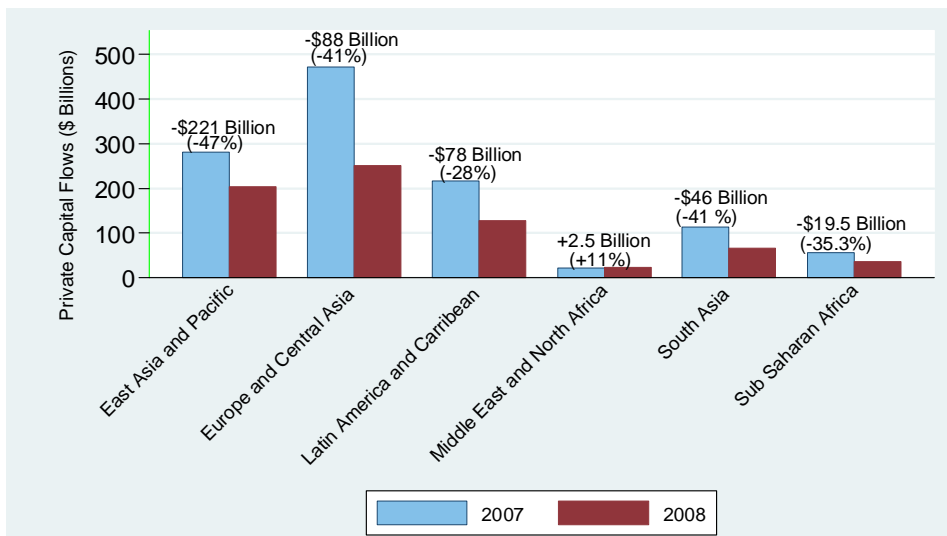
link to poverty reduction of any private capital flow, fell sharply after a decade of growth (Figures 8 and 9).²

Figure 5: Net private capital flows to emerging and developing economies (1990-2014)



Source: IMF World Economic Outlook Database, April (2009).

Figure 6: Reductions in private capital flows by region between 2007-08 (US\$ billion)

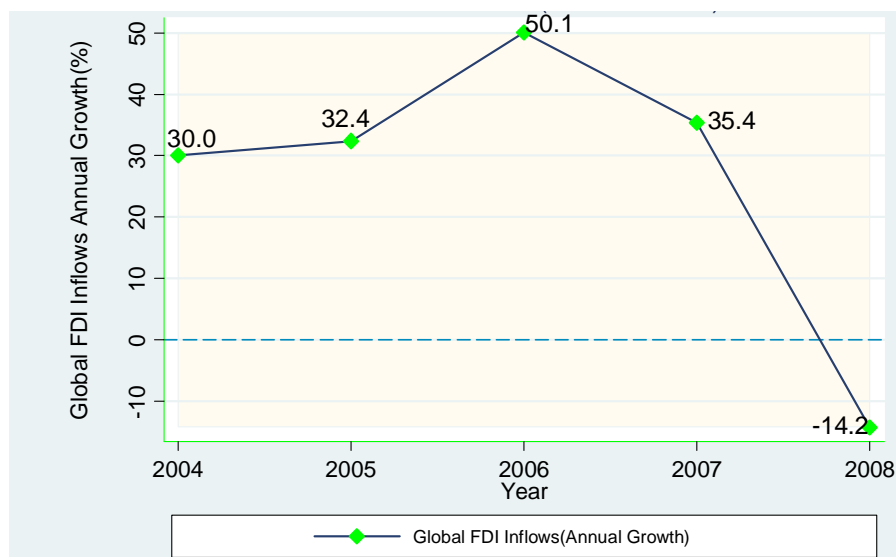


Source: World Bank Global Development Finance Report (2009).

Note: 2008 is an estimate by the World Bank.

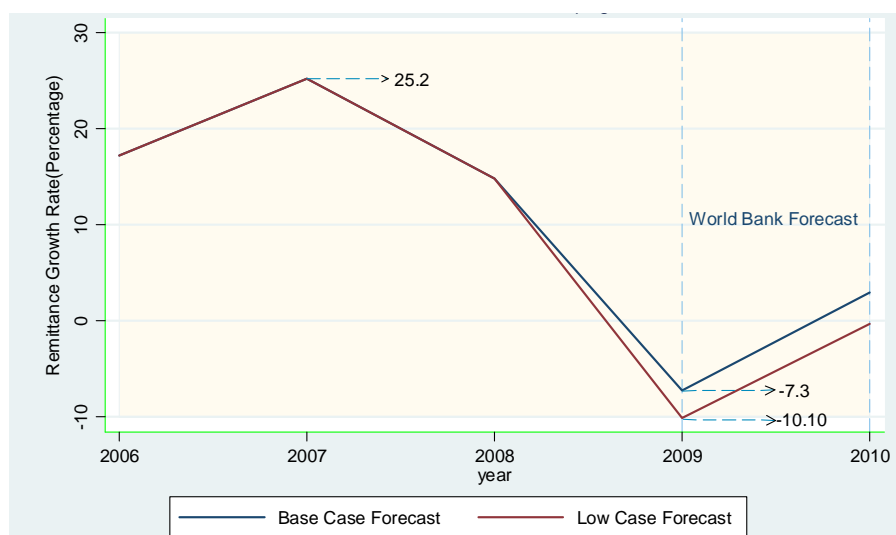
² We do need to know, however, more about the link between poverty and remittances, for migration is not always poverty reducing (see de Haan et al. 2009).

Figure 7: Global FDI inflows (annual growth)



Source: UNCTAD World Investment Report (2009).

Figure 8: Remittance growth rate in developing countries



Note: While 2008 is estimated, 2009 and 2010 are forecasts by the World Bank.

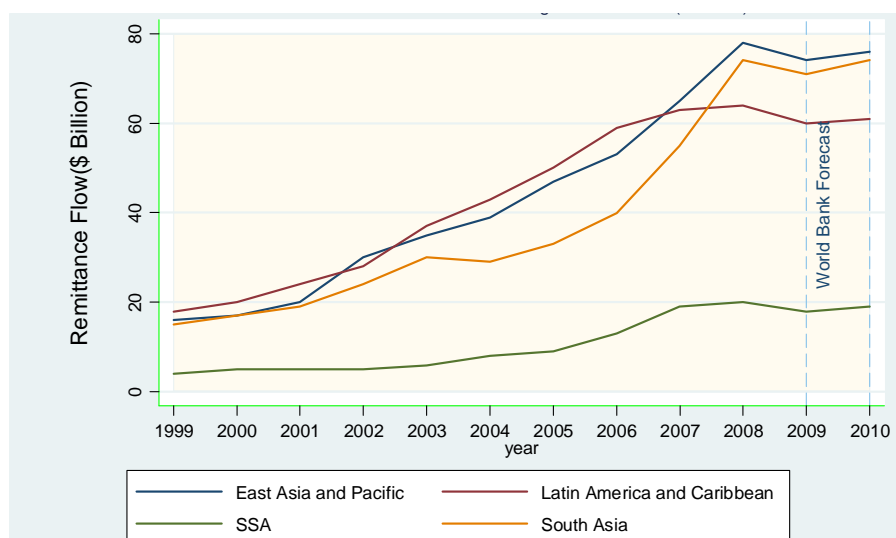
Source: World Bank Migration and Development Brief, July (2009).

Although the South's GDP has fallen less than the North's (see Figure 2), the social impact is much greater given lower per capita income and higher incidence of poverty.³ In summary, the South as a whole has not 'decoupled' from the North, although the size of the domestic economies of Brazil, China and India has afforded them more protection than smaller, more open economies.⁴ Moreover, the South entered the crisis with much larger foreign exchange reserves than in the past, and with better macroeconomic fundamentals, largely avoiding the currency crises characterizing previous global downturns.

³ See the papers presented at the 2009 UNRISD conference 'Social and Political Dimensions of the Global Crisis: Implications for Developing Countries', Geneva, 12-13 November 2009, including Elson (2009).

⁴ On differences across regions and the prospects for decoupling see Naudé (2009).

Figure 9: Remittance flows to main regions 1999-2010 (US\$ billion)



Note: 2008 is an estimate by the World Bank.

Source: World Bank Migration and Development Brief, July (2009).

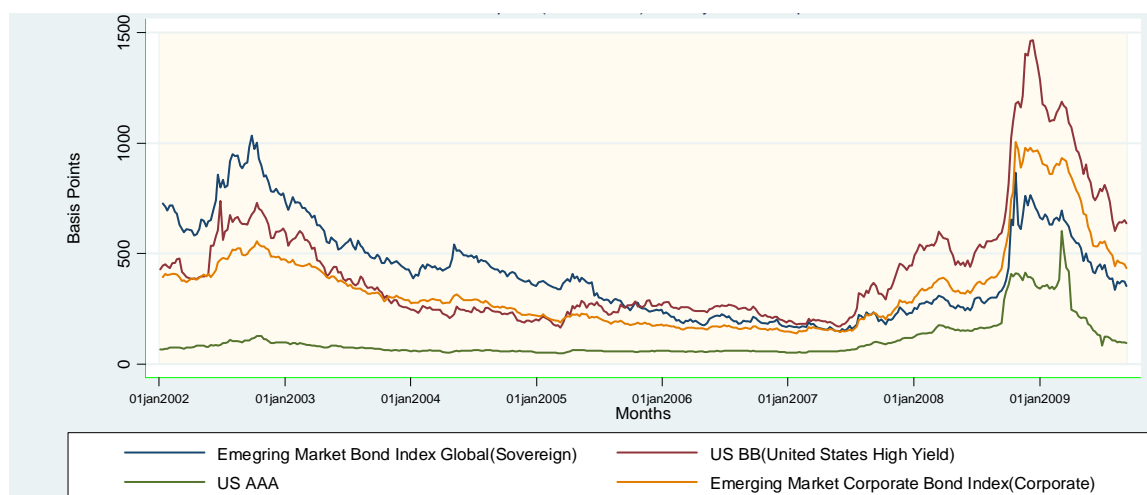
Cautious optimism returned from the third quarter (2009-Q3) onwards, notably with the resumption of US growth. The risk appetite of investors returned in 2009-Q2 and equity markets have rallied, especially in emerging economies. This is evident from Figure 10, which shows the interest rate spread (a measure of risk) of different asset classes relative to US treasuries (perceived to be the least risky). Risk premia jumped as the crisis set in during 2008 and capital markets locked up. The unprecedented easing of monetary policy in the advanced economies restored liquidity from 2009-Q1 onwards, and this drove up asset prices (including commodities). Brazil is now taxing capital inflows to prevent currency appreciation, and India may do likewise.

Is the financial crisis over? We have no crystal ball. But several indicators signal caution. The US and UK economies, at the centre of the financial storm, have high ratios of household debt-to-GDP. Consumer demand has fallen, and savings rates have risen, as the household and corporate sectors attempt to deleverage. Despite the upturn in US GDP in 2009-Q3, US unemployment reached 10.3 percent in October 2009, its highest level since the early 1980s recession; and US consumption will remain weak until employment recovers.

Similar to high-income countries, Asia's middle-income countries are using domestic stimulus measures, including social protection, to compensate for lost export demand.⁵ For example, China managed 8.4 per cent growth through the third quarter of 2009. The World Bank estimates that this offset three-quarters of the decline in global GDP associated with the US, Eurozone and Japan recessions combined (World Bank 2009a: 32). But this stimulus is exceptional and cannot continue indefinitely.

⁵ On China's response to the crisis see Cook (2009).

Figure 10: Interest rate spread (basis points) January 2002 to September 2009



Note: Sovereign = JP Morgan EMBI Global Index Spread, Corporate = JP Morgan CEMBI Broad Index Spread.

Source: IMF World Economic Outlook, October (2009).

Authorities in the advanced economies must eventually unwind their stimulus packages. Cutting their high debt-to-GDP ratios will require sharp reductions in fiscal deficits (which are at levels not seen since the Second World War). Central banks will reverse monetary expansion, in part because of concern that investors are recreating another asset bubble.⁶ Policymakers should only move to tighten when the recovery looks solid. Raising interest rates too high and too early, and cutting fiscal deficits too much and too early, will stall recovery. The size of the stimulus is unprecedented in peacetime, and history offers little guidance as how best to reverse it—we are in unknown territory.

What if the Keynesian medicine achieves only a temporary rise in output, which then stalls as investors remain pessimistic and households indebted? The governments of the advanced economies are close to their borrowing limits; this is certainly the case in the UK, and probably so for the USA. A resort to protectionism to try and restore output and employment then becomes a danger—recreating the deadly downturn in global trade of the 1930s when commodity prices fell by 50-80 per cent (Kindleberger 1986: 137). This would impact the South massively, for the emerging economies are not yet in a position to act as the principal driver of global growth.

In summary, economists have raised their growth forecasts for 2010. But recovery is far from firm. The global financial sector could generate further shocks, as regulators struggle to contain the return of behaviour that created the financial implosion of 2008-09. The willingness and capacity of the G20 to achieve co-ordinated action on global finance also remain unclear.

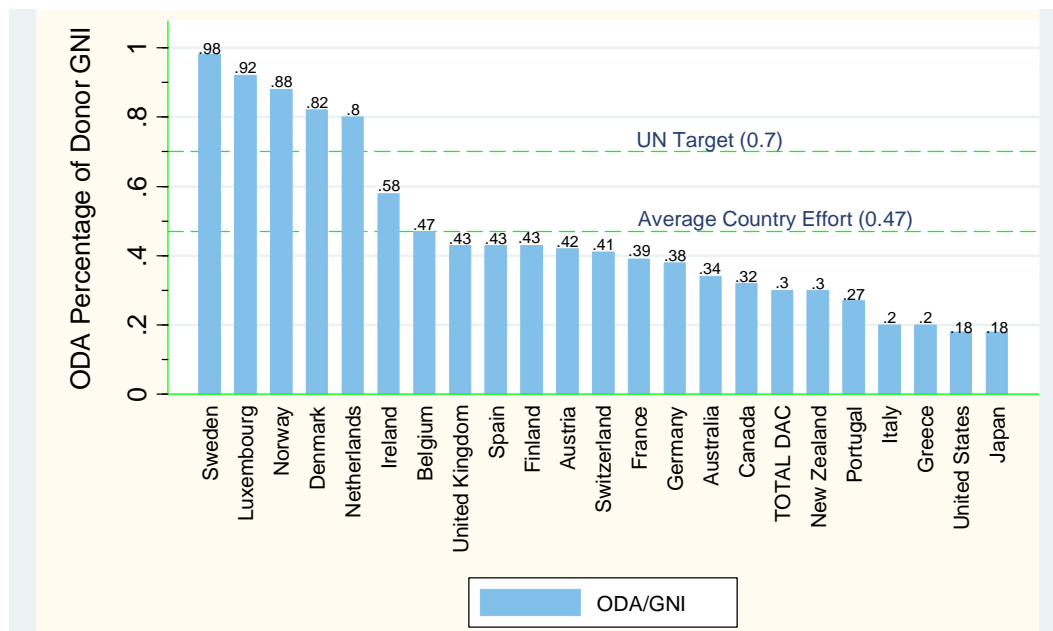
3 Development aid: an uncertain future

Many small and poor countries face uncertainty over future private capital flows (the larger emerging economies are better positioned). And domestic revenues have fallen as economic

⁶ This time by borrowing cheaply in depreciating dollars to invest in higher-yielding assets, including emerging market equities and commodities.

activity turned down. The upshot is that the finance ministers of small and poor countries face a much tougher time. Their need for development aid will rise, but will the aid be available? The global economic crisis poses serious risks for development assistance. Aid budgets are ultimately limited by economic size. This is the logic behind the target, set long ago, to raise Official Development Assistance (ODA) to at least 0.7 per cent of Gross National Income (GNI) (Riddell 2007; Tarp 2000). Figure 11 shows how far most DAC countries are from the target.

Figure 11: Net ODA as % of donor GNI in 2008



Source: OECD-DAC Online Database.

What will happen to the economic size of the advanced economies that make up the OECD-DAC group? The financial crisis has caused a *prolonged* loss of output in the advanced economies—even if growth resumes. Financial crises have especially savage effects on GDP—as the Great Depression in the 1930s and Japan’s stagnation in the 1990s illustrate. Investment falls in recession, and with it future output.⁷ For 88 banking crises in advanced, emerging and developing countries, the IMF estimates that output per capita declined by about 10 per cent relative to its pre-crisis trend, on average. And the loss had still not been restored seven years after the average crisis (IMF 2009b). In very few cases did output accelerate sufficiently after a financial crisis to return GDP quickly to its pre-crisis trend (IMF 2009b: 130).

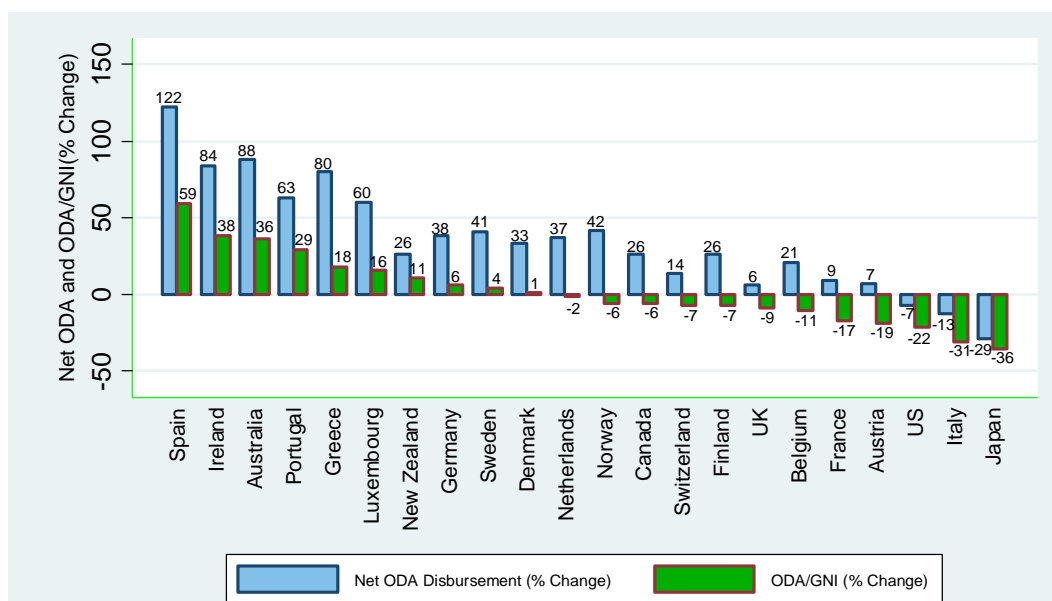
Because the target for raising aid is expressed as a percentage of economic size, the *volume* of ODA by 2015—the target date for the Millennium Development Goals (MDGs)—will be lower than we would have forecast before the financial crisis, even if DAC countries do meet the 0.7 per cent target. To offset the impact of the crisis on aid’s volume, the budgetary share of aid will have to rise at a faster rate. Is this likely? We believe not. There are at least two grounds for pessimism. First, before the crisis ODA-to-GNI was falling in 12 out of 22 DAC donors—when the advanced economies were growing at an average of 3 per cent annually

⁷ The argument is set out in chapter 4 of the IMF’s 2009 *World Economic Outlook* (IMF 2009a).

(Figure 12).⁸ This includes the world’s two largest economies; Japan and the USA, for which net aid disbursement was actually negative. Second, financial crisis can easily turn into fiscal crisis—as governments must commit public money to recapitalizing banks from a reduced tax base. The average fiscal cost for the banking crises that occurred from 1970 to 2007 was about 15 per cent of GDP; ranging from 3-4 per cent in Norway and Sweden (during the 1990s ‘Nordic banking crisis’) to 32 per cent in Turkey (Laeven and Valencia 2008).

We do not yet know whether the present crisis will come out at the bottom or the top end of this scale. But we do know that for the advanced economies the amount of public support to the financial sector so far averages 50.4 per cent of 2008’s GDP, around 80 per cent for the UK and USA, and 267 per cent for Ireland (IMF 2009b: 7). The bulk of this support comes in the form of liquidity provision by central banks and loan guarantees. The authorities hope to unwind a good proportion of this support with no fiscal cost. Nevertheless, some fiscal cost appears highly likely. UK Prime Minister Gordon Brown proposed a financial transactions tax, a variant of the ‘Tobin Tax’, both as a means to raise revenue and to dampen speculation in financial markets, but this was rejected at the November 2009 meeting of the G20 finance ministers. In all cases, the above sums vastly exceed the average country’s aid effort (0.47 per cent) (see Figure 11 again). While there is no size of aid cut that could contribute much to the bailout bill, domestic concerns will likely drive political priorities—public money to replenish pension funds depressed by the financial crisis, for example.

Figure 12: Net ODA disbursement and ODA/GNI (% change between 2005 and 2008)



Note: ODA disbursement is expressed in current prices (US\$ million). Data for 2008 is preliminary.
Source: OECD-DAC Online Database.

The UK illustrates the constraints now facing donors. The UK’s commitment to raising its aid has been strong—it was the largest contributor to the recent IDA-15 replenishment, for example.⁹ But the UK’s economy is one of the worst affected in the OECD-DAC group;

⁸ Source: IMF (2009a) for data on growth in the advanced economies. Note that not all advanced economies are OECD-DAC members.

⁹ This is a 49% increase compared to IDA-14 (source: www.dfid.gov.uk).

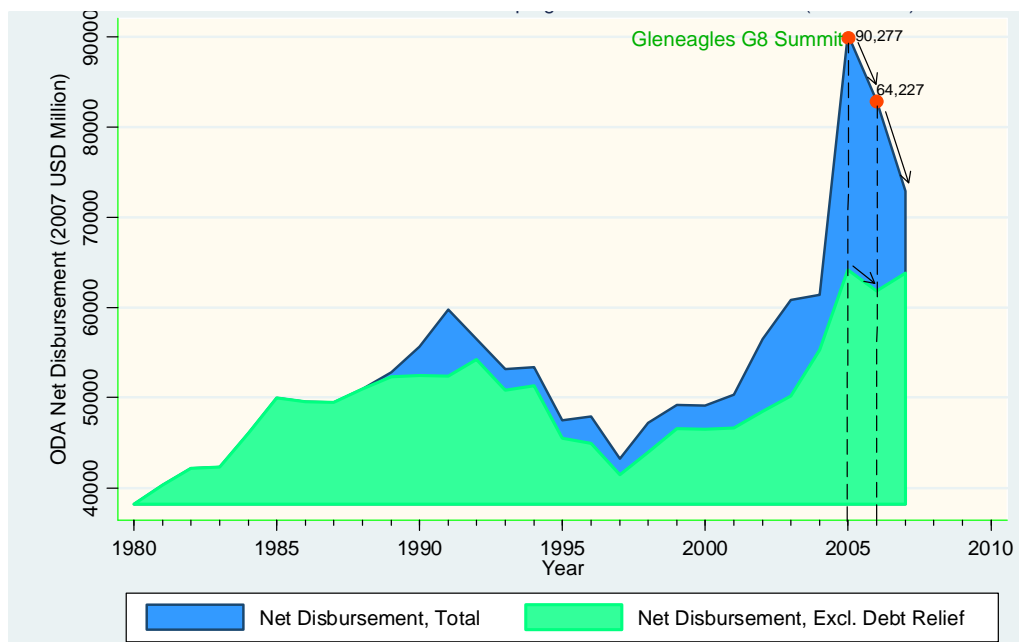
public debt has risen rapidly to assist the distressed financial system (up from 48 per cent of GDP to 58 per cent within a year).¹⁰ The aid budget has so far survived, while most other areas of public spending expect cuts in order to contain and then reduce borrowing.

Aid’s survival has been no mean political feat, and reflects a cross-party consensus for the aid budget to reach 0.7 per cent of GDP by 2013 (Maxwell 2009: 767). However, the UK faces an especially severe output loss given the disproportionate size of its financial sector (which accounts for around 10 per cent of GDP). The UK’s output is likely to be 4-5 per cent lower than it would otherwise have been (Weale 2009: 7). Therefore, even if the UK does meet the 2013 target, the volume of UK aid is likely to be lower due to the output losses created by the financial crisis.¹¹

3.1 Implications for Africa

Net ODA disbursement fell prior to the onset of the crisis (Figure 13). Aid’s growth over 2000-05 was in any case inflated by debt relief, which does not in most cases constitute ‘true’ aid—in the sense of being a new financial/resource transfer (Addison et al. 2004). Much of sub-Saharan Africa (SSA) is especially vulnerable to a downturn in aid given the region’s longstanding aid dependence. In Africa’s case, ODA, net of debt relief, has not risen (in constant prices) since its previous peak in the late 1980s (Figure 14). The G8 Gleneagles summit in 2005—at which many grand promises were made—looks likely to mark the peak of ODA’s post-2000 resurgence after the deep and prolonged slump in aid in the 1990s.

Figure 13: Net ODA disbursement to developing countries constant prices (1980-2007)

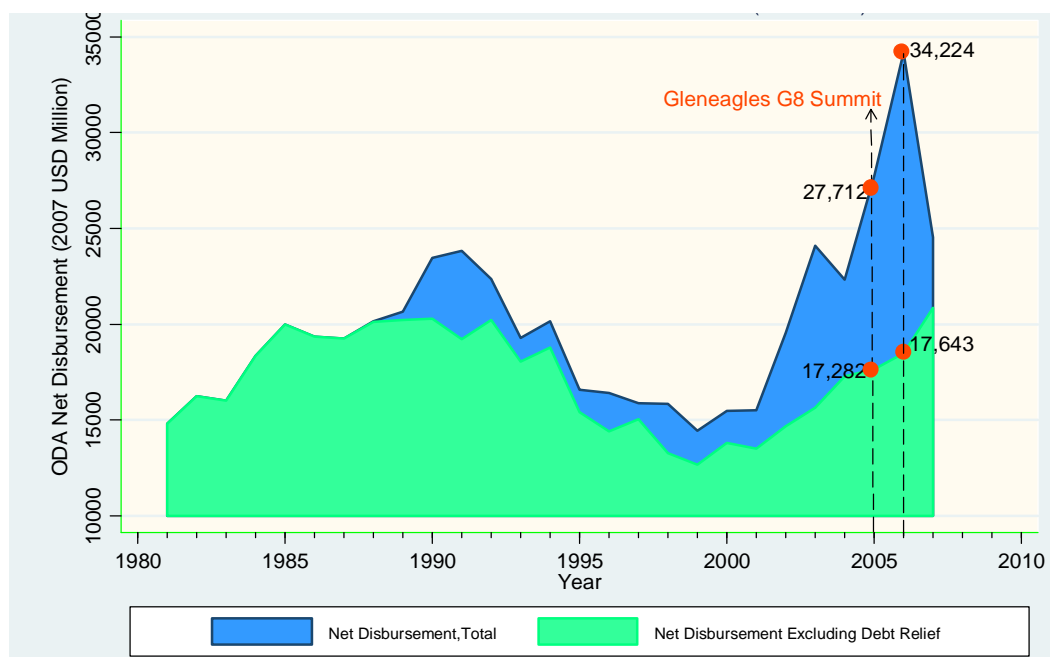


Source: OECD-DAC Online Database.

¹⁰ UK debt data are from the Office for National Statistics (www.statistics.gov.uk).

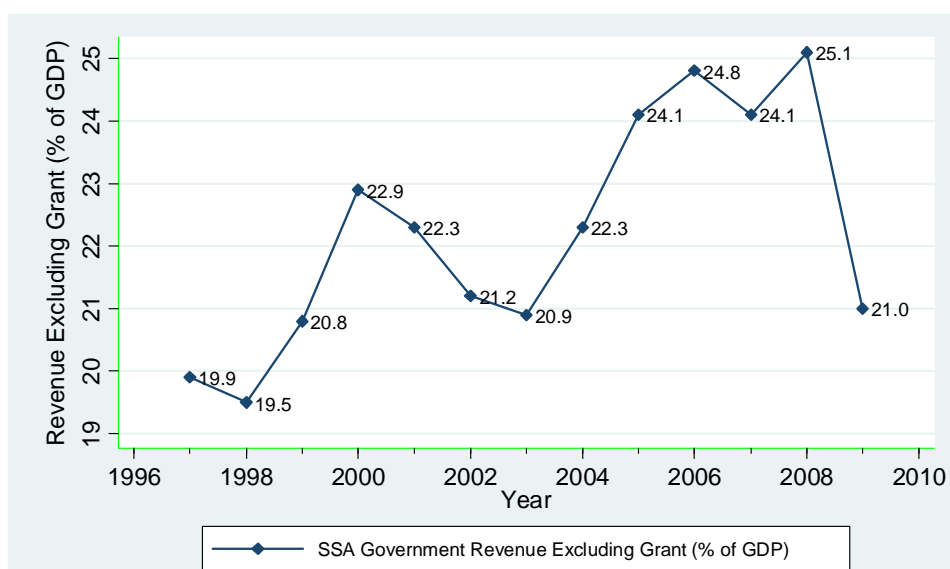
¹¹ Sterling’s sharp depreciation has also reduced the purchasing power of UK aid for recipients.

Figure 14: Net ODA disbursement to Africa constant prices (1981-2007)



Source: OECD-DAC Online Database.

Figure 15: SSA government revenue excluding grant 1997-2009 (% of GDP)



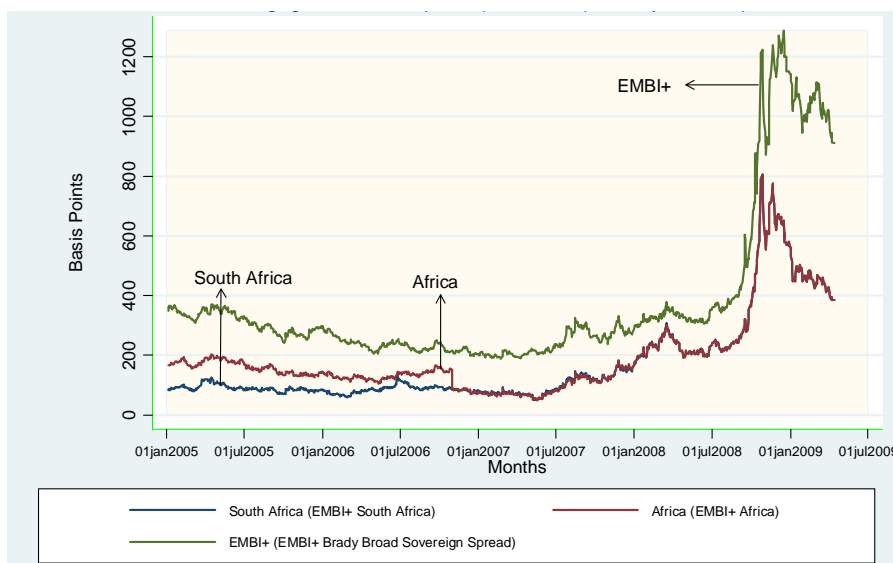
Source: IMF African Regional Economic Outlook, October (2009).

If aid does stall, then it will do so at a time when the crisis is hitting hard at the public finances of poor countries. Tax revenues are down, and debt service is up. This is especially serious in Africa. In SSA, economic growth combined with the reform of tax institutions has improved revenue mobilization in recent years, but revenues turned down over 2008-09 (Figure 15).¹² SSA remains heavily dependent upon trade taxes, making it vulnerable to any external shocks that reduce the volume and value of imports and exports (AfDB and OECD 2008; UNCTAD 2007). In 2009, the region will suffer an estimated loss of US\$15 billion in

¹² For instance, see Arndt and Tarp (2009) on tax reform in Mozambique.

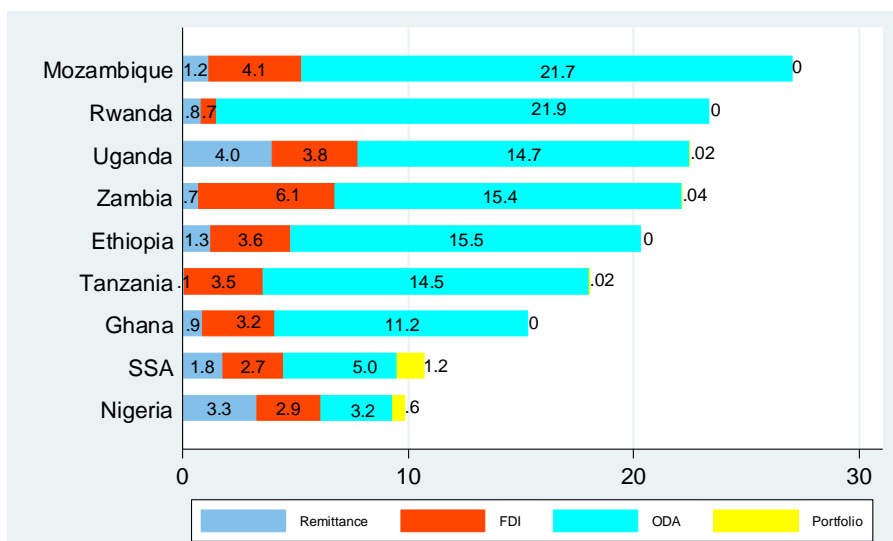
trade taxes, about 4.6 per cent of government revenue (AfDB Research Department 2009: 2). Moreover, it has become more difficult to sell government bonds. The risk premium on African sovereign bonds jumped in 2008 as liquidity in global capital markets shrank (Figure 16). Ghana, Kenya, and Nigeria were forced to abandon or delay sovereign debt issues in 2009. Ethiopia has resorted to marketing bonds denominated in domestic currency to its diaspora community (a good idea but one that has limits). This represents a sharp reversal from just two years ago when investor interest in the sovereign debt of low-income countries rose following the acceleration of debt write-offs under the enhanced HIPC Initiative and the Multilateral Debt Relief Initiative (MDRI) (Addison 2006). Renewed liquidity in the global bond market has eased the situation. But poorer countries face the prospect of being crowded out by the vast financing requirements of the advanced economies.

Figure 16: Emerging market bond spreads (basis points) January 2005 to April 2009



Source: IMF World Economic Outlook, April (2009).

Figure 17: Capital flows to SSA and selected countries (% of GDP)



Note: Portfolio refers to portfolio investment equity flows in current US\$. These flows are net and include non-debt-creating portfolio equity flows.

Source: World Development Indicators and authors' computations.

Africa has been successful in attracting more private capital over the last decade (UNCTAD 2008, 2009). FDI into the extractive industries has been especially strong, as metal and energy prices boomed until 2008. Yet, ODA still dominates total capital flows. This includes countries such as Ghana, Mozambique, and Uganda (to name only three) that have gone through extensive economic reform to make them more attractive to private investors (see Figure 17).

3.2 Implications for aid architecture

Aid from the OECD-DAC group was stalling prior to the financial crisis, and its prospects appear to be dimming. ODA has in any case always been pro-cyclical; it tends to fall when economies go into recession.¹³ The present crisis looks set to reinforce this phenomenon. Aid from non-DAC members, in particular China, is becoming more important (Manning 2006). China has recently announced an increase in its aid to SSA (offering to provide US\$10 billion in loans), further extending its influence relative to the region's traditional donors (Lancaster 2007). Given the likely fall in OECD-DAC aid, it might be concluded that this trend will continue, accelerating what is already a much discussed shift in the geopolitics of aid. But, Chinese aid to Africa was only US\$0.5 billion in 2008 according to estimates by Brautigam (2008: 198). This compares to OECD-DAC aid, which is running at US\$30-35 billion annually (Figure 14).

It is also unclear how concessional the recently announced Chinese US\$10 billion aid package is. And China's aid is limited by its economic prospects. While the crisis has widened the gap between growth in China and the advanced economies, China's growth remains highly dependent on exporting to the advanced economies (and the prospects for a rebound in US consumer spending in particular). China's ability to provide aid is not therefore immune to the financial crisis and its effects.

For aid's critics, a downturn in ODA will not be of much concern. If aid is ineffective, then the downturn will have little impact. If aid is pernicious, as some of its harshest critics assert, then any fall in aid during the crisis could *improve* the growth prospects of Africa as the most aid-dependent region. But neither view of aid is plausible. For while there are certainly instances of aid failing to work, the weight of empirical evidence shows that aid has broadly positive effects on economic growth. A recent macroeconometric study by Arndt et al. (2009) concludes that aid's impact is positive and conforms to priors from modern growth theory. These findings reinforce the mass of evidence from micro and meso level studies.¹⁴ Moreover, the present financial climate is not a good time to experiment with Moyo's (2009) proposal to cease aid to Africa altogether. As Figure 6 shows, private capital flows to SSA fell by 35.3 per cent (US\$19 billion) with the onset of the crisis over 2007-08. Global capital markets are likely to be especially volatile during 2010-11. The monetary authorities of the advanced economies will begin to unwind their earlier and unprecedented monetary easing. The resulting rise in interest rates will reduce bond yields. The market for African sovereign debt could therefore be especially thin.

If the authorities misjudge their timing, then a 'double dip' recession becomes likely. This contraction would further hit the domestic revenues of African governments together with

¹³ Arellano et al. (2009), Bulir and Hamann (2008).

¹⁴ See also Hansen and Tarp (2001).

inflows of private capital, particularly into their extractive industries, which still constitute the main destination for nearly all the region's FDI (with the exception of South Africa, and perhaps Nigeria).

To conclude this section: aid is at a critical juncture as a result of the financial crisis, and Africa—the most aid dependent region—could find it difficult to build on its progress in attracting private capital flow realized before the crisis. Furthermore, aid will be stretched by the challenges of climate change as well as food, the second and third dimensions of what we have called the 'triple crises'. It is to climate and food that we now turn in the next part of our paper.

4 Restoring global growth: to what end?

The present global growth model is environmentally unsustainable. The large weight of scientific evidence links climate change to the last 200 years of industrialization, economic growth that disproportionately benefited the North.¹⁵ The world has very little time to take action to avoid crossing the 2°C degrees threshold between 'acceptable' and 'dangerous' climate change. The economic recession may reduce global carbon dioxide emissions by 3 per cent, the steepest fall in 40 years according to estimates by the International Energy Agency (IEA 2009a). But if recovery is achieved, then greenhouse gas emissions will, in the absence of policy changes, resume their upward march as the use of fossil fuels grows again.

Failure to invest in sustainable energy research over three decades has reduced available policy options, at least in the short to medium term. From the late 1970s onwards, public spending on energy R&D roughly halved in most rich countries, falling from 0.15 per cent in the UK and USA to 0.01 per cent and 0.03 per cent recently (Stern 2009: 113). In the USA, the percentage of R&D (both public and private) in energy research has fallen from 10 per cent in the 1980s to 2 per cent today (Kammen and Nemet 2007a: 747). In the early 1980s US energy companies were investing more in R&D than pharmaceutical companies; today US drugs companies spend ten times as much on R&D than energy companies (Kammen and Nemet 2007b: 38).¹⁶ Research into renewable energy resources is increasing again—although the financial crisis has reduced the venture capital available for commercial research—but from a very low base (Runci et al. 2006). This underinvestment has left the world with a very narrow menu of non fossil-fuel energy sources. These include nuclear power and biofuels, both of which are controversial.

4.1 Food prices: drivers and responses

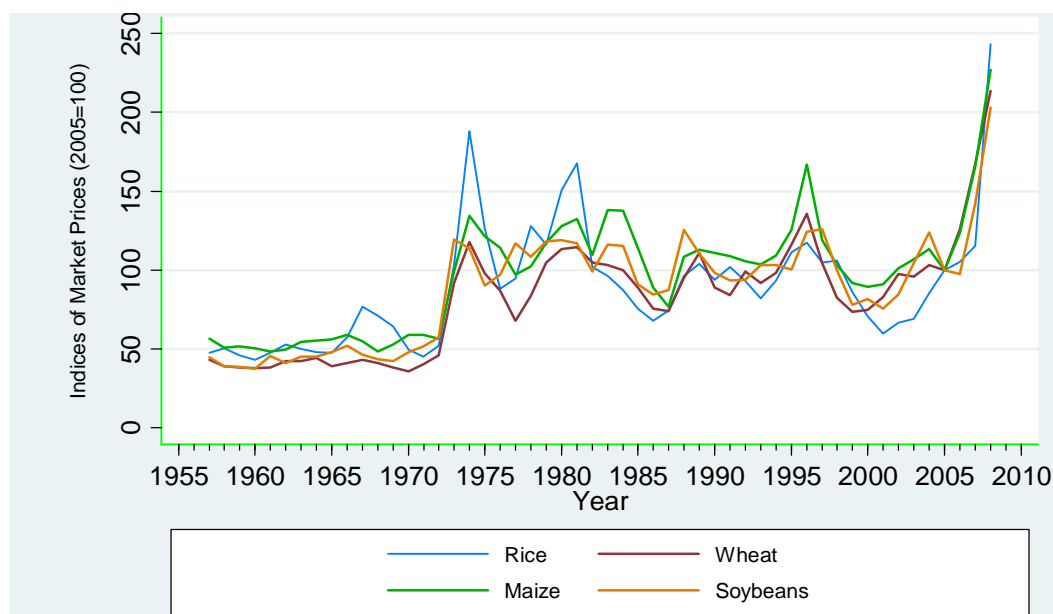
Biofuels at scale are a relatively new element. They create a potentially tight link between food and fuel prices. With more land given over to biofuels, a slowdown in yield growth for food crops (exacerbated by a slump in public investment in agriculture), and rising global demand, food prices have pushed higher, spiking over 2007-08 (Figure 18). The dollar's depreciation in 2007-08 also contributed to the price spike (Christiansen 2009; Mitchell

¹⁵ There is a 12-to-1 disparity in the average US citizen's carbon footprint and the average Indian's.

¹⁶ Much of private pharmaceutical R&D is skewed towards the diseases of the rich world, rather than those of the poor world, which kill millions.

2008).¹⁷ The structural drivers of higher food prices remain in place, and indeed prices partially rebounded in 2009 as expectations of global economic recovery took place, and as liquidity returned to international commodity markets (Abbott et al. 2009). Driven by prospects of renewed growth, world oil prices are currently close to US\$80 per barrel. At this price, ample incentive exists to divert agricultural production towards biofuels independent of subsidy policy.

Figure 18: Cereal prices in indices of market prices (1957-2008)



Note: rice, Thailand (Bangkok); wheat, USA gulf; maize, USA; soybeans, USA.

Source: IMF Primary Commodity Price Database.

East Asia initiated or scaled-up social protection as food and fuel prices rose over 2007-08, with further increases as the global economic crisis hit from 2008 onwards. In the Philippines the budget for an existing cash transfer programme was increased ten-fold, and Indonesia reinstated a targeted unconditional cash transfer, that was first used in 2005 during the fuel crisis (World Bank 2009a: 29). China made a one-off cash payment to 74 million poor people, and deepened and expanded rural health insurance. Although Brazil's 'bolsa familia' payments are modest, and cost only 1 per cent of GDP, they do reach 11 million poor families, and have offset some of the impact of the food price increase.

The absence of currency crises, a result of the large accumulation of foreign exchange reserves after the currency crises of the 1998 Asian financial crisis, has provided much more fiscal space for social protection in the emerging economies than in the 1998 crisis when the poor were hit hard; but the smaller and poorer economies have only been able to take limited social protection measures. In these countries, responses are usually ex post, often with much delay between the time of the shock and the start of public action. When governments do try to respond quickly, there is little time to prepare. Responses are then ad hoc—increasing the chance of neglecting the most vulnerable (a risk heightened by the uncertainty that usually surrounds who has been most affected and where). A lack of careful planning results in high administrative costs and a large, and often unsustainable, fiscal burden; untargeted food-

¹⁷ The exception is the rice market, which is thinly traded.

subsidies, for example. The fiscal problem is compounded when major shocks reduce the revenue base, endangering the financing of public action, as is now occurring.

If the crisis passes, or the financing burden becomes too great, public action is often cancelled outright. It must then be restarted from scratch to respond to a new shock or when funding becomes available again. Instead of building a systematic system of social protection, countries are left with a stop-start cycle of ad hoc, high-cost, limited-impact programmes (often dependent on donor financing, if it is available) (CPRC 2008, Kanbur 2009). This approach is highly unsatisfactory now that countries face an increased frequency of catastrophic weather events due to climate change. If the recovery from the global financial crisis stalls, then poor countries and poor people will suffer another macroeconomic shock (the recovery in trade, remittances, and commodity prices will all stall) (Addison 2009a). But if the global recovery sustains itself, then food-prices and energy prices will continue to climb, delivering fresh shocks to energy and food importers.

4.2 Climate change

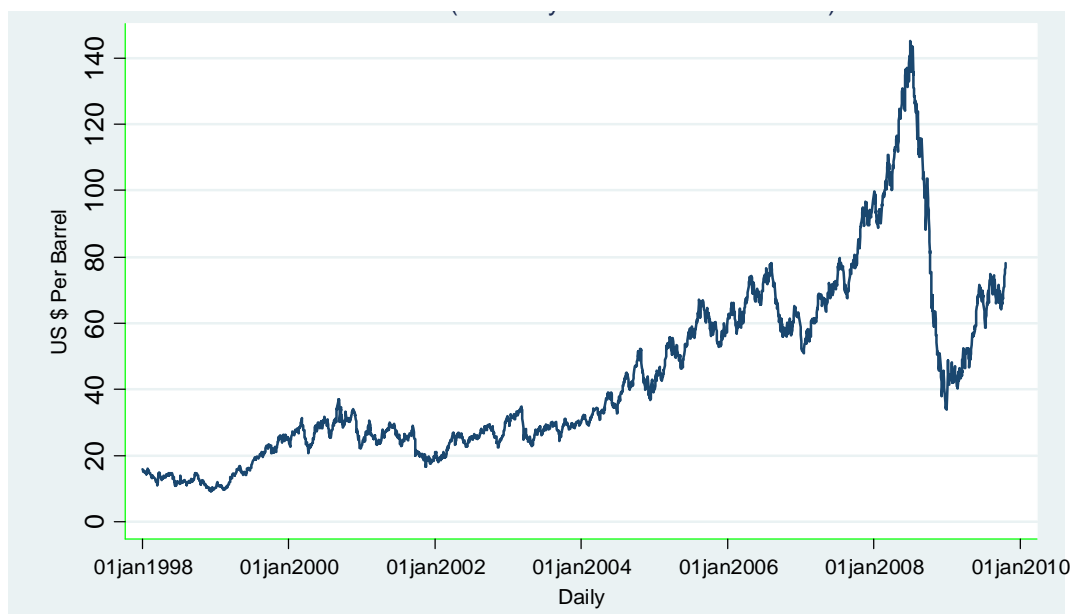
The world's failure to shift from fossil-fuel dependence is evident in the run-up in the oil price prior to the global financial crisis (Figure 19). Oil prices then fell as recession took hold. Since its market low of US\$40 in early 2009, the oil price has doubled in expectation of global economy recovery, the monetary easing spilling over into speculation in commodity markets. Energy prices will likely move rapidly higher if recovery firms. Despite much rhetoric, 80 per cent of global energy supply comes from oil, gas and coal; the share of renewables is almost unchanged since the first (1973) oil price shock (IEA 2009b: 6).

Climate change is already underway and will continue to unfold over the 21st century in response to myriad factors, not least the trajectory of global emissions of greenhouse gases. The most recent integrated assessment estimates a median temperature rise of about five degrees centigrade by the final decade of the 21st century under the assumption of no successful emission control policies (Sokolov et al. 2009). This is nearly double the temperature rise estimate published by the same group in 2003. Climate change will place a huge burden on the South, which has the least capacity to adapt (Eriksen et al. 2007; Stern 2007). Climate change also has the potential to deepen the food crisis, through flooding and drought and more extreme weather events. If rural livelihoods decline then more people will be forced into urban areas where they will add to the already rapidly growing urban food demand (Moser and Satterthwaite 2008).

The *fiscal effect* is substantial (Jones et al. 2008). On the expenditure side, the World Bank recently estimated annual costs of adaptation to climate change of about US\$75-90 billion per annum through 2050 (World Bank 2010). The bulk of these costs relate to more rapid degradation of existing infrastructure, particularly roads, and new infrastructure needs, such as for control of floods and sea level rise. Other potentially important costs include the health burden from the spread of malaria and dengue, assistance to displaced populations, and social protection to cope with more vulnerable livelihoods which could drain the public purse. On the revenue side, the economic downturn caused by climate change also reduces the tax base (Addison 2009b; Heller 2003).

This fiscal effect will make states more aid-dependent, not less. And the number of fragile states—a key donor concern—will rise as flood and drought undermine societies.¹⁸ With fragility goes conflict and this hits hard at the revenue base of states, weakening them further (Gupta et al. 2008). Conflict-affected countries are consequently the most aid-dependent of all (Addison and McGillivray 2004). Action on climate change at the global level must support donor strategies to contain and then reduce state fragility at the national level.

Figure 19: Oil prices (January 1998 to October 2009)



Note: Oil prices refer to Brent; US\$ per barrel.

Source: US Department of Energy.

As the December 2009 UN climate change conference in Copenhagen (COP15) illustrated, getting agreement on the overall climate-change financing envelope and the contribution of each country is proving difficult.¹⁹ The resource transfers required to confront climate change in developing countries are large compared with levels of development assistance. Estimates of the per annum cost of mitigation for developing countries range between US\$140-175 billion by 2030 (World Bank 2009b: 257). This comes on top of the aforementioned adaptation costs of US\$75-90 billion. A key issue is how far further adaptation and mitigation funding will be *additional* to current ODA. The costs of mitigation and adaptation far exceed the current level of ODA (about US\$100 billion per annum). ODA is in turn far less than the annual global subsidy to the use of fossil fuels—US\$150-250 billion (US\$20-30 billion in the OECD area).²⁰ This is symptomatic of the skewed nature of current priorities.

Carbon taxes, or the alternative of auctioning carbon-emission licenses, would provide a much needed future revenue stream against which to plan action on mitigation and

¹⁸ DFID's new 'White Paper' is an example of the increase in donor focus on fragile states (DFID 2009).

¹⁹ On the EU position see Mäkälä (2009).

²⁰ Stern (2007: 403) citing UNEP and IEA data.

adaptation, as well as to restore ODA's growth.²¹ We believe such an initiative must be at the core of any serious attempt to come to grips with the challenge of climate change in a way that is both effective and fair. The announcement of carbon taxes (or emissions quotas) could also encourage a reduction in carbon emissions prior to the instrument's start date as the behaviour of enterprises and households starts adjusting in anticipation.²²

If resource flows to confront climate change in developing countries occur on anything like the scale mentioned above, institutional mechanisms for allocating, disbursing, and monitoring of funds will have to be created.²³ At the moment, the relatively paltry funding for adaptation and mitigation is currently provided under a plethora of multilateral and bilateral mechanisms, a fragmentation that repeats aid's history (Ayers and Huq 2009; World Bank 2009b). This fragmentation is unlikely to be the best approach for achieving the desired outcomes. Even ignoring a jump in resource flows to confront climate change, aid agencies must move to incorporate adaptation and mitigation into the appraisal of infrastructure investments, livelihood strategies to cope with more extreme weather events, and budgetary support to sustain development spending as growth and domestic revenue become more volatile. None of this will be straightforward or easy.

5 Conclusions

We do not know how the triple crisis will unfold. For the financial crisis, much depends upon the effectiveness of the present Keynesian measures. The advanced economies are at, or near, their borrowing limits, and China's growth remains fundamentally export-driven, the huge stimulus to the domestic economy notwithstanding. While the emerging economies have done better than initially expected, the smaller and poorer economies are highly vulnerable to the present global economic turbulence and have as a group seen a fall in private capital flows and public revenues. Their development spending, including social protection, remains largely aid-dependent—and ODA is in retreat.

Recovery should not be business as usual. The financial crisis has dramatically revealed the inherent imperfections of markets and has damaged the real economy in ways that would have been considered inconceivable just a year ago. We should not go back to a financial system that poses such risks to prosperity and social stability. Yet, how we achieve effective regulation of the global financial system remains a challenge yet to be addressed. Similarly, if policy responses to the financial crisis and the building up of public debt involve deep cuts in investment, employment and social protection, there is a danger that the impact of the crises on human wellbeing will be reinforced.

The restoration of economic growth will likely lead to the continuation of the upward trend in food and energy prices, which requires a new global food architecture together with enhanced social protection. Similarly, confronting climate change requires the creation of low carbon

²¹ On the respective merits of taxes versus licenses in reducing emissions see Dervis (2008); Sandmo (2004: 33-57); Stern (2009).

²² The announcement of environmental taxes in Europe reduced emissions of sulphur dioxide and nitrogen oxide that are responsible for acidification in water and lakes (Agnolucci and Ekins 2004).

²³ A figure of US\$100 billion per year by 2020 emerged from the discussions in Copenhagen in December 2009.

growth models. Efforts to restore prosperity that do not account for climate change—a potentially fundamental threat to humanity—may well amount to short-term palliatives. The amount of aid and other external resource flows needed to address these challenges in the poorer countries remains very significant indeed, while prospects for significant resource increases are dim, at least in the short term. We live in extraordinary times—we must recognize this in global policy-making and analysis.

References

- Abbott, P.C., C. Hurt, and W.E. Tyner (2009). 'What's Driving Food Prices? March 2009 Update', Farm Foundation Issue Report.
- ADB and OECD (2008). *African Economic Outlook 2008*, Paris and Tunis: African Development Bank and OECD Development Centre.
- Addison, T. (2006). 'Debt Relief: the Development and Poverty Impact', *Swedish Economic Policy Review*, 13: 205-30.
- Addison, T. (2009a). 'Chronic Poverty in the Global Economy', *European Journal of Development Research*, 21(2): 174-8.
- Addison, T. (2009b). 'Revenue Mobilization for Poverty Reduction: What We Know, What We Need to Know', in D. Hulme, D. Lawson, K. Moore and I. Matin (eds) *What Works for the Poorest*, Rugby: Practical Action.
- Addison, T., H. Hansen, and F. Tarp (eds) (2004). *Debt Relief for Poor Countries*, Basingstoke: Palgrave Macmillan for UNU-WIDER.
- Addison, T. and M. McGillivray (2004). 'Aid to Conflict-Affected Countries: Lessons for Donors', *Conflict, Security and Development*, 4(3): 347-67.
- AfDB Research Department (2009). 'Africa and the Global Economic Crisis: Strategies for Preserving the Foundations of Long-Term Growth', *Working Paper Series No. 98*, Tunis: African Development Bank.
- Agnolucci, P. and P. Ekins (2004). 'The Announcement Effect and Environmental Taxation', *Working Paper 53*, Norwich: Tyndall Centre for Climate Change Research.
- Arellano, C., A. Bulír, T. Lane, and L. Lipschitz (2009). 'The Dynamic Implications of Foreign Aid and its Variability', *Journal of Development Economics*, 88: 87-102.
- Arndt, C., and F. Tarp (eds). (2009). *Taxation in a Developing Country: the Case of Mozambique*, London: Routledge.
- Arndt, C., S. Jones, and F. Tarp (2009) 'Aid and Growth: Have We Come Full Circle?', *WIDER Discussion Paper 2009/05*, Helsinki: UNU-WIDER.
- Ayers, J.A. and S. Huq (2009). 'Supporting Adaptation to Climate Change: What Role for Official Development Assistance?', *Development Policy Review*, 27(6): 675-92.
- Brautigam, D. (2008). 'China's Foreign Aid in Africa: What Do We Know?', in R.I. Rotberg (ed.) *China into Africa: Trade, Aid and Influence*, Washington DC: Brookings Institution Press.
- Bulír, A., and A.J. Hamann (2008). 'Volatility of Development Aid: From the Frying Pan into the Fire?', *World Development*, 36(10): 2048-66.
- Christiaensen, L. (2009). 'Revisiting the Global Food Architecture: Lessons from the 2008 Food Crisis', *WIDER Discussion Paper 2009/04*, Helsinki: UNU-WIDER.
- Cook, S. (2009). 'China's Social Policy Response to Economic Crisis: Towards a Developmental Welfare State?', paper presented at the UNRISD conference on the Social

- and Political Dimensions of the Global Crisis: Implications for Developing Countries, Geneva, 12-13 November.
- CPRC (2008). *Chronic Poverty Report: 2008-2009*, London: Chronic Poverty Research Centre.
- de Haan, A., and S. Yaqub (2009). 'Migration and Poverty: Linkages, Knowledge Gaps and Policy Implications', *Social Policy and Development Programme Paper 40*, Geneva: UNRISD.
- Derviş, K. (2008). 'The Climate Change Challenge', *WIDER Annual Lecture 11*, Helsinki: UNU-WIDER.
- DFID (2009). *Eliminating World Poverty: Building Our Common Future*, London: Department for International Development.
- Eichengreen, B., and K. O'Rourke (2009). 'A Tale of Two Depressions', www.voxeu.org.
- Elson, D. (2009). 'Social Reproduction in the Global Crisis', paper presented at the UNRISD conference on the 'Social and Political Dimensions of the Global Crisis: Implications for Developing Countries', Geneva, 12-13 November.
- Eriksen, S., R.T. Klein, K. Ulstrup, L.O. Naess, K. O'Brien (2007). *Climate Change Adaptation and Poverty Reduction: Key Interactions and Critical Measures*, Report 2007:1, Global Environmental Change and Human Security, University of Oslo.
- Freund, C. (2009). 'The Trade Response to Global Downturns: Historical Evidence', *World Bank Policy Research Working Paper 5015*, Washington DC: World Bank.
- Gupta, S., S. Tareq, B. Clements, A. Segura-Ubiergo, and R. Bhattacharya (2008). 'Post-Conflict Countries: Strategy for Rebuilding Fiscal Institutions', in T. Addison and T. Brüch (eds) *Making Peace Work: The Challenges of Social and Economic Reconstruction*, Basingstoke: Palgrave Macmillan for UNU-WIDER.
- Hansen, H., and F. Tarp (2001). 'Aid and Growth Regressions', *Journal of Development Economics*, 64(2): 547-570.
- Heller, P.S. (2003). *Who Will Pay? Coping with Aging Societies, Climate Change, and Other Long-Term Fiscal Challenges*, Washington DC: International Monetary Fund.
- IEA (2009a). *World Energy Outlook 2009*, Paris, International Energy Agency.
- IEA (2009b). *Key World Energy Statistics 2009*, Paris, International Energy Agency.
- IMF (2009a) *World Economic Outlook: October 2009*, Washington DC: International Monetary Fund.
- IMF (2009b). 'Fiscal Implications of the Global Economic and Financial Crisis', *IMF Staff Position Note 09/13*, Washington DC: International Monetary Fund.
- Jones, B., M. Keen, and J. Strand (2008). 'Paying for Climate Change', *Finance and Development*, 45(1).
- Kammen, D., and G.F. Nemet (2007a). 'US Energy Research and Development: Declining Investment, Increasing Need, and the Feasibility of Expansion', *Energy Policy*, 35: 746-55.

- Kammen, D., and G.F. Nemet (2007b). 'The Incredible Shrinking Energy R&D Budget', *Access* 30(Spring): 38-40.
- Kanbur, R. (2009). 'Systemic Crises and the Social Protection System; Three Proposals for World Bank action', processed, Ithaca, Cornell University.
- Kindleberger, C.P. (1986). *The World in Depression, 1929-1939*, Berkley CA: University of California Press (second edition).
- Laeven, L., and F. Valencia (2008). 'Systemic Banking Crises: A New Database', *Working Paper* 08/224, Washington DC: International Monetary Fund.
- Lancaster, C., (2007), 'The Chinese Aid System', Washington DC: Center for Global Development.
- Mäkälä, T. (2009). 'Euros for Low-Carbon Development', *Briefing Paper* 29, Helsinki: Finnish Institute of International Affairs.
- Manning, R. (2006). 'Will "Emerging Donors" Change the Face of International Cooperation?', *Development Policy Review*, 24(4): 371-85.
- Maxwell, S. (2009). 'Eliminating World Poverty: Building our Common Future', *Development Policy Review*, 27(6): 767-70.
- Mitchell, D. (2008). 'A Note on Rising Food Prices', *Policy Research Working Paper* 4682, Washington DC: World Bank.
- Moser, C., and D. Satterthwaite (2008). 'Towards Pro-Poor Adaptation to Climate Change in the Urban Centres of Low- and Middle-Income Countries', *Climate Change and Cities Discussion Paper* 3, London: International Institute for Environment and Development.
- Moyo, D. (2009). *Dead Aid: Why Aid is Not Working and How There is a Better Way for Africa*, London: Allen Lane.
- Naudé, W. (2009). 'The Financial Crisis of 2008 and the Developing Countries', *WIDER Discussion Paper* 2009/01, Helsinki: UNU-WIDER.
- Riddell, R.C. (2007). *Does Foreign Aid Really Work?*, Oxford: Oxford University Press.
- Runci, P., C. Leon, and J. Dooley (2006). 'Reconsidering Public-Sector Energy R&D Investment Trends in the Industrialized World', processed, College Park MD: Joint Global Change Research Institute, University of Maryland.
- Sandmo A. (2004). 'Environmental Taxation and Revenue for Development', in A.B. Atkinson (ed.) *New Sources of Development Finance*, Oxford: Oxford University Press for UNU-WIDER.
- Sokolov, A.P., P.H. Stone, C.E. Forest, R.G. Prinn, M.C. Sarofim, M. Webster, S. Paltsev, C.A. Schlosser, D. Kicklighter, S. Dutkiewicz, J. Reilly, C. Wang, B. Felzer, J. Melillo, H.D. Jacoby (2009), *Journal of Climate*, 22(19): 5175-204.
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*, Cambridge: Cambridge University Press.
- Stern, N. (2009). *A Blueprint for a Safer Planet*, London: The Bodley Head.
- Tarp, F. (ed.) (2000). *Foreign Aid and Development: Lessons Learnt and Directions for the Future*, London: Routledge.

- UNCTAD (2007). *Economic Development in Africa: Reclaiming Policy Space–Domestic Resource Mobilization and Developmental States*, Geneva: United Nations.
- UNCTAD (2008). *Trade and Development Report 2008: Commodity prices, capital flows and the financing of investment*, Geneva: UNCTAD.
- UNCTAD (2009). *The Least Developed Countries Report 2009: The State and Development Governance*, Geneva: UNCTAD.
- Weale, M. (2009). 'International Recession and Recovery', *National Institute Economic Review*, 209(July): 4-7.
- World Bank (2009a). *Transforming the Rebound into Recovery: East Asia and Pacific Update*, Washington DC: World Bank.
- World Bank (2009b). *World Development Report 2010: Development and Climate Change*, Washington DC: World Bank.
- World Bank (2010). *The Economics of Adaptation to Climate Change*, Washington DC: World Bank.