



SOCIAL AND ECONOMIC POLICY
WORKING PAPER

AGGREGATE SHOCKS, POOR HOUSEHOLDS AND CHILDREN: TRANSMISSION CHANNELS AND POLICY RESPONSES

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Aggregate Shocks, Poor Households and Children: Transmission Channels and Policy Responses

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The findings, interpretations and conclusions expressed in this paper are those of the author(s) and do not necessarily reflect the policies or views of UNICEF.

This paper has been prepared as part of the FACIT Project which undertakes policy research on the impact of economic crises and aggregate shocks on children as well as the policy responses to help protect them.

The text has not been edited to official publication standards and UNICEF accepts no responsibility for errors.

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Table of Contents

	<u>Page</u>
Executive Summary	i
Resumen Ejecutivo	ii
Résumé Analytique	iii
Introduction.....	1
1. Macro Transmission Channels.....	2
1.1. Food and Fuel Price Shocks.....	3
1.2. Financial Contagion	7
1.3. Global Economic Slowdown	8
2. Micro Transmission Channels	11
2.1. Poverty	12
2.2. Household Coping Strategies.....	16
2.3. Long-lived and Intergenerational Impact.....	20
3. Synthesis and Policy Implications	24
3.1. Understanding Shock Transmission and Impact.....	24
3.2. Social Budgeting as Part of the Countercyclical Response	27
3.3. Enhancing Social Protection Systems.....	28
3.4. Advancing Child Rights through Child-Focused Investments	33
References	35
Annex 1 – Macro and Financial Indicators in Selected Emerging Market Countries	44
Annex 2 – Demographic Change, 1950-2050.....	46

Executive Summary

The global financial crisis that erupted in 2008 coupled with food and fuel price volatility are likely to affect developing countries, and within them the vast majority of the world's poor population in profound ways. This paper maps the different channels through which their effects could be transmitted to the developing world, and it illustrates a basic framework of shock transmission to a developing country from the macro- to the micro-levels—considering also possible adverse feedback effects. Aggregate shocks are going to be an increasingly common feature of the global economic landscape; and these shocks could result in poverty traps, generating effects that harm not just present, but also succeeding generations. Social budgeting and social protection will be critical in order to shield poor households and vulnerable children from the worst effects of these shocks. There is a strong moral imperative to advance children's rights and take prompt action in these areas. Policy experience and empirical evidence also suggest that investments in children and policy interventions to protect them during periods of economic volatility and crises are eminently affordable and provide strong social and economic returns. In responding to the presently unfolding financial crisis as well as future ones, continuing and further strengthening investments in children, and in addition, protecting them from the adverse impact of these crises (so that these investments will not be eroded) will be critical, not just in breaking the cycle of poverty, but also in safeguarding countries' future economic growth and human development.

Resumen Ejecutivo

Hay grandes posibilidades de que la crisis de los alimentos, los combustibles y las finanzas de 2008 afecte profundamente a los países en desarrollo, y, por ende, a la gran mayoría de la población pobre del mundo. Este documento enumera los diferentes canales por medio de los cuales sus efectos podrían transmitirse al mundo en desarrollo e ilustra un marco básico de transmisión de perturbaciones a un país en desarrollo en los niveles macroeconómico y microeconómico, teniendo en cuenta también los posibles efectos adversos de retroalimentación. Las perturbaciones agregadas van a ser cada vez más un elemento común del panorama económico mundial; y estas perturbaciones pueden traer como consecuencia trampas de la pobreza, generando efectos que perjudiquen no solamente a las generaciones actuales, sino también a las venideras. La presupuestación social y la protección social serán decisivas para proteger a los hogares pobres y a los niños vulnerables contra los peores efectos de estas perturbaciones. Hay un firme imperativo moral para impulsar los derechos de la infancia y tomar medidas urgentes en estas esferas. La experiencia en materia de políticas y las pruebas empíricas sugieren también que las inversiones en las intervenciones relativas a la infancia y las políticas para proteger a los niños durante los períodos de volatilidad económica y crisis son eminentemente viables y ofrecen un sólido rendimiento social y económico. En la respuesta a la crisis financiera que se produce en la actualidad, así como a otras en el futuro, mantener y fortalecer aún más las inversiones en los niños y, además, protegerles contra las repercusiones adversas de estas crisis (para que no deterioren estas inversiones) será fundamental no solamente para romper el ciclo de la pobreza, sino también para salvaguardar el crecimiento económico y el desarrollo humano de los países en el futuro.

Résumé Analytique

Il est fort probable que la crise financière mondiale qui s'est ouverte en 2008, aggravée par la volatilité des prix du pétrole et des produits alimentaires, affectera profondément les pays en développement et donc, en leur sein, la vaste majorité des personnes pauvres du monde. Cette étude examine la façon dont les effets de ces crises pourraient se transmettre au monde en développement et elle présente un cadre de base concernant la transmission de ces chocs à un pays en développement, du niveau macroéconomique au niveau microéconomique, en s'intéressant aussi aux éventuelles répercussions négatives. Ces ondes de chocs vont devenir de plus en plus fréquentes dans l'économie mondiale et elles pourraient créer des « pièges de pauvreté » dont les conséquences préjudiciables ne se limiteraient pas au présent mais affecteraient aussi les générations futures. Les postes sociaux et de protection sociale dans les budgets seront d'une importance capitale pour protéger les citoyens les plus pauvres et les enfants vulnérables des pires conséquences de ces chocs. Il est impératif, sur un plan moral, de faire progresser les droits de l'enfant et de prendre rapidement les mesures qui s'imposent dans ce domaine. L'expérience politique et les données empiriques semblent aussi indiquer que les investissements réalisés en faveur des enfants et les interventions en matière de politique menées pour les protéger durant les périodes de volatilité économique et les crises sont tout à fait abordables et très rentables sur les plans social et économique. Pour trouver une solution à la crise financière actuelle, et se préparer aux crises futures, le maintien, et même l'augmentation, des investissements en faveur des enfants, et leur protection contre les conséquences négatives de ces crises (de sorte à éviter la détérioration de ces investissements) revêtent une importance vitale, non seulement pour briser l'engrenage de la pauvreté mais aussi pour protéger dans ces pays la croissance économique et le développement humain de demain.

Introduction

The global financial crisis that erupted in 2008 coupled with food and fuel price volatility are likely to affect developing countries, and within them the vast majority of the world's poor population in profound ways. Even as the understanding of their causes and scope of impact is still evolving, one could begin to map the different channels through which their effects could be transmitted. Such a mapping could help improve our understanding of how aggregate shocks could affect the poor in both the short and long term. The latter, in turn, could be useful in informing the design of effective, timely and sustained policy responses that would help advance the rights of the poor—notably women and children—particularly during periods of economic volatility when they are potentially most vulnerable.¹

As a first objective, this paper seeks to develop the beginnings of such a mapping by synthesizing some of the still emerging data and analyses, as well as the available empirical literature in this area. It illustrates a basic framework of shock transmission to a developing country from the macro- to the micro-levels—considering also possible adverse feedback effects. Aggregate shocks could result in poverty traps, generating effects that harm not just present, but even succeeding generations. While the discussion focuses on the presently unfolding financial crisis and the food and fuel price volatility, the framework of analysis could serve as the basis for thinking about aggregate shocks more broadly understood.

This paper also underscores that dealing with aggregate shocks is going to be a longer term challenge for most developing countries. It is by now well known that developing countries are vulnerable to different types of aggregate shocks, including domestic shocks such as those resulting from poor macroeconomic policies, political instability or conflict, and exogenous shocks such as those related to financial contagion, terms of trade, natural disasters and climate change. For a variety of reasons, and despite individual countries' efforts to pursue good policies, different types of shocks can be expected to become a more common feature of the global economic landscape. Global economic integration, climate change and the increasing frequency of weather-related shocks (e.g. droughts, floods, etc.), evolving energy and food demand (and supply) conditions, rapid economic growth and fundamental economic and political changes in many parts of the developing world (including large countries like Brazil, Russia, India and China), and continuous advancements in financial innovations (coupled with lagging and often limited cross-border regulatory oversight), are only some of the factors that could contribute to a more volatile global economic landscape for years to come.

¹ There are various definitions of aggregate shocks used in the literature. In this paper, aggregate shocks include those that affect: a) aggregate or macroeconomic variables (e.g. GDP, current account, exchange rate); and b) a large group of people within a country. In most cases, the two parts of this definition overlap; but it is framed in this way to cover aggregate shocks more broadly understood. This approach allows for a broader consideration of the empirical literature on aggregate shocks of different types. Furthermore, the risks which result from these shocks could be uncorrelated (e.g. idiosyncratic) or correlated among individuals in a group (e.g. covariant). These could also be repeated in nature, and they may either be characterized as having low frequency with severe welfare effects (e.g. catastrophic) or high frequency with low welfare impact (e.g. non-catastrophic). The aggregate shocks which are the focus of the discussion in this paper are those that are covariant, low frequency and generate catastrophic effects.

As a second objective, this paper tries to lay out the rationale for policy action, as well as the key areas in which this might be focused. It is beyond the scope of this paper to try and describe the full array of policy responses to this volatile environment at the global, regional and national levels. Nevertheless, this paper touches on two key national policy areas which are central in the discussion: social budgeting and social protection. These two policy areas need serious re-thinking not just in light of the present crisis and market volatility; but more importantly in order to prepare for future aggregate shocks which are sure to come. This paper argues that preserving (or even increasing) social budgets and providing adequate protection for vulnerable children will be critical ingredients in efforts to respond to these aggregate shocks and break the cycle of poverty.

It is now widely accepted that the benefits of economic growth do not automatically “trickle down” to the low income population and the poor. Similarly, stabilization policies may need to be adapted to the reality of volatility so that these policies are also “pro-poor.” The rationale for these reforms is not just normative—many developing countries’ social and economic futures depend on whether and to what extent the poor and the most vulnerable, notably children, are shielded from the worst effects of shocks.

In what follows, section 1 briefly outlines the macro-channels through which developing countries have been affected by the food and fuel price shocks, and *could be affected* by the still evolving financial crisis and global economic slowdown. Section 2 then discusses the micro-channels through which poor households and children could be affected by these aggregate shocks. Section 3 synthesizes the discussion and identifies a few key policy implications, viewing aggregate shocks as an increasingly common feature of the global economic landscape.

1. Macro Transmission Channels

The impact of aggregate shocks on social welfare depends on a variety of factors, including the nature of the shock, the country’s macroeconomic fundamentals, the initial household and community conditions, and the extent and types of policy responses by the government. Aggregate shocks could emanate from either internal or external sources; examples include weather related shocks like droughts or hurricanes, shocks related to financial and economic instability such as those that result in crises and economic retrenchment, and price shocks such as those of internationally tradable goods like food grains, minerals and oil.

As regards economic and price shocks, often a country’s degree of economic openness—such as through trade or financial flows—is a key determinant of the extent of the transmission to the domestic economy and its impact on social welfare. This section briefly elaborates on some of the key transmission channels of the food and fuel price shocks of 2008; and it then turns to a prospective analysis of the possible transmission channels for the global financial crisis and the imminent global economic slowdown.

1.1. Food and Fuel Price Shocks

The food and fuel price shocks witnessed in 2008 are more likely to adversely impact net food and fuel importing countries, since higher prices would imply larger import bills and increased pressure on these countries' balance of payments.² While some developing countries have benefited from an improvement in their terms of trade, many more have not, and have instead experienced a significant deterioration in their current account due to these shocks. Analyzing data for a sample of 116 developing countries, one study finds that the combined impact of the food and fuel shocks contributed to an improvement in the terms of trade (TOT) of 29 countries and a deterioration in the TOT for 87 countries (see figures 1 and 2). Even for those countries that benefited from the windfall improvement in TOT, there is still the issue of whether or not this could be translated to sustained growth, poverty reduction and human development, given that commodity booms and busts have typically frustrated gains on these fronts.

In addition, because food has a relatively larger weight in poorer countries' CPI, food price shocks also create inflationary pressure (figure 3). Policy responses to help temper the impact of price shocks include increased consumption subsidies or reduced food and fuel import tariffs. While these types of responses could help mitigate the full impact of the shock in the short run, in time, these could put more pressure on countries' public finances due to mounting subsidy costs, lower tax revenues, or perhaps a combination of both.

In a survey of over 140 countries conducted in June 2008 by the International Monetary Fund, well over half (78 countries) reported a net increase in their fiscal costs due to the array of measures implemented in response to the food and fuel price shocks. The median increase in fiscal cost was about 0.6 percent of GDP, with some countries reporting an increase of as high as 4.8 percent of GDP (IMF, 2008a:30). For some countries, the combined effects of the food and fuel shocks have contributed to higher macroeconomic vulnerability, manifesting in a marked deterioration in balance of payments compounded by a worsening of the public sector balance.

In addition, the World Bank (2008a:3) identified 28 developing countries in particular with increased fiscal vulnerability due to the combined effects of the food and fuel price shocks, including: 18 low income countries (Solomon Islands, Eritrea, Togo, Haiti, Cambodia, Guinea, Tajikistan, Ethiopia, Comoros, Madagascar, Nepal, Burundi, Mauritania, Rwanda, Malawi, Central African Republic, Cote d' Ivoire, and Democratic Republic of Congo); 8 lower middle income countries (Jordan, Jamaica, Fiji, Maldives, Djibouti, Swaziland, Vanuatu and Sri Lanka); and, 2 upper middle income countries (Seychelles and Lebanon). Of the 28 countries, 13 are also classified as under or at high risk of "debt distress", which further suggests that their capability to mobilize resources (be it domestic or international) is already severely strained. Of these 13 countries, 12 are also low income countries, suggesting that they had many of the pre-existing vulnerabilities mentioned earlier *in addition* to those potentially caused or exacerbated by the financial crisis and the volatility in food and fuel prices of late.³

² Nevertheless, food exporters could also be affected to the extent that rising international prices could induce higher exports, which may also push domestic prices upward, even in net food exporting countries.

³ The 13 countries include one lower middle income country (Djibouti) and 12 low income countries (Eritrea, Togo, Haiti, Guinea, Tajikistan, Comoros, Nepal, Burundi, Rwanda, Central African Republic, Cote D' Ivoire and Democratic Republic of Congo).

Figure 1. Number of PRGF-Eligible Countries with Positive and Negative Impact on Current Account from World Food and Oil Price Increases

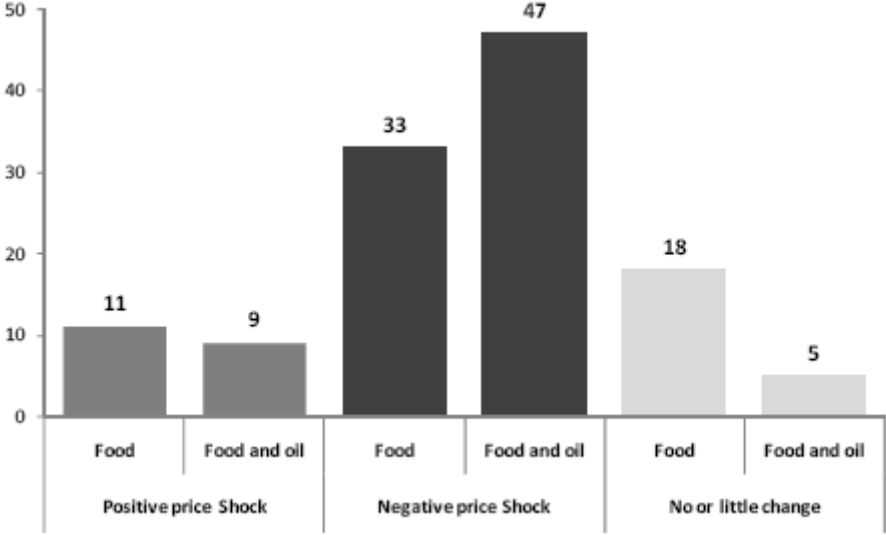
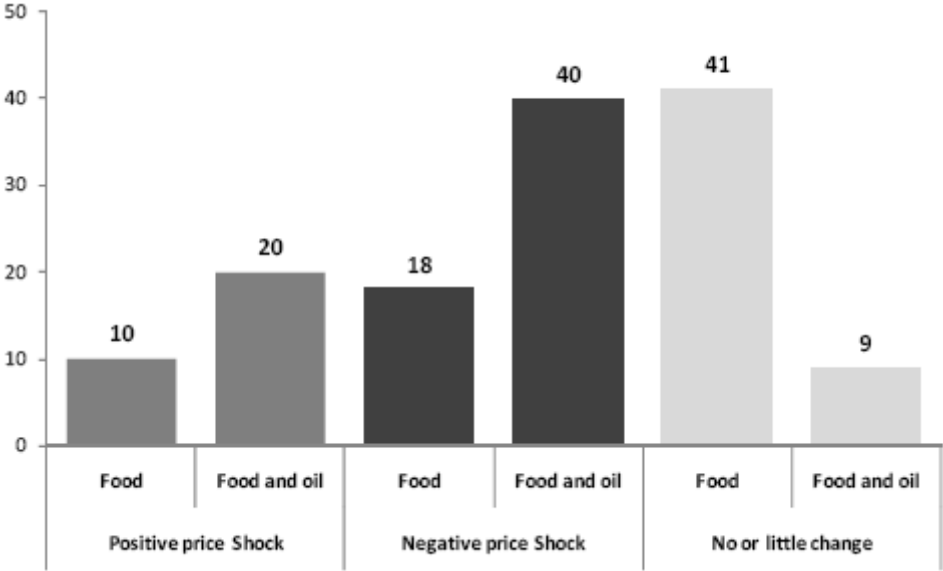


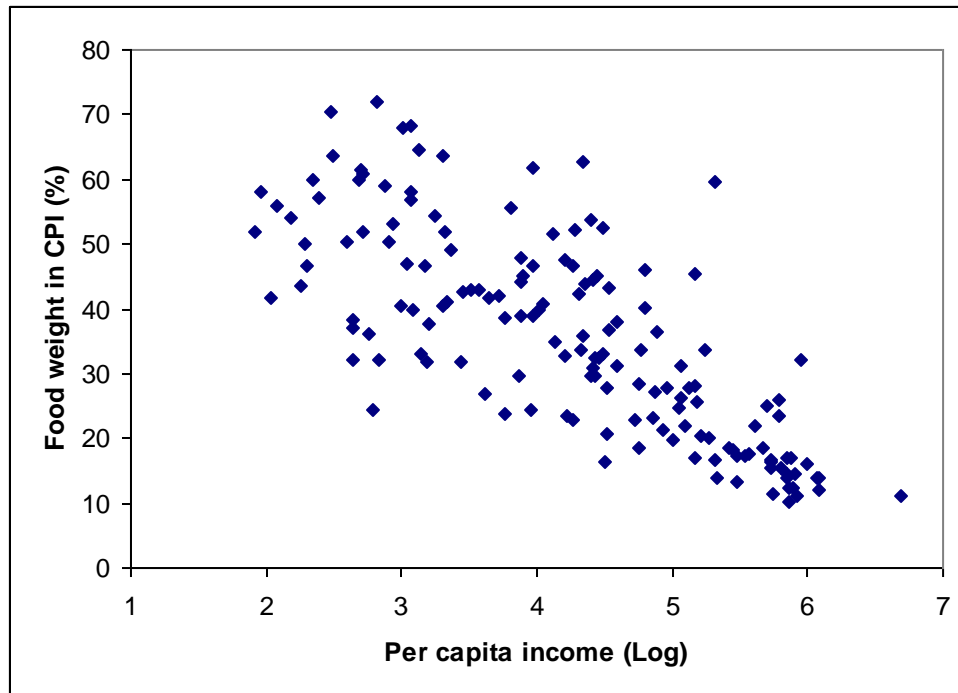
Figure 2. Number of Middle Income Countries with Positive and Negative Impact on Current Account from World Food and Oil Price Increases



Source: Lustig (2008:50) based on data from IMF (2008a).

Notes: Positive and negative price shock refers to changes in the current account (as % of GDP) equal to or larger than 0.5 in each direction. The total number of countries considered is 62 for food shocks and 61 for combined shocks for the IMF’s Poverty Reduction and Growth Facility (PRGF) eligible countries and 69 middle-income countries. Countries with missing information are not included. PRGF-eligible countries are those eligible for the IMF’s Poverty Reduction and Growth Facility (a low-interest lending facility for low-income countries).

Figure 3. Food Weight by Income



Source: IMF World Economic Outlook Database
[http://www.imf.org/external/pubs/ft/weo/2007/02/c1/Box1_1_2.csv].

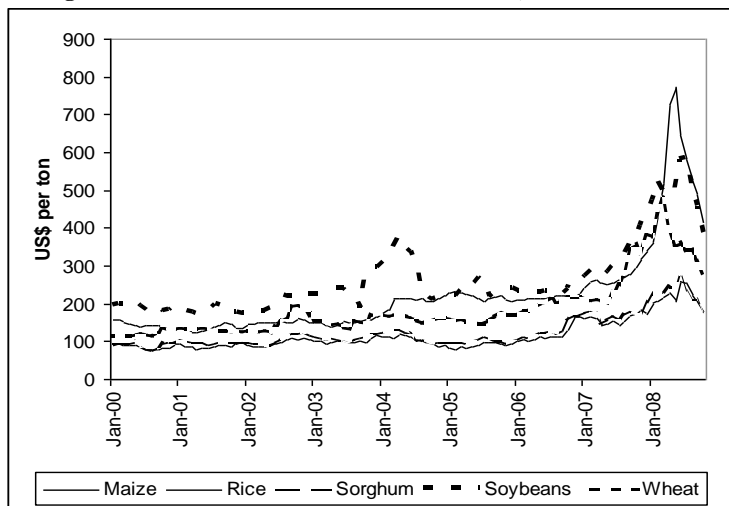
Food and fuel prices have declined dramatically in recent months.⁴ Oil prices plummeted by over 50 percent of its July 2008 peak, and the price of food grains like rice and wheat have experienced declines of over 40 percent since their peak levels in 2008 (see figures 4 and 5).⁵ Nevertheless, they remain high in many parts of the world and relative to longer-term trends. The recent food price spikes could be traced back to a number of factors: underinvestment in agriculture, rising global food demand, thin international grain trade, low buffer stocks, high oil (and thus food production input) prices, rising biofuel production and recent significant depreciation of the US dollar are noted by most analysts as some of the main drivers. Clearly, these could all be interrelated, which complicates an assessment of their relative importance.⁶ Some of these factors have been reversed in recent months—including the recovery of the US dollar and the dramatic drop in world oil prices. Nevertheless, it is clear that historically low global food stocks which have been on a pronounced declining trend since the early 2000s is one principal factor that remains (see figure 6). Despite recent good harvests, it will take time for food stocks to recover to their earlier levels.

⁴ The figures here refer to the last quarter of 2008 which is when this paper was produced.

⁵ The FAO's Food Price Index (FFPI) went down by almost 13 percent in October 2008—it is 6 percent below the October 2007 level, but still 28 percent above the level in October 2006. See <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>.

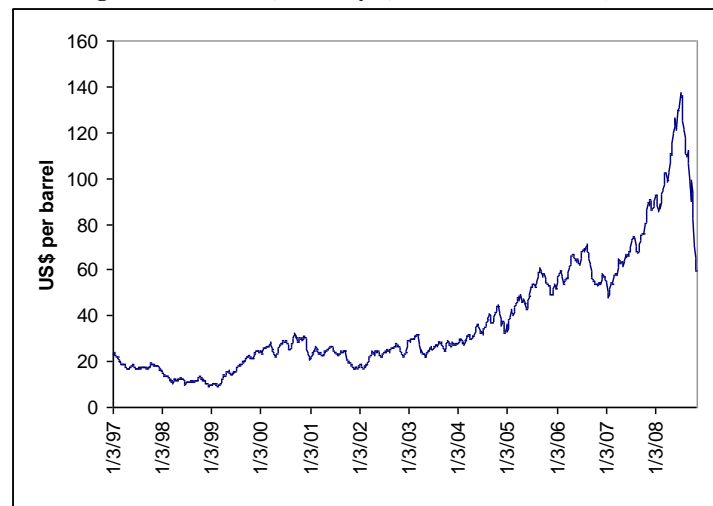
⁶ For fully elaborated analyses of the possible factors behind the food and fuel crises, see for example Conceição and Mendoza (2008), Lustig (2008) Mukherjee (2008) and Von Braun (2007).

Figure 4. Prices of Selected Food Commodities, Jan-00 to Oct-08



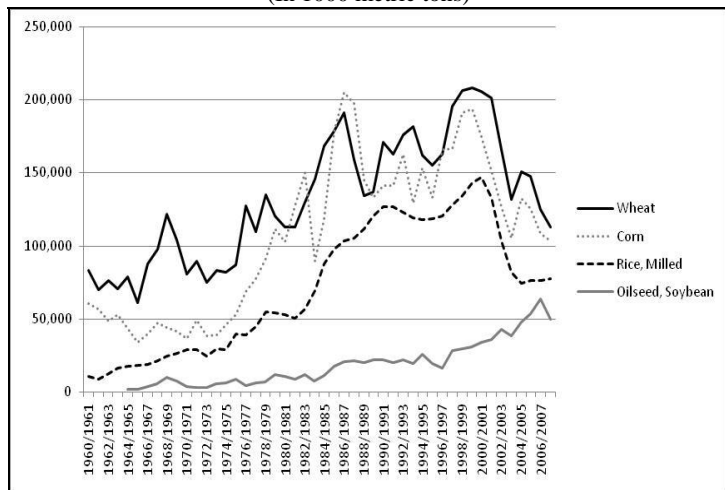
Note: Prices are expressed in US\$ per ton, for Argentine Maize, Thai White Broken Rice, US Sorghum, US Soybean, US Wheat.
Source: FAO Website.

Figure 5. Oil Prices, January 3, 1997 to November 7, 2008



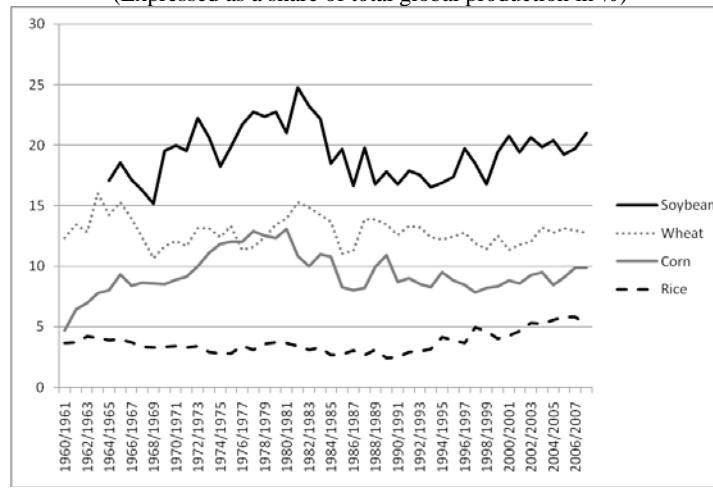
Note: Price is expressed in US\$ per barrel and refers to weekly all countries spot price (FOB) weighted by the estimated export volume.
Source: FAO Website.

Figure 6. Global Ending Stocks for Wheat, Corn, Rice and Soybean, 1960-2007
(In 1000 metric tons)



Source: USDA Production, Supply and Distribution Database.

Figure 7. Global Exports of Soybean, Wheat, Corn and Rice, 1960-2007
(Expressed as a share of total global production in %)



Source: USDA Production, Supply and Distribution Database.

The structure of the international food supply chain plays an important role in precipitating or amplifying the transmission of shocks related to food. Only a fraction of total global food production is actually traded. In the case of rice, global exports have been increasing since the late 1990s but remains at only about 5-7 percent of total global rice production in recent years. Supply-side shocks (e.g. a bad harvest in a large net food importer) will be met principally with increased importation from a relatively thin international grain market (see figure 7) rather than drawing down on food buffer stocks. Hence, tight supply conditions and growing demand side pressure, combined with thin international grain markets, creates fertile conditions for price spikes and bouts of high price volatility. Declining food prices should therefore not lull countries into another period of complacency. Many of the structural features that precipitated the food price spikes in 2008 remain. The Asian Development Bank, for example, warns that Asia could be one shock away from another food crisis (ADB, 2008a).⁷

Analysis by the Food and Agriculture Organization (FAO) also notes that much of the supply side response so far is due to increased production in industrial countries, where farmers are in a better position to respond to the food price hikes. Most developing country farmers are expected to face structural constraints (such as lack of access to credit and expensive fertilizer prices) which could blunt their participation in boosting food supplies. Furthermore, the global financial crisis—through its effect on the sharp downward movement in food and fuel prices and tighter credit markets—has injected greater uncertainty regarding food demand, which could foster more conservative planting decisions. In addition, tighter credit conditions will not make it easier for developing country farmers to engage on the supply side.

In terms of fuel demand, in late October 2008, OPEC countries responded to plummeting oil prices by deciding to cut production by 1.5 million barrels per day. Hence, the global financial crisis and the imminent global economic slowdown are further complicating factors that will likely contribute to an environment of food and fuel price volatility in the near term.

1.2. Financial Contagion

There are a number of transmission channels through which financial instability in mature market economies could be transmitted to developing countries' financial systems, triggered by (among other factors) the global deleveraging, "flight to safety" of foreign investments, tighter global liquidity and higher investor risk aversion. Essentially, many emerging market economies—countries that are more integrated into the global financial and economic system—face a "sudden stop" in capital inflows precipitating sharp capital account reversals, significant currency depreciation, and marked increase in emerging market risk spreads (Canuto, 2008; IMF, 2008f). These have knock-on effects on a number of areas, i.e. weaker currencies imply higher relative debt servicing costs; and lower capital inflows and tighter liquidity imply slower economic activity with adverse implications on government tax revenues and employment. The November update of the IMF's World Economic Outlook reports that:

“[Emerging] markets have entered a vicious cycle of asset deleveraging, price declines, and investor redemptions...Credit spreads spiked to distressed levels,

⁷ See <http://www.adb.org/media/Articles/2008/12612-asian-development-outlooks>.

and major equity indices dropped by about 25 percent in October. Emerging markets came under even more severe pressure. Since the beginning of October, spreads on sovereign debt doubled, returning to 2002 levels, with more than a third of the countries in the benchmark EMBIG index trading at spreads above 1,000 basis points. Emerging equity markets lost about a third of their value in local currency terms and more than 40 percent of their value in U.S. dollar terms, owing to widespread currency depreciations.”

Without going into a full elaboration of which countries are most vulnerable to financial contagion, one could nevertheless turn to a summary list of macroeconomic indicators for selected emerging market economies, in order to highlight some of the key vulnerabilities (see annex 1). A number of emerging European countries have large current account deficits and experienced aggressive credit expansion, and are thus vulnerable to a sudden reversal in capital inflows. Inflationary pressure is another challenge, notably for emerging Asia. On the other hand, continued decline in commodity prices could hit commodity exporters, particularly in emerging Latin America. Among developing countries, those most integrated into the global financial system will likely be most exposed to this form of shock transmission. Indeed, financial volatility has spread to the emerging markets, resulting in much more volatile stock markets and exchange rates. The threat of crisis appears imminent in many countries that have already lined up to secure lending from the IMF, including Iceland, and emerging markets like Ukraine, Hungary, Kyrgyz Republic, Pakistan and Belarus, and a still undisclosed number of other countries for similar economic programs.⁸

1.3. Global Economic Slowdown

While it might be possible for most developing countries to avoid the effects of financial contagion, most if not all developing countries will be affected by the imminent global economic slowdown. The World Bank’s *Global Economic Prospects 2009* published in December 2008 reported that the real growth rate of the global economy will decline from its 2.5 percent growth in 2008 to only 0.9 percent growth in 2009. The developing countries are also expected to grow in 2009 by about half as much as in 2007—from 7.9 percent growth in 2007 to 4.5 percent growth in 2009 (World Bank, 2008d:2). Growth in rich countries in 2009 will likely be negative. At the time of writing this paper, the economies of Germany, Italy, Japan and the United States already officially slipped into recession (i.e. a decline in GDP for 2 or more consecutive quarters). In addition, the ILO’s *Global Employment Trends 2009* released in January 2009 forecasted that the global unemployment rate could increase from 5.7 percent in 2007 and 6.0 percent in 2008 to as much as 7.1 percent in 2009. When compared to 2007, these forecasts suggest that there could be over 50 million more people unemployed globally in 2009 (ILO, 2009:17). The ranks of the “working poor”—people working and living on less than \$2 a day—could also swell by well over 200 million (ibid:18).

In line with these gloomy global economic forecasts, at least one preliminary guesstimate suggests that development finance flows to developing countries could shrink by one quarter, or by about \$300 billion in 2009 (Cali, Mass and te Velde 2008:21). The channels outlined below

⁸ Based on information posted on the website of the International Monetary Fund, accessed November 14, 2008. See <http://www.imf.org/external/np/exr/key/finstab.htm>.

help to illustrate how different countries—depending on the nature of their integration into the global economy—will be affected.

- **Private capital flows.** Using data on a sample of 30 emerging market economies, the Institute of International Finance forecasted that net private capital flows to developing countries could decline from \$898.5 billion in 2007 to \$619.2 billion in 2008 and \$561.9 billion in 2009 (IIF, 2008:1). A critical component of this decline is expected to come from shrinking interbank lending due to the broader malaise affecting the banking sectors of many mature market economies. Tighter global liquidity and rising risk aversion will make it much more costly for both the private and public sectors to tap the international financial markets, thus exacerbating the slowdown and also further limiting the fiscal space to undertake countercyclical policies.
- **International trade.** Due in large measure to declining demand in the major export markets, the growth rate of global trade is forecasted to decline from 7.2 percent in 2007 to 4.9 percent in 2008 and further down to 4.1 percent in 2009 (IMF, 2008d:2). While this is still positive growth territory, the slowdown in the expansion of global trade could create knock-on effects for many developing countries whose growth and industrialization strategies are anchored on robust international trade.⁹
- **International tourism.** Growth in international tourist arrivals fell to less than 2 percent in June of 2008, and to just 1 percent in the peak travel months of July and August—roughly the point in the year when energy and food prices were peaking, and problems in the financial markets erupted.¹⁰ The growth in international tourist arrivals is expected to shrink to 2 percent in 2008 and even further in 2009.¹¹ This follows four strong years of international tourism growth averaging around 7 percent per year.
- **Remittances.** Due to job losses and slower employment creation in industrial countries, and possibly lower global demand for oil (thus also possibly affecting labor importing oil producers), migrant labor flows and remittances are also expected to slow down. Remittances to Latin America, for example, have already started declining, due to a variety of factors including the economic slowdown in the United States and Spain, which are two major migrant destination countries for the region.¹² In addition, the growth of remittance flows to the developing world could shrink by as much as -0.9 to -5.7 percent in 2009, i.e. compared to estimated positive growth of 6.7 percent in 2008 (Ratha, Mohapatra and Xu, 2008: 7).

⁹ For a review of trade and industrialization policies as they relate to developing countries' economic and human development strategies, see Rodrik (2007).

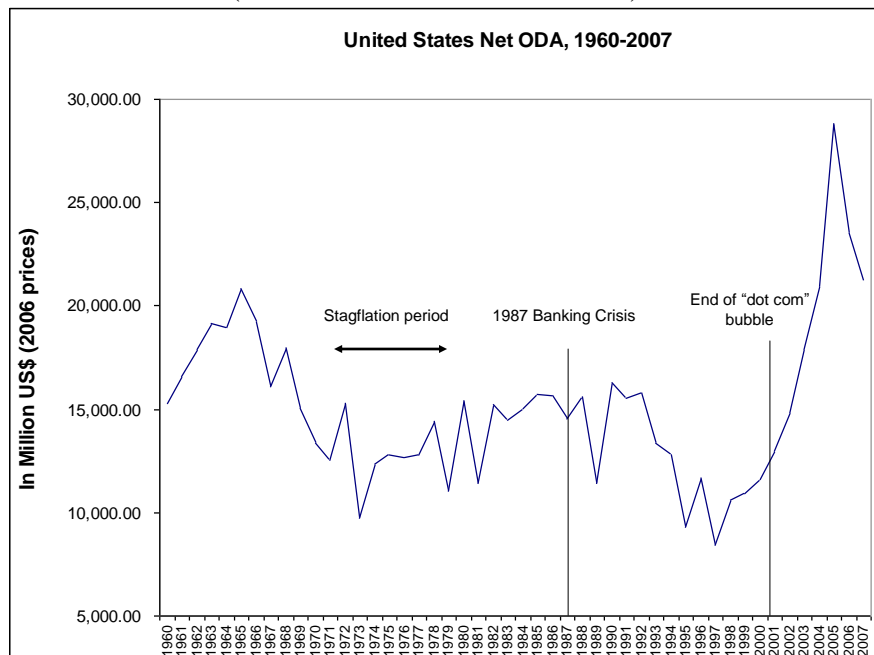
¹⁰ See http://www.unwto.org/media/news/en/press_det.php?id=3011&idioma=E.

¹¹ It is unclear to what extent these projections take account of the recent steep decline in oil prices, which may also tend to make travel cheaper and thus provide some boost to tourism.

¹² Adjusted for inflation, total projected remittances for 2008 will be worth 1.7% less than the total sent in 2007, marking the first decrease in the real value of remittances to Latin America and the Caribbean since the InterAmerican Development Bank (IDB) started reporting on these figures in 2000. The IDB reports that until last year, remittances to the region had grown by double digits every year. See <http://idbgroup.org/news/detail.cfm?language=English&id=4779>.

- Official flows.** Donor countries facing slowing economies and rising fiscal strain are also widely expected to face difficulties to maintain their foreign aid commitments. A very preliminary analysis of Nordic countries' net ODA by analysts at the Center for Global Development suggests that donor countries facing financial crisis are likely to see their aid decline, recovering only when the economy has also picked up.¹³ It is not yet clear to what extent the crisis will affect total net ODA, since historical data from some donors suggest that aid need not decline (nor does it decline by a large amount) at least for some types of economic and financial crisis episodes which clearly differ in their severity. For instance, there is some cursory evidence to suggest that in the last systemic banking crisis in the US in 1987, it may have resulted in a decline in net ODA (expressed in 2006 US dollars). However, there is less evidence of a negative relationship if one considers US net ODA during the period of stagflation in the 1970s and the "dot com" bubble bursting in the early 2000s (see figure 8).¹⁴ Finally, given that total ODA expressed as a share of GDP is small in most donor countries, it might also be possible to try and maintain this even during an economic downturn.

Figure 8. US Net ODA
(In millions of 2006 US dollars)



Source: OECD-DAC Aid Statistics [<http://www.oecd.org/dataoecd/50/17/5037721.htm>].

¹³ Various guesstimates also place the possible aid slowdown anywhere from 40 percent to 62 percent. See <http://www.irinnews.org/report.aspx?ReportId=81319>.

¹⁴ Empirical analysis of US ODA by Mendoza, Jones and Vergara (2009) also suggests that, historically, US aid is at risk of declining under more adverse economic and financial conditions. However, these authors also find that the potential decline is not as large as the forecasted 40 to 60 percent shrinkage predicted by others. Instead, the decline in aid could be in the 10-30 percent range.

Depending on the financial and economic conditions of the developing country, as well as the capacity of the government to implement countercyclical policy, any shock to trade revenues, remittances, private and official flows among other forms of financing could in turn adversely affect the domestic economy, and eventually (in the case of remittances perhaps more directly) household budgets. The public sector, through the slowing effects on the domestic economy, will face diminished tax revenues, fees, and more constricted ability to mobilize resources (including by borrowing both domestically and internationally). Increased risk aversion is likely to make debt much more expensive, internationally. If raised domestically, then this could crowd out private investments and exacerbate the slow down. And, as noted earlier, this all comes at a time when fiscal space is likely to have already been dramatically diminished from having to respond to the earlier food and fuel price shocks.

Under conditions of tighter liquidity, slower growth or outright economic contraction, social budgeting and social spending could face pressure, as it has in past episodes of financial and economic crises (e.g. Lustig, 2000), periods of economic and structural adjustment (e.g. Andersen, Jaramillo and Stewart, 1987; Cornia and Stewart, 1987) and experience with transition from planned to market economies (e.g. UNICEF 1994;1995).¹⁵ For instance, during the Asian financial crisis, the 1998 public health and education budgets in Thailand declined by 9 percent and 6 percent respectively compared to the previous year (Knowles, Pernia and Racelis, 1999:23-28). The Indonesian government had to raise \$72 billion in debt to recapitalize its ailing banking system, which was reported to have raised its debt servicing costs by about one-third of its total public expenditures. Consequently, total public health expenditures in Indonesia fell by 7 percent during the first year of the Asian financial crisis, and another 12 percent the year after (Stalker, 2000:11).

During Mexico's *Tequila crisis* in the mid-1990s, Cutler and others (2002:280) noted a key policy paradox: "Countries experiencing economic crises have found that they reduce the ability to provide social services to the poor, just as the needs of the poor increase." Per capita public health expenditures in Mexico fell by about 15 percent during the period 1994-1996. Similarly, the economic downturn affected household budgets: out-of-pocket expenditures on health fell from 3.9 percent of GDP to 3.1 percent of GDP from 1994-1995.

2. Micro Transmission Channels

Rising food prices has a direct impact on poor households, since food constitutes a relatively large share of their consumption basket. Nevertheless, fuel price shocks could have important indirect effects, including on food prices (through transport and production input costs) as well

¹⁵ More broadly, macroeconomic policies could impact on the poor through a variety of direct and indirect channels. Direct channels include public sector layoffs and freezes on the wage bill, cuts in government expenditures on transfers and subsidies, and public sector price hikes. Indirect channels include changes in aggregate demand and output and thus private sector employment, changes in inflation and the price deflator used for the poor, changes in the real exchange rate, macroeconomic volatility and distributional effects. Many of these channels are relevant for the analysis of the effects of aggregate shocks, since the latter often necessitate macroeconomic adjustments. For a review of these transmission channels, see Agénor and Montiel (1999).

as on economic activity more broadly, relating ultimately to jobs, livelihoods, and then to household income.

The financial crisis and the global economic slowdown it has precipitated will also affect household income as well as public spending—slower economic activity means less job creation, more unemployment, diminished public revenues, and at the same time increased need for public spending and interventions. As the effects of these aggregate shocks percolate through the domestic economy, it is possible to focus the analysis on three main areas through which these shocks could ultimately affect poor households and children, by: a) diminishing income and increasing poverty; b) triggering household coping strategies some of which may be detrimental to children; and c) causing long-lived and possibly intergenerational consequences. All three are clearly inter-related, and could be viewed as a sequential consequence of the broader aggregate shock.

2.1. Poverty

The impact of rising international food prices on the poor and the near-poor depend on various factors, including the extent to which they are net food consumers or producers, the food items in their consumption basket (i.e. whether these are internationally traded or not), their ability to adjust by switching to other foodstuff and the effectiveness of government interventions if any.¹⁶ For those who are net food consumers, higher prices diminish their purchasing power—and this could push people below the level of subsistence and into poverty.

To get at a much finer analysis of the impact among potentially vulnerable groups in a country it is necessary to use a more detailed disaggregation of the poor. Table 1 presents data that first shows the share of the food basket of the poor that is internationally traded (thus establishing the transmission mechanism from international to domestic food markets); and then it disaggregates the poor according to different categories, spanning urban (i.e. food buyers), rural landless (i.e. food buyers) and rural smallholder farmers who are either net buyers of food, self-sufficient, or net sellers of food. Based on this small, but illustrative sample of countries, it is clear once again that the distributional impact even among the poor will not be homogeneous.

For instance, in some countries like Cambodia and Vietnam, a large number of net sellers of food among the rural poor (at over 30 percent of the entire poor population) could benefit from higher prices. However, for other countries, net sellers of food comprise a much smaller fraction of the total poor. In Bolivia, for example, only 7 percent of the poor are food self-sufficient and only 5.6 percent are net sellers, so that a majority of the poor (and indeed a majority of the entire population) could be adversely affected by food price increases.

¹⁶ Indeed, preliminary evidence on the impact of the recent food price spikes in Hunan and Gansu provinces in China suggest that the adverse impact on nutrition was blunted by a combination of households' ability to switch to cheaper but still nutritious food, and the government's intervention in the food market (Jensen and Miller, 2008).

Table 1. In Some Countries Most of the Poor are Net Consumers of Tradable Food Staples

	Bolivia	Ethiopia	Bangladesh	Zambia	Cambodia	Madagascar	Vietnam
	(2002)	(2000)	(2001)	(1998)	(1999)	(2001)	(1998)
Internationally traded staples (In percent share of the poor's food consumption)	25.5	24.1	41.2	40.4	56.3	62.7	64.4
Distribution of poor (In percent)							
• Urban (buyers)	50.9	22.3	14.9	30	8.4	17.9	6.1
• Rural landless (buyers)	7.2	n.a.	53.3	7.4	11.5	14.8	5.8
• Smallholders net buyers	29.1	30.1	18.8	28.8	25.8	18.9	35.1
• Smallholders self-sufficient	7.1	39.5	4.6	20.8	18	27.3	19.4
• Smallholders net sellers	5.6	8	8.4	13	36.3	21.1	33.6
Total	100	100	100	100	100	100	100

Source: World Bank (2008b:109).

Note: Data refer to people below the national poverty lines. Rice, wheat, maize, and beans comprise tradable staples, while cassava, potatoes, plantains, sorghum, and teff are excluded. Numbers in parentheses refer to the survey year.

In addition, the number of poor people typically increases with the onset of an aggregate shock, reflecting that many near-poor people are vulnerable and often lack the means to prevent their slide into poverty as a result of the shock. This suggests that a focus on poor people alone may be insufficient, so that both structural and shock-related poverty components need to be addressed by policy. For instance, using household data for a sample of 9 developing countries, Ivanic and Martin (2008) undertake preliminary simulations of the possible direct impacts of changes in the prices of staple foods on households' expenditures, as well as the impacts on poor households through changes in the wage rate for their net sales of unskilled labor. Their estimates, based on different assumptions on the over-all food price increase (including the actual price increases in 2005 and 2007), reveal initial evidence that poverty measured as people living on less than \$1 a day in most of the countries they study would increase. Peru and Vietnam are potential

exceptions, however, given that the decrease in rural poverty could potentially make-up for the increase in poverty among net food buyers.¹⁷ Extrapolating their findings to cover all low income countries, they conclude that as much as 105 million more people will be poor as a result of a 10 percent food price increase—a potential reversal of about 7 years worth of poverty reduction (ibid:20).

Other studies also provide further evidence that the recent food price shocks will result in higher poverty levels. Wodon and Zaman (2008:11), for example, find that a 50 percent increase in food prices will lead to an average increase in headcount poverty of about 4.4 percent in sub-Saharan African countries.¹⁸ In addition, based on a simulation analysis, the ADB (2008b:15) found that a 20 percent increase in food prices would lead to an increase of poor people by about 5.65 million in the Philippines and 14.67 million in Pakistan. A price increase of 30 percent results in higher increases in poverty: 8.85 million for the Philippines and 21.96 million for Pakistan. Finally, based on different price increase scenarios, the IDB (2008) and CEPAL (2008) estimate a possible increase in poverty of anywhere from 21 to 199.6 million more poor people in the Latin American region.

All this might help to explain why many countries have taken immediate steps to try and temper the effects of food price inflation, even as they might also have some segments of the population possibly benefiting from higher prices on the supply side. As for the future, a recent study of rural and urban poverty over the period 1993-2002 provides evidence that, globally, the poor are urbanizing faster than the population as a whole (Ravallion, Shen and Sangaraula, 2007). This in turn suggests that more and more poor people will be concentrated in urban centers, and they will constitute a growing population segment that are net buyers of food and thus potentially vulnerable to food price shocks.

As for the possible impact of the financial crisis and the impending economic slowdown, past episodes of financial and economic turmoil have shown that these events could also push more people into poverty. Table 2 summarizes the poverty rates for selected countries before and during selected crisis episodes. Depending of course on the severity of the crisis, among other factors, poverty rates have been shown to increase anywhere from 2 to 12 percentage points.¹⁹

¹⁷ Countries in the study by Ivanic and Martin (2008) include Bolivia, Cambodia, Madagascar, Malawi, Nicaragua, Pakistan, Peru, Vietnam and Zambia. To assess the impact of changes in commodity prices, they turn to a partial equilibrium analysis of the welfare impact of small price changes based on an expenditure function characterizing household consumption and factor supply behavior, and a profit function representing household production activities.

¹⁸ This considers only the impact on consumers. If the positive impact on producers is also considered, then the poverty impact falls to 2.5 percent (Wodon and Zaman, 2008:11).

¹⁹ Clearly, another factor would be the way that poverty is measured. For instance, Skoufias and others (2000) noted that, as a result of the Asian financial crisis, Indonesia's poverty doubled from 12.4 percent to 24.5 percent between 1997 and 1998.

Table 2. Economic Crises and Poverty in Selected Developing Countries

Country	Before Crisis	Year of Crisis	Change in Percentage Points
Argentina	25.2 (1987)	34.6 (1989)	+9.4
	16.8 (1993)	24.8 (1995)	+8.0
Brazil	27.9 (1989)	28.9 (1990)	+1.0
Costa Rica	29.6 (1981)	32.3 (1982)	+2.7
Indonesia	11.3 (1996)	18.9 (1998)	+7.6
Republic of Korea	2.6 (1997)	7.3 (1998)	+4.7
Malaysia	8.2 (1997)	10.4 (1998)	+2.2
Mexico	36.0 (1994)	43.0 ^a (1996)	+7.0
Thailand	9.8 (1997)	12.9 (1998)	+3.1
Venezuela	25.7 (1982)	32.7 (1983)	+7.0
	40.0 (1988)	44.4 (1989)	+4.4
	41.4 (1993)	53.6 (1994)	+12.2

Source: Skoufias (2003:1088) and Lustig (2000:19).

Note: Years in parentheses. Poverty figures refer to poverty headcount ratio.

^a 1 year after crisis.

Hence, aggregate shocks could cause severe harm to children and other vulnerable groups, through at least two channels: first through lower household incomes (i.e. resulting from loss of jobs, asset depletion, tighter credit conditions, etc.) and thus also lower spending and investments benefiting children; and second, through more limited access to public services due to tightening government budgets and social spending (discussed in the previous section). Infant mortality and child malnutrition typically increase as a result:²⁰

- The infant mortality rate increased by 2.5 percentage points during the economic crisis in Peru in the late 1980s—translating to 17,000 more infant deaths.²¹
- At the height of the Asian financial crisis in 1998, the infant mortality rate increased by at least 1.4 percentage points in Indonesia.²²

²⁰ For a broader review of the literature, see Dulloo and Trang (2008), Ferreira and Schady (2008) and World Bank (2008c).

²¹ Paxson and Schady (2005:220).

²² Rukumnuaykit (2003).

- In rural Central Java, Indonesia, the incidence of child anemia increased from a baseline of nearly 50 percent to over 70 percent during the peak of the crisis.²³
- As a result of Mexico's *Tequila financial crisis* in 1995-1996, child and elderly mortality increased. For children aged 0 to 4, mortality rates were approximately 7 percent above expected levels—translating to about 7000 additional deaths among children. The crisis also resulted in 20,000 additional deaths among the elderly.²⁴
- An empirical analysis of 123 Demographic and Health Surveys (DHS) covering 59 developing countries conducted over the period 1986-2004 has revealed evidence that a one unit decrease in log GDP per capita is associated with an increase in infant mortality of between 17.22 and 44.61 (per 1000 children born).²⁵

Finally, forecasts by the International Food Policy Research Institute (IFPRI) suggest that the combined effects of the food price volatility and financial crisis have dampened growth which in turn could begin to create negative second-round effects for investment and productivity. A decline in economic growth of between 2 to 3 percent with a concurrent decline in agricultural investments and productivity could result in much higher prices in the longer-term (i.e. 27, 15 and 13 percent increases in prices of maize, wheat and rice by 2020) and an increase in the number of malnourished children in the world by about 16 million by 2020. In addition, the share of Sub-Saharan Africa in the total number of malnourished children in the world could increase from one fifth in 2005 to one fourth by 2020 (Von Braun, 2008:7).

2.2. Household Coping Strategies

For a variety of reasons, the poor are often the least equipped to weather the impact of aggregate shocks on their income—they have few assets which they could sell or use as a buffer, limited or no access to formal credit and insurance markets to help smooth income shocks over time, and often lack the education and marketable skills which are necessary for successful migration to other areas with economic opportunities (Agénor, 2004).²⁶ Where the consumption of the good or service is necessary—such as healthcare—households may be faced with catastrophic spending burdens that drive them deep into debt and destitution.²⁷

Furthermore, many of their coping strategies are either ineffective, or create harmful consequences, especially for children.²⁸ Most of the informal risk-coping arrangements and strategies of the poor might work well on idiosyncratic risks (e.g. self-insurance or informal

²³ Block and others (2004).

²⁴ Cutler and others (2002: 280-281).

²⁵ Baird, Friedman and Schady (2008:12).

²⁶ In addition, and as will be discussed in the next section, social protection also often does not cover all of the poor, or only provides limited benefits relative to the scale of the challenge.

²⁷ The poor often face a “poverty penalty” since they have to pay more, or shoulder a disproportionately higher spending burden, compared to rich households for purchasing essential goods and services. For a discussion of the poverty penalty concept, see Mendoza (Forthcoming).

²⁸ Ideally, governments should step in to provide social protection and inject social spending at the time when poor households are most vulnerable. In certain cases, non-market institutions could arise, such as when family, friends and neighbors help in times of need and in the absence of insurance markets.

community risk-sharing) but are limited in their effectiveness against covariate risks that create contemporaneous community-wide losses. For instance, the buying and selling of livestock is typically used as a strategy in many parts of the developing world in order to manage household assets and smooth consumption. However, common negative shocks usually result in lower incomes, and at the same time, depress returns to assets—a drought, for example, lowers both household income as well as the fertility of livestock, and in some cases, droughts also cause considerable livestock losses. Furthermore, when poor households also unload their livestock in the markets at the same time—which could occur if they are all hit by the same type of shock—then the terms of trade could also work against them as asset prices could collapse.²⁹

Empirical evidence also highlights the harmful intra-household consequences of some of the informal strategies of the poor to manage and cope with risk. Examining data on adult nutrition in Ethiopia, for example, Dercon and Krishnan (2000) find evidence that poor households are often unable to accomplish complete risk sharing, and women in the household bear the brunt of adverse shocks, as reflected by their poorer nutrition. There is an extensive literature that shows how women and girls are particularly vulnerable to household income shocks and during crisis periods. When households adjust to these events, women and girls often shoulder a heavier load in the adjustment and face more of the negative consequences (see also box 1).

Risk sharing strategies also hit their natural limits when certain shocks—like financial crises and other economic shocks—affect everyone in the risk pool. Carter and Maluccio (2003), for example, examine South African household panel data and find that households face limits in their ability to insure against risks related to economic shocks, notably when others in their community simultaneously suffer large losses. Furthermore, McKenzie (2003) examines the effects of the Mexican peso crisis in 1995 and finds that many of the typical mechanisms households use to adapt to idiosyncratic shocks are largely ineffective against aggregate shocks like financial crises. For instance, increasing labor supply (more household members working) and labor hours (for household members who already have work) was not widely used because the shock itself reduced the growth in labor force participation.³⁰ Thus, a common finding in the literature is that the poor often find no recourse but to engage in low-return low-risk activities because of their limited risk management strategies and entry constraints on other more diversified income opportunities (Dercon, 2005).

Not only do poor households' coping strategies tend to be ineffective, some of these could also be harmful, especially to children.³¹ A key example is for children to drop out of school (thus saving on household expenditures) and go to work (thus augmenting household income). For instance, using data on over 100,000 children aged 10–16 in Brazil, Duryea, Lam and Levinson (2007) examine the impact of household economic shocks on the schooling and employment

²⁹ Rosenzweig and Wolpin (1993), for example, find evidence in rural India that bullock sales increase where weather outcomes are poor (and thus farmers' incomes lower); and bullock purchases tend to be higher where rainfall is adequate and farmers' incomes above average. Furthermore, a study of household coping among Rwandan households during the civil war and genocide found that over half of the cattle sales were motivated by the need to buy food. At precisely that time, half of the cattle had been lost to war, and cattle prices had dropped to less than half of their pre-war value, thus underscoring the limits of using cattle as a buffer during that time (Verpooten, 2009:82).

³⁰ For a review of the theoretical and empirical studies linking risk, insurance and poverty, see Dercon (2005) and Townsend (1994).

³¹ For a review of these different coping strategies as a result of macro shocks, see Skoufias (2000).

transitions of young people. They find evidence that an unemployment shock (to the parents) significantly increases the probability that a child enters the labor force, drops out of school, and fails to advance in school. Studies in other countries such as in Tanzania (Beegle and others, 2006) and in Guatemala (Rosati and others, 2003) reflect many of the same findings.

Box 1. Women's Role in Responding to Aggregate Shocks and Securing Investments in Children

Crises often adversely affect women more than men for various reasons in different contexts. These reasons could include women's lower control over household resources, their already heavy time-use burdens, risks of violence against them, and their limited legal benefits and protections. Women often act as "shock absorbers" of household food security by reducing their own consumption to leave more food for other household members, notably children (Quisumbing, Meinzen-Dick and Bassett, 2008). In many parts of the world, women and young girls also bear the brunt of the "time costs" of poverty. They have less (or not enough) time for rest and leisure, hence higher "time poverty"—and this can only be expected to increase under crisis situations when the household faces even lower income and other types of distress (e.g. possibly lower public services if these are cut as a result of the crisis).

Studies have found that women are more "time poor" than men, because women must add up domestic and care-related duties (e.g. taking care of the sick, children and the elderly) to their market and non-market productive work (e.g. gathering firewood, collecting water, etc.). Malberg Calvo (1994), for example, finds evidence that in countries like Ghana, Tanzania and Zambia, women assisted by their daughters are primarily responsible for water and firewood collection and for travel to the grinding mill. Bardasi and Wodon (2006) also find evidence that women in Guinea are 3 percentage points more likely to be time poor than men, and that for women in rural areas of the country, the probability of being time poor increases by an additional 10 percentage points compared to their urban counterparts (ibid:90). HIV-Aids and other forms of health pandemics aggravate the time poverty of women. For instance, Bollinger, Stover and Seyoum (1999:5) find that women in non-Aids affected households in Ethiopia spend about 26 hours per week caring for children, while women in Aids affected households spend only 2 to 13 hours per week on childcare. All this evidence suggests that during crisis periods, women and girls face an even heavier burden and potentially greater time poverty. For example, by working longer hours or switching from more expensive energy sources like kerosene bought at the local store to fuelwood collected over long distances.

Nevertheless, growing evidence also point to the role of women in achieving more effective policy interventions. Studies have shown in many parts of the world that when women are in control of resources, there is higher household spending on children and necessities (e.g. Alderman, Haddad and Hoddinott, 1997; Duflo, 2003; Lundberg and others, 1996; Thomas, 1990,1993). Because more investment in education fosters growth and spending on necessities is more stable than spending on luxuries, it is possible that strengthening the influence of women within the household could contribute to poverty reduction, as well as long-term economic growth and stability. Social protection programs in a growing number of countries have since incorporated elements that provide resource transfers specifically targeted at women, and conditional on their children's school enrollment, and their participation in healthcare monitoring and food supplementation programs (Bassett, 2008). It is beyond the scope of this paper to cover the growing literature in this area, but the interested reader may wish to refer to Alderman, Haddad and Hoddinott (1997), Bassett (2008) and Stotsky (2007) for a discussion of the key issues and the broader evidence base.

In addition, during the economic crisis in Indonesia in 1997-1998, real household resources per capita declined by an average of about 15 percent throughout the entire income distribution (Thomas and others 2004:82). While wealthier households had resources to try and smooth their consumption, poorer households had less leeway to do this. As a result, spending on schooling and thus also school enrollment dropped most dramatically among the poorest households. There was also evidence that poor households protected their investments in the schooling of older children by deferring or disrupting the schooling of their younger siblings. Hence, the younger school-age children belonging to the poorest households were most adversely affected.

The effect of aggregate shocks on schooling depends on whether the substitution or income effect dominates. Ferreira and Schady (2008:2) note that: “declines in average wages tend to lower the child wage rate and thus the opportunity cost of schooling (leading to a ‘pro-schooling’ substitution effect), while declines in overall income levels raise the marginal utility of whatever the child can contribute to the family’s budget today (an ‘antischooling’ income effect).” Based on these authors’ review of selected empirical studies in this area, they find that adverse education and health outcomes tend to be more procyclical in poorer countries: aggregate shocks are followed by increases in infant mortality, and declines in school enrollment and nutrition. In middle-income countries in Latin America, the results are more nuanced: health outcomes are generally pro-cyclical, and education outcomes counter-cyclical. This is unsurprising because in poorer countries, governments tend to be more cash-strapped, and there are many more households that live closer to subsistence and with less means to cope. Thus in the poorest countries any negative shock on income translates more easily to lower social and household spending and investments, in turn leading to worse child welfare outcomes.

Households facing income shocks could also try to borrow money resulting in severe household debt problems. For example, a study of household debt holding after the 1998 floods in Bangladesh found evidence that more than 60 percent of poor and flood-exposed households borrowed money after the flood. Subsequently, their debt rose by an average of 1.5 months of typical consumption. Furthermore, 15 months after the flood, household debt still averaged 146 percent of one month’s average consumption for two-thirds of flood exposed households in the bottom 40 percent of the expenditure distribution (del Ninno and Dorosh, 2003:1235).

Coping through the sale of assets could also deplete the households’ already scant resources and further reduce their income-earning capacity and productivity (e.g. the sale of a farm animal used in agricultural production). This is particularly true if shocks are recurrent and characterized by protracted duration, providing little opportunity to re-build asset levels. Moreover, rationing food and eating less by household members—notably women and young children—could have serious consequences on their health and nutrition, with potentially long-lived effects. Evidence from a study of household expenditure responses to wage shocks in Mexico during the 1990s suggest that households tend to react to temporary wage shocks by diminishing spending on items that contribute to human capital investment (e.g. education and health) thus contributing to their vulnerability in the future (Attanasio and Szekely, 2004). Many of these coping strategies ultimately result in adverse long-term consequences, notably for children, as the next section elaborates further.

2.3. Long-lived and Intergenerational Impact

Breaking the intergenerational cycle of poverty is a critical aspect of poverty reduction strategies. As elaborated earlier, shocks complicate this process by pushing people back into (for the near poor) or deeper (for the already poor) into poverty. Poverty, in turn, triggers a variety of behavioral changes to cope and survive under extremely low income levels.³² As noted in the previous section, in order to guarantee a minimal subsistence level, poor families often consume less (or cheaper and less nutritious food), borrow or sell assets. Households might substitute away from relatively expensive goods in order to shore up the household budget. For example, they might switch from more expensive to cheaper energy sources though the latter may have adverse health and time-use consequences, particularly for women and girls who shoulder the burden of this household adjustment.³³ Alternatively, children may also see it in their self-interest to try to work in order to help their families and themselves achieve a subsistence level of income and consumption.

When children grow up lacking education and suffering from the effects of poor nutrition, there are adverse physical, cognitive and psychosocial consequences on their development. This is how poverty in one generation is transmitted to the next. Underinvestment in children today lead ultimately to a reduction in their capabilities in the future—their capacity to generate income for their own (and for their eventual families and children) will be curtailed (see also box 2).

For a variety of reasons, children (especially younger children) are vulnerable to a high degree of harm from the effects of aggregate shocks, notably in terms of health and nutrition. Malnourished children score poorly in tests of cognitive function, and acquire skills at a much slower pace. Undernutrition—notably foetal and infant undernutrition—also contribute to permanent changes in body structure and metabolism, in turn leading to increased risk of chronic infections and diseases later in life. Studies of early childhood development have shown that the period wherein adequate nutrition is critically important spans the moment of conception until 2-3 years of life (Behrman, Alderman and Hoddinott, 2006), while broader investments to ensure the proper cognitive, motor and social-emotional development of children at least until the age of 5 need to be ensured (Grantham-McGregor and others, 2008).

³² Other channels for a long-lived shock impact are possible. A study of the impact of hurricane Mitch which hit Honduras in 1998, for example, revealed that poorer households in that country lost a greater percentage of their productive assets. Each 10 percent asset loss, in turn, translated into a roughly 20 percent decline in long-term income growth. There was also evidence that after the hurricane the poorest households' incomes recovered but settled on a lower equilibrium compared to the pre-shock level. This evidence of a poverty trap was also reflected in the case of the 1998-2000 drought in Ethiopia (Carter, Little and Mogue, 2007:843).

³³ Nevertheless, it should be noted that in some cases, the switch to less expensive food may not necessarily result in poorer nutrition. A study of the nutritional consequences of the 1998-1999 Russian debt crisis showed that energy intake, adult weight and child stature changed very little even as the expenditures on food deviated dramatically from its long-run average (Stillman and Thomas, 2008).

Box 2. Long Term Impact of Underinvestment in Children

Children in poverty are at high risk of receiving inadequate investments in their human development, including in their health, nutrition and education. Long term studies tracking children over time show that children living in poverty and are stunted tend to face more learning difficulties. For instance, the Young Lives Project at Oxford University has tracked a cohort of children in Ethiopia, India, Peru and Vietnam during their development from age 7 to age 12; and the data shows that poorer and stunted children demonstrate relatively lower grade achievement, and poorer writing and reading skills (see tables 3a and 3b). Poor and stunted children also face more psychosocial challenges such as weaker self-esteem, higher sense of shame, and poorer sense of inclusion and respect, according to a variety of indicators (Trzesniewski and others, 2003).

Table 3a. Educational and Psychosocial Indicators, Comparing Average Children from the Poorest and Richest Quartiles

	Ethiopia	India	Peru	Vietnam
Grade deficit (in years), between poorest and richest quartile (deficit in grade level)	-0.8	-0.3	-0.9	-0.6
Writing skills: % of children that write without difficulty (deficit in percentage points)	-10.7	-24.7	-14.2	-14.3
Reading skills: % of children that can read without difficulty (deficit in percentage points)	-10.8	-11.2	-7.1	-9.3

Source: Dercon (2008:3)

Table 3b. Educational and Psychosocial Indicators, Comparing Average Stunted and Non-Stunted Children

	Ethiopia	India	Peru	Vietnam
Grade deficit (in years), between stunted and non-stunted children	-0.9	-0.3	-0.5	-0.4
Writing skills: % of children that write without difficulty (deficit in percentage points)	-18.1	-7.0	-13.4	-6.8
Reading skills: % of children that read sentences without difficulty (deficit in percentage points)	-15.6	-2.5	-2.3	-5.4

Source: Dercon (2008:3)

Empirical studies also show that the correlation between height in childhood and adulthood is high. Evidence of a height premium in earnings has been found in both industrial and developing countries. For example, one study has shown that every 1 centimeter increase in height of men and women in Ghana and Brazil is associated with an 8-10 percent increase in their wages (Schultz, 2002:352). While there is no consensus on the exact channel through which height translates to higher wages, some have argued that there is a positive link between height and cognitive ability. The latter, in turn, could help explain the wage premium. For a discussion of the emerging literature in this area, see Case and Paxson (2008) and Steckel (2008).

Empirical studies tracking children over time also provide evidence of how short-term shocks could create long-term harm by permanently weakening human capabilities, eventually planting the seeds for the poverty cycle of the next generation:

- Based on a study tracking a cohort of Zimbabwean children over two decades, Alderman, Hoddinott and Kinsey (2006:466) examined the effects of pre-school malnutrition on subsequent human capital formation. They find evidence that shocks like civil war and drought tend to have long term impacts—the loss of schooling and the delay in starting due to these shocks translates into a 14 percent reduction in the average child’s expected lifetime earnings.
- Using longitudinal data on children in Tanzania during a 13 year period, Beagle and others (2008:21-2) examine the effects of child labor on education, employment and marital status. They find that, on average for boys in the sample, an increase in child labor of about 6 hours is associated ten years later with a loss of about 1 year of schooling, and an increase in the probability of going into farming and marrying at a young age.
- Examining the intergenerational effects of the 1959-1961 famine hitting various regions in China, Fung and Ha (2008) find evidence that individuals born during the famine have stunted growth, lower body mass, fewer years of schooling and are less likely to complete primary school. In addition, even as they themselves did not experience the famine, the children of famine survivors have lower height and weight for their age, and fewer years of schooling when compared to the children born to parents that did not experience the famine.
- Ramakrishnan and others (1999) review the literature on the possible role of intergenerational effects on child growth. In studies based in industrial countries, every 100 gram increase in maternal birth weight is linked to an increase in the child’s birth weight by 10–20 grams (ibid: 547s). In addition, evidence in rural Guatemala suggests that that for every 100 gram increase in maternal birth weight, her infant’s birth weight increased by 29 grams after adjusting for the effects of maternal age, gestational age and sex of the infant. In addition, the child’s birth length increased by 0.2 cm for every 1 cm increase in maternal birth length (ibid: 548s).

In addition to the adverse impact on children’s rights, there is also a high economic opportunity cost from not adequately investing in children and protecting them from the adverse consequences of aggregate shocks. It is also possible to view policy interventions in this area as investments promising high individual and societal returns. Focusing just on the gains from preventing low birth weights, table 4 reports the calculations by Behrman, Alderman and Hoddinott (2004:406-7) of the present discounted value (PDV) of the gains due to reduced infant mortality, reduced neonatal care, reduced costs of infant illness, the productivity gains from reduced stunting and increased ability, the reduction in costs of chronic diseases and intergenerational benefits.³⁴ Based on a 5 percent discount rate, shifting one low birth weight

³⁴ These authors made a number of assumptions on the possible cost savings or gains from interventions to reduce low birth weights (LBW) for children in low income countries. For example, they valued each life saved from

infant to non-low birth weight status results in a gain of about \$580—with over half of the gains from the increase in productivity alone. While the estimates of the costs of intervention are somewhat crude, assuming costs of about \$14 to \$46 suggests benefit to cost ratios ranging from 1.26 to 20.71 (ibid: 29).³⁵

The World Bank (2006:2) also reports that interventions to improve child nutrition outcomes could result in productivity gains reaching up to 10 percent of lifetime earnings re-gained for the individual, and for some countries, up to 2-3 percent of long-run GDP growth re-claimed. In addition, and focusing now on investments in education, a broad review of the empirical evidence by Psacharopoulos and Patrinos (2004:115) suggests that the estimated rate of return to one additional year of schooling is about 10 per cent on average—and this figure increases when one focuses on poorer countries such as those in Africa. This considers earnings which accrue to the individual, and does not yet consider the social benefits of a better educated population.

Table 4. Present Discounted Value of Seven Main Benefits of Shifting One Infant from Low Birth Weight to Non-LBW Status

	PDV (\$)	% of Total
1. Reduced infant mortality	92.86	16.0
2. Reduced neonatal care	41.80	7.0
3. Reduced costs of infant/child illness	38.10	7.0
4. Productivity gain from reduced stunting	99.34	17.0
5. Productivity gain from increased ability	239.31	41.0
6. Reduction in costs of chronic diseases	23.29	4.0
7. Intergenerational benefits	45.12	8.0
	579.82	100.0

Source: Behrman, Alderman and Hoddinott (2004:375).

The rationale for protecting children and young people and ensuring continued investments in their human capital during volatile periods could be more fully appreciated by viewing the demographic trends of some regions (see annex 2). In regions like Sub-Saharan Africa and Latin America, and in countries like India, for example, children and young people will constitute a large section of the population for some time to come. The future of these regions and countries depends critically on whether and to what extent the young population are protected from adverse shocks and human capital is strengthened. Since in the coming decades the majority of young people in the world will be in developing countries, future global economic growth is also

reducing infant mortality associated with LBW by drawing on World Bank estimates of the resource costs of alternative means of saving a life. They also drew on various available cost figures in different developing countries in order to estimate the savings from reducing neonatal care and costs of infant/child illness. See Behrman, Alderman and Hoddinott (2004:375-80) for a full elaboration of each of the underpinning assumptions for the figures in table 4.

³⁵ Alternative analysis by the World Bank (2006:2) suggests that benefits from interventions to improve child nutrition outcomes could range from 5 to 200 times the costs.

likely to be at stake. The twin challenges are to invest in children and young people, as well as continue and strengthen these investments during periods of economic volatility and crises.

3. Synthesis and Policy Implications

The preceding discussion helps emphasize several important policy implications. First, aggregate shocks introduce an additional challenge on top of the structural features of poverty—shocks could deepen or push people into the poverty trap. Furthermore, a world characterized by frequent shocks underscores the importance of policies to preserve or even increase social budgets as well as protect the most vulnerable during periods of volatility. In this regard, social budgeting and social protection are two key policy areas that could be strengthened and adapted under this environment. Prompt action in these areas is motivated by at least two main arguments: a strong moral imperative to protect poor households and advance the rights of vulnerable children; and an economic rationale that countries' future economic growth and human development prospects can and should be safeguarded during crises.

3.1. Understanding Shock Transmission and Impact

To help arrive at a synthesis, figure 9 provides a simplified schematic of how the financial crisis and the food and fuel price shocks are transmitted to a developing country and ultimately its poorest households. Each country's transmission dynamics will be different; and it is certainly possible that different shocks could interact, with amplified adverse consequences. Furthermore, while the fuel price shock and financial crisis are expected to first affect the macroeconomy, the food price shock is expected to hit both the macro- and micro-levels given the direct importance of food in poor households' consumption basket.³⁶

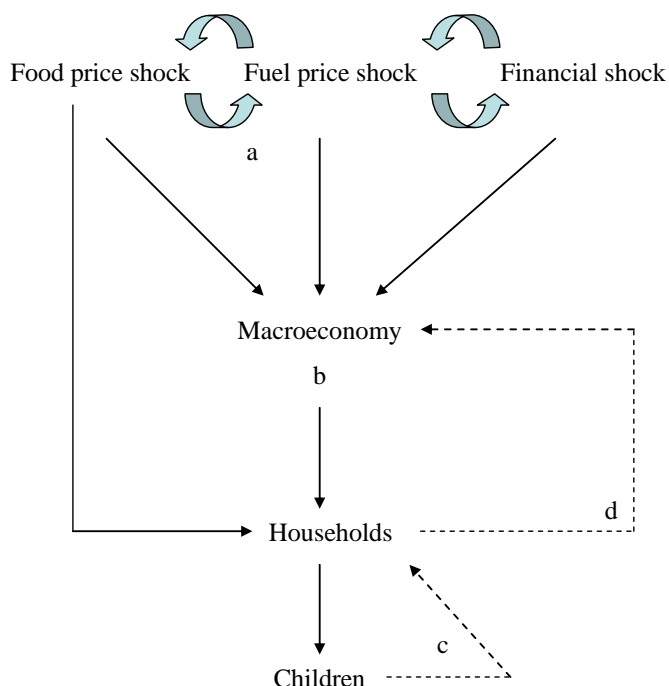
A key aspect illustrated in the figure is that shocks can generate a possible feedback loop which increases the likelihood of persistent vulnerability and poverty at both the macro- and micro-levels. Simply, the micro- feedback loop occurs when households' long-run vulnerability is amplified due to the loss of assets or diminished investments in human capital, both of which have long-lived adverse consequences on the income-earning capacity of the household and on the welfare of its children. As poor households become more susceptible to the worst impacts of different types of shocks, they could become locked into a low asset and low human capital situation, becoming mired in a poverty trap.

As for the macro- feedback loop, if a country has a large population suffering from these setbacks, then the entire country could similarly be locked into a situation of low productivity and low human capital accumulation. Less public and private resources also suggests that the country is much more vulnerable to aggregate shocks; and it is less likely to be able to

³⁶ It should be noted, however, that the indirect effects of oil price shocks on the poor (e.g. through its impact on the prices of other consumer goods) could also be large. The total impact (considering both direct and indirect effects) on the poor could also be regressive. See the analysis on this topic by Coady and others (2006).

implement the full array of policies and private responses³⁷ that could help mitigate the adverse impact of these shocks. This is anathema to successful economic development.

Figure 9. Mapping the Impact of Aggregate Shocks on a Developing Country, Its Poor Households and Children



Notes:

- a. The financial crisis and the food and fuel price shocks (and volatility) are likely to interact with each other (e.g. high fuel prices will have a knock-on effect on food production; a financial crisis and economic slowdown will have a tempering effect on fuel demand and prices).
- b. The financial crisis and the food and fuel price shocks (and volatility) will affect a country's macroeconomy depending on, among other factors, the country's degree of integration into the global economy, its macroeconomic and other fundamentals, and the extent and types of policy responses.
- c. A shock's adverse effects on children could create long-lived effects, including harm to her/his income earning capability, in turn harming the same (or the child's future) household.
- d. A shock's adverse effects on poor households could harm the country's long-run growth and development prospects by retarding its human capital accumulation.

³⁷ One example would be to gain access to insurance products, which may help households and private entities to better manage the risks related to these shocks. Nevertheless, access to financial services, including insurance, is not high in many less developed countries. And for the most part, the most vulnerable segments of the population—the poor—are also the least likely to have access.

Drawing on this brief analysis and the available empirical evidence, there are three key points to consider regarding the presently unfolding financial crisis as well as food and fuel price volatility:

- ***Ripple effects across and within countries.*** The food and fuel price shocks in 2008 have had a differentiated effect across and within countries depending on factors such as their net production or consumption status of these goods, as well as existing macro- and micro-level vulnerabilities, and country responses. Furthermore, while some countries may be able to escape the contagion from the financial crisis, the ripple effects from the global economic slowdown will likely reach across all countries affecting most of the population. The relative emphasis of different channels of shock transmission—ranging from trade, remittances, aid, FDI and others—will vary across countries. Some countries, notably those widely considered as the emerging market economies, could be affected through financial and trade channels because of their greater integration into the global economy, and thus also the mature market economies. On the other hand, even the poorest countries which tend to be relatively less integrated into the global economy could nevertheless be affected through other transmission channels, including a potential decline in foreign aid, or a contraction in remittance flows.
- ***Cumulative impact at both the macro- and micro-levels.*** Even as food and fuel prices have started to go down, they are likely to remain volatile, and they have already had severe repercussions at both the macro- and micro-levels in many countries. Fiscal costs from earlier public interventions have already accumulated. On top of this, added pressure on domestic (i.e. through tax revenues) and international resource mobilization (i.e. through external borrowing) could arise from a global economic slowdown as well as tighter global liquidity. Social spending along with an array of investments could feel the pinch—precisely at the time when these types of spending are needed the most by vulnerable households and children. This basic picture is mirrored at the micro-level: household budgets and resources are likely to be under severe strain, as assets have already been sold or consumption already dramatically reduced due to the food and fuel price spikes earlier in 2008. There is also very little space left for poor households to adjust to potential economic instability.
- ***Risk of poverty traps.*** There is a clear risk of an adverse feedback loop at both the macro- and micro-levels—present and future human development could be trapped at low levels if the adverse effects of the financial crisis and market volatility remain unabated. As noted earlier, intergenerational transmission of poverty could occur when poor children lacking nourishment and education grow up to head their own households and face few opportunities and poverty just as their parents did. For the country as a whole, shocks that distort and undermine human and physical capital accumulation could generate an adverse impact on the country's long run economic growth. Policies and interventions designed to prevent poverty traps from persisting are of critical importance in order to preserve past gains as well as further advance economic and human development.

It is beyond the scope of this paper to outline the full array of responses to the financial crisis and food and fuel price volatility at the global, regional and national levels. Rather the main

emphasis here is on national policies which form the bedrock of the over-all response in the developing world. The following sections focus on two areas which are of critical importance: social budgeting and social protection. Due to the specificities and diversity in country contexts, the goal here is not to outline the specific components of social budgets and the elements of social protection programs which may be most useful for any single country and situation.³⁸ The discussion will instead try to lay out the fundamental rationales for moving forward in these areas in a manner that is more child-focused.

3.2. Social Budgeting as Part of the Countercyclical Response

Social budgeting could be defined as the process by which society's goals and priorities as well as the rights of all of the population are better reflected throughout the budgeting process.³⁹ When countries are hit by different aggregate shocks—including climatic, financial and other types—social budgeting becomes even more relevant for two reasons. First, some types of shocks, such as those resulting in financial crises and severe economic slowdowns, severely diminish the fiscal space of the public sector, which in turn puts pressure to reduce social spending. Reduced social spending, including on education and healthcare, could not only derail countries from achieving the Millennium Development Goals (MDGs), this could also have a large opportunity cost in terms of forgone investments in human capital and possible improvements in countries' growth trajectories.

Baldacci and others (2008), for example, examined the links between social spending, human capital and growth using panel data on 118 developing countries during the period 1971-2000, and found evidence that increased social spending could help achieve the MDGs and at the same time boost countries' long-run growth and reduce poverty. If education spending is increased by 1 percent (as a share of GDP) the country's net enrollment rate could increase from 90 percent to 99 percent, and child mortality rate could diminish from 76 to 65 per thousand from 2000 to 2015. Furthermore, per capita growth could also increase by about 0.5 percentage points per year on average during this period, and the initial poverty headcount could decrease by about 17 percent over the entire 15-year period (ibid:1335).

Furthermore, social budgeting becomes even more relevant as part of the over-all strategy to provide resources to households that are most vulnerable to the adverse effects of the shock. Channeling resources to poor households could change their incentives to undertake some of the harmful coping strategies that were described earlier. A potentially critical policy innovation in this regard is that of preserving—perhaps even increasing—social budgets as part of countries' countercyclical responses to shocks. Darby and Melitz (2008), for example, empirically examine

³⁸ Programs will need to be customized according to factors such as which population groups these are expected to serve, the extent and nature of the shocks affecting the population, the administrative and governance capacities of different levels of government involved in the program, and the socio-cultural context which would influence how such programs would be viewed (and supported). For an elaboration of the specific elements of these programs, as well as a discussion of the pros and cons of different features, see Grosh and others (2008) and in particular chapter 7 of that study. In addition, Bassett (2008) provides a detailed analysis of the issues and evidence in the use of conditional cash transfers for reducing child undernutrition.

³⁹ While the discussion refers to social budgeting more broadly, it must be noted that gender responsive budgeting is also an important aspect here. As noted earlier women and girls often bear the brunt of the adverse impact of shocks. Women are also a critical part of efforts to ensure that resources are used in ways that maximize their positive impact on the household and children.

age- and health- related social expenditures for 21 OECD countries during the period from 1982-2003, finding that these forms of spending react to the business cycle in a stabilizing manner. However, in developing countries, the available evidence suggests that social spending tends to behave in a procyclical manner. For example, in one study of social spending during crises in seven Latin American countries, the results showed that every 1 percent decline in GDP was associated with a decline in spending per poor person by about 2 percent (see De Ferranti and others, 2000; Alderman and Haque, 2006).

In response to the aggregate shocks witnessed in 2008, some policymakers have called for a broader view on macroeconomic policy reforms and strategies, so that these might include efforts to boost “fiscal empowerment” such as by increasing investments in education and health.⁴⁰ Further along these lines, and at the global level, a proposal has also recently been made for industrial countries to devote 0.7 percent of their stimulus packages to a “vulnerability fund” that would support the most needy in developing countries most adversely affected by the unfolding financial crisis and global economic downturn (Zoellick, 2009).

Policy experience from the last several decades has made it abundantly clear that the benefits of economic growth do not automatically “trickle down” to the low income population and the poor. An important message in handling the present crisis and future ones is that stabilization policies will need to be re-thought so that these are also “pro-poor.”

3.3. Enhancing Social Protection Systems

Developing countries—notably the least developed countries—are vulnerable to a variety of aggregate shocks, including domestic shocks resulting from poor macroeconomic policies, political instability or conflict, and exogenous shocks such as those related to financial contagion, terms of trade and natural disasters. Despite progress in many parts of the developing world to improve domestic policies and enhance macroeconomic management, exogenous shocks are still prevalent and in some aspects are increasing in frequency even as they vary in their severity and eventual impact on countries.

For instance, weather-related natural disasters have been increasing their frequency in the past few decades—floods for example have increased in frequency by up to ten-fold between 1950 and 2001 (Mills, 2007:816). While these types of shocks hit rich and poor countries alike, developing countries tend to face a much larger adverse shock to their macroeconomy following a natural disaster as compared to industrial countries facing disasters of similar magnitude. One study has shown that a natural disaster of a standardized magnitude, on average, results in a 9 percent decline in output growth in a developing country and a less than 1 percent decline in output growth in an industrialized country (Noy, 2009:227).⁴¹

⁴⁰ See <http://www.un.org/News/Press/docs//2008/gaef3229.doc.htm>.

⁴¹ Analyzing data covering 109 industrial and developing countries during the period 1970-2003, Noy (2009) also finds evidence that the adverse impact of natural disasters are deeper and more protracted in less developed countries compared to more developed countries. Countries with higher literacy rates, better institutions, higher per capita incomes, larger governments and higher degree of trade openness are better able to mitigate the impact of a natural disaster on the broader macroeconomy.

Furthermore, recent analysis by Aguiar and Gopinath (2007) suggests that emerging market economies are vulnerable to sudden stops in capital inflows, and that these economies are twice as volatile as that of industrial countries. Not surprisingly, if one looks at historical data, the volatility of developing countries' real GDP is at least about thirty percent higher than that of the OECD countries.⁴² This aggregate volatility, in turn, has severe implications at the micro-level, and particularly for the poor who are the least equipped to weather these aggregate shocks and are therefore likely to face the brunt of its harmful impact. A recent empirical study by Calderón and Yeyati (2007:7) suggests that inequality increases with economic volatility—a doubling in aggregate income volatility (measured as the standard deviation of per capita GDP) leads to a 2.7 percent increase in the Gini coefficient, a 2.4 percent reduction in the income share of the poorest quintile, and a 1.1 percent increase in the income share of the richest quintile.

As mentioned in the introduction to this paper, we can expect aggregate shocks to be an increasingly common feature of the global economic landscape. Therefore, a longer-term response to the threat of aggregate shocks would be to undertake improved domestic policies that enhance social and economic stability; as well as pursue policies that help make countries much more resilient, and enhance individual households' capacity to more effectively manage the risks related to exogenous shocks.⁴³

Short-term shocks could generate adverse long-lived and potentially inter-generational effects, pushing the household and the next generation into a path of destitution. Therefore, in addition to the moral imperative and normative rationale, longer-term economic growth and human development arguments could also be used to motivate actions to enhance the design of and strengthen social spending and investments as well as develop social protection policies.

Broadly defined, social protection includes policies and programs that not only offer assistance and support to people who suffer from chronic poverty and incapacities to engage in basic livelihoods, these also offer protection against risk and vulnerability and help to mitigate the adverse effects of different shocks notably to household income. These policies and programs also facilitate asset building and could help prevent both transitory poverty and intergenerational transmission of poverty. Social protection typically revolves around the following elements: a) social insurance (such as health, life, and asset insurance, which may involve contributions from employers and/or beneficiaries); b) social assistance (mainly cash, food, vouchers, or subsidies); and c) social services (such as maternal and child health and nutrition programs).⁴⁴

For children in the poorest households, adequate investments need to be made at the critical stage in their young lives. This is an essential element in any strategy to prevent poverty traps from developing. Indeed, a number of countries have by now accumulated a wealth of policy experience in social protection policies and approaches, with some of this experience developed during crisis periods. Growing empirical evidence also point to the effectiveness of well

⁴² Author's calculations based on data from 1960-2007 from the World Bank's WDI Online.

⁴³ One aspect here has to do with increasing access to financial services such as credit, savings products and microinsurance. Households turn to coping strategies that could be harmful partly because they do not have these alternative mechanisms to turn to.

⁴⁴ See among others Adato and Hoddinott (2008) and Grosh and others (2008).

designed programs in reducing poverty, advancing education and health outcomes, and protecting children from immediate and long-term harm against different shocks and crises.⁴⁵

- As one of its policy responses to the Asian financial crisis, Indonesia implemented the *Jaring Pengamanan Sosial* (Social Safety Net Scholarships) program which provided up to 1.6 million scholarships intended primarily for poorer children during the 1998-1999 school years. While the targeting of the program could have been improved, it nevertheless helped to reduce lower secondary school dropouts in Indonesia by 24 percent (Cameron, 2002:32).
- During the Argentine debt crisis in 2002, the government's *Plan Jefes y Jefas* provided direct income support for families with dependents and whose head had become unemployed as a result of the crisis. This program enabled an additional 2 percent of the population to afford the food component of the country's poverty line, reduced Argentina's unemployment rate by an estimated 2.5 percentage points, and prevented an additional 10 percent of program participants from slipping below the poverty line (Galasso and Ravallion, 2004:396).
- Mexico's *Progresa* (later renamed as *Oportunidades*) program offers cash transfers to poor mothers, conditional on their children using health facilities on a regular basis and attending school. This program has helped negate much of the impact of shocks such as unemployment of the household head or natural disasters in the locality of program recipients. One study focusing on the 1998-2000 period estimates that, had *Progresa* not been in place, a natural disaster would typically reduce school enrollment by 3.2 percentage points whereas an unemployment or illness shock for the household head would reduce the child's probability of enrollment by an average of about 2 percentage points (De Janvry and others, 2006:365-367). Children born to beneficiary families were also 25 percent less likely to be anemic and grew by about 1 centimeter more based on another study (Gertler, 2004:340). *Progresa* therefore helped to mitigate the impact of these shocks on children's education, and thus also helped to preserve their lifetime earnings prospects. One study estimates that through the impact of *Progresa* on education, it helps to raise an individual's annual earnings by roughly 8 percent and narrows the education gap between rich and poor children (Schultz, 2004:222).
- Cash and voucher programs have been used in a variety of humanitarian emergencies, such as in response to the Indian Ocean tsunami in December 2004 (e.g. in Thailand, Indonesia, India and Sri Lanka) and the South Asia earthquake in 2005 (e.g. in Pakistan). Recent evaluations of these programs found evidence that under certain conditions, these did not result in price inflation and instead generated local multiplier effects; and that beneficiaries also largely spent the cash on necessities such as food, clothing and school fees and expenses, rather than on non-essential items. Cash programs were also found to

⁴⁵ It is important to consider here that social protection policies are typically part of broader poverty reduction strategies, and thus are not just about protecting against shocks. In the present context, the focus is on how social protection could be useful to blunt the impact of aggregate shocks. Indeed this idea of using social protection systems in this way is not new, and is reflected in earlier suggestions to design "countercyclical safety nets" for the poor and vulnerable (Alderman and Haque, 2006).

be 20-50 percent cheaper to administer than food or in-kind programs, hinting at their greater cost-effectiveness (see Harvey, 2005:35; 2007).

- Malnutrition and wasting are long-term challenges; but these are exacerbated during crises. By themselves, complementary child feeding interventions do not address the underlying factors behind child malnutrition such as poverty and poor sanitation. Nevertheless, well designed interventions in this area have been shown to make a real difference in helping to protect children from permanent harm, particularly during crises situations. Studies have shown that groups of children that have received ready-to-use therapeutic foods (RUTF), including Plumpy'nut and other nutrient-rich food supplements, are over twice as likely to recover from malnutrition⁴⁶ and experienced a 40-60 percent reduction in the incidence of wasting.⁴⁷ Provision of these RUTFs by organizations such as UNICEF and Médecins Sans Frontières (Doctors Without Borders) in partnership with a growing number of developing country governments and donors helps to prevent malnutrition and hunger from permanently debilitating children.⁴⁸

In the present context, many countries responded to the earlier food and fuel price shocks and the unfolding financial crisis in ways that built on existing social protection systems, reflecting a growing consensus on the importance of social protection. Figure 10 illustrates the number of social protection programs by type and country group based on an unofficial survey of 144 developing countries by Lustig (2008:33). While a number of countries do have cash transfer, food for work, food ration/stamps and school feeding programs, 19 of 49 low income countries and 49 of 95 middle income countries do not have established social safety net programs. Only about one-third of low income and middle income countries have some form of cash transfer program. School feeding programs are more common in low income countries—about half have such programs—while only about one-third of middle income countries have school feeding programs.

Social protection programs could be improved in many ways; but two aspects—that of coverage and benefits—are critically important in the present discussion.⁴⁹ The available evidence suggests that program coverage of the poor population could be enhanced in many developing countries. Examining 26 countries in Latin America, Lustig (2008) observes that cash transfer programs exceed 25 percent of the poor population in only 8 countries. Most countries in the region—notably the poorest ones—have yet to put in place their own program, or have programs that have very limited coverage of the poor. While definitions of what comprise social protection may vary and thus make comparisons suggestive rather than conclusive, at least one other study finds evidence that coverage seems relatively higher on average among Asian countries: the proportion of the poor receiving some social protection benefits in this region is roughly about 60 percent based on an analysis of 31 Asian and Pacific countries by the Asian Development Bank (see Wood, 2009:23). However, the same study finds evidence that the benefits from

⁴⁶ This figure is based on a study of Malawian children by Patel and others (2005:354).

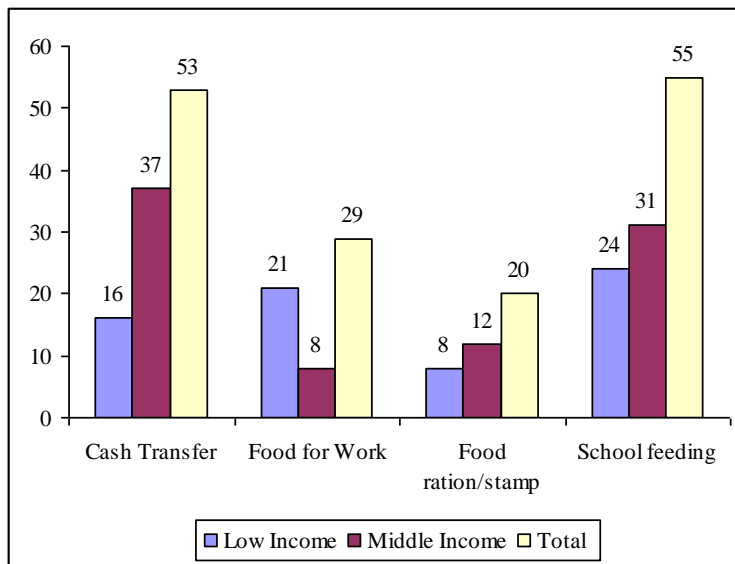
⁴⁷ The estimated reduction in wasting incidence depends on the degree of wasting; and these figures are based on a study of children in Niger by Isanaka and others (2009:282).

⁴⁸ During the period 2003-2007, UNICEF alone purchased well over \$30 million in Plumpy'nut for 45 developing countries, including 34 in Africa (Jarrett, 2007:15).

⁴⁹ Addressing issues related to the intra-household allocation of resources is another key area. For further elaboration of the empirical evidence and policy issues here, see Alderman, Haddad and Hoddinott (1997).

programs in this region could also be limited: about half of the 31 countries studied had social protection expenditures approximating a mere 20 percent of the poverty line income or expenditure (ibid:16).

**Figure 10. Developing Countries with Social Protection Programs
(By Program Type and Income Group)**



Source: Lustig (2008:52).

Note: Data based on a total sample of 144 developing countries comprised of 49 low- and 95 middle-income countries.

A more comprehensive review of 87 developing and transition countries' spending on social safety nets by the World Bank finds that mean spending on such programs account for about 1.9 percent of GDP. About half of the countries studied spent only between 1 and 2 percent of their GDP on safety net programs, whereas this figure would be about 2 to 4 percent of GDP in industrial countries (see Weigand and Grosh, 2008:7; Grosh and others, 2008:63). In this study, the authors differentiated between: a) spending on social insurance which tends to focus on pensions and unemployment insurance mainly benefiting workers in the formal sector and tend to be non-poor; and b) spending on social safety nets which focus on social assistance, providing cash transfers and school feeding, enhancing access to social services and an array of programs typically seeking to cover the informal sector where most of the poor are engaged. Clearly, while there has been some progress and growing emphasis to enhance social protection (covering both social insurance and social safety nets) in developing countries, there is still much scope for improving aspects such as coverage of the poor and the scale and nature of their benefits for the most vulnerable.

Many social protection programs also do not have a clear mechanism to deal with the “new poor” (i.e. those near poor pushed into poverty by the aggregate shock). Policy adjustments in this regard are often made in an ad hoc fashion and after the fact, suggesting that the “vulnerable near poor” do not receive adequate social protection. Existing programs that target the structurally poor (i.e. those poor before the shock) may not necessarily reach those households

and children who could also be vulnerable to the effects of a shock—often previously constituting the near-poor before the shock, and afterwards making up a “new poor” cohort. It should be possible to design social protection systems *ex ante* (i.e. in anticipation of shocks) with these issues in mind, in order to provide protection at the onset of a shock, thus blunting its worst effects.⁵⁰ Indeed, as noted earlier, periods of stability are the exception rather than the rule in many developing countries, so designing policies to protect vulnerable families and children from shocks should be central rather than ad hoc and ancillary in development strategies.

The critical next step for many countries is to build from scratch—while for others to strengthen and develop—social protection systems in ways that address both the structural features as well as the shock-related challenges that amplify child vulnerability. There is a strong case to be made for children to be put at the center of these social protection systems, because reaching the most vulnerable children will be critical in the effectiveness of policies to break the cycle of poverty.

3.4. Advancing Child Rights through Child-Focused Investments

First and foremost, it is a moral imperative to protect children and help them to realize their full human potential. Over 190 countries that are signatories to the Convention on the Rights of the Child are obligated to advance the rights and wellbeing of children through concrete policies and interventions. In addition to this rights-based rationale, it is also important to consider the economic arguments which further strengthen the reasoning for child-focused investments and social protection.

It bears reiterating that programs to invest in children and policy interventions to protect them during periods of economic volatility and crises are eminently affordable and provide strong social and economic returns. As noted earlier in this paper, these gains come in the form of better human development outcomes and lifetime earnings reclaimed for the individual, as well as social and economic benefits—including enhanced long-run growth prospects—that accrue to society as a whole. The fiscal costs of interventions focused on the poorest households need not strain the government budget. For instance, cash transfer programs such as those in Brazil and Mexico cost about 0.5 percent of GDP, which is a mere fraction of total public spending in these countries (Paci and others, 2008:7). As noted earlier, public spending on social safety nets in a large number of developing and transition countries presently account for only about 1-2 percent of GDP.

Cost-benefit analyses also reveal that these programs could actually pay for themselves. For instance, there is evidence that Ecuador’s *Bono de Desarrollo Humano* (Human Development Bond) program could produce education benefits that are more than twice its total cost. This estimate does not yet consider parallel improvements in child health and nutrition that are also likely to result from this program (Grosch and others, 2008:49). While there are few cost-benefit studies of developing country programs, those focusing on industrial countries’ social protection programs indicate similar positive results. In the United States for example, there is strong evidence that investments in quality early childhood development programs generate high returns to both individuals and families, as well as considerable cost savings and benefits for

⁵⁰ See also Adato and Hoddinott (2008), Alderman and Haq (2006), Ferreira, Prennushi and Ravallion (1999) and Skoufias (2003).

governments and society. The latter come in the form of reduced public spending costs—including on welfare and crime—as well as increased tax revenues from more productive individuals (see Beecroft, Lee and Long, 2003; Karoly and others, 1998).

It is fitting to conclude with this juxtaposition: Even as we see today a variety of failed investments and investment houses unraveling in the financial markets, we should not lose sight of tried and tested investments that provide high returns, notably those focused on children. Before the financial crisis erupted and food and fuel prices spiked in 2008, studies had already shown that millions of children were at risk. A study by UNICEF and its partners found that about 219 million children in the world under the age of 5 fail to reach their full potential in cognitive development due to poverty, poor health and nutrition and deficient care. This human development gap implies an economic development gap: had these children developed to their full potential as adults, their average incomes would be about 20 percent higher (Grantham-McGregor 2007:60). Therefore, in responding to the present financial crisis as well as future ones, continuing and further strengthening investments in children, and in addition, protecting them from the adverse impact of these crises (so that these investments will not be eroded) will be critical, not just in advancing the rights of children and breaking the cycle of poverty, but also in safeguarding countries' future economic growth and human development.

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Annex 1 – Macro and Financial Indicators in Selected Emerging Market Countries

(Reported in October 2008)

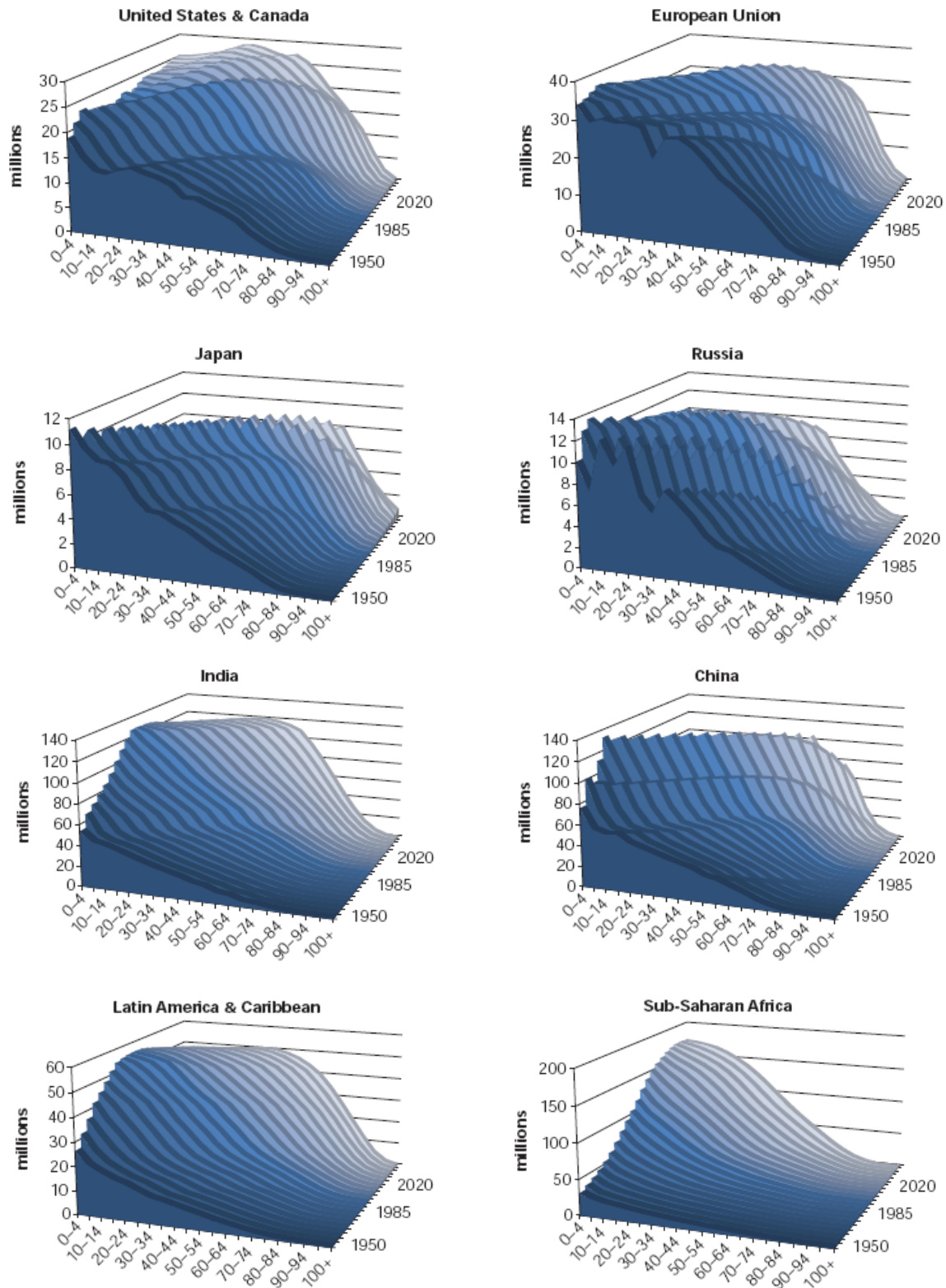
	Commodity Price Sensitivity (Ratio)	Current Account (In percent of GDP)	Gross Reserves to Short-Term External Debt (Ratio)	Net External Position vis-à- vis BIS- Reporting Banks (In percent of GDP)	Growth in Credit to the Private Sector (In percent, year- on-year)	Inflation (In percent)	Real Policy Rate (In percent)
Europe							
Bulgaria	1.6	-21.9	1.1	-29	54.5	14.5	-9.4
Croatia	1.1	-9	0.9	-59.7	11.6	8.4	...
Estonia	1.2	-11.2	0.2	-78.7	21.5	11.1	...
Hungary	0.6	-5.5	0.9	-54.1	18	6.7	1.8
Iceland	3.9	-8	...	-267.9	...	13.6	1.9
Kazakhstan	4.5	-1.7	0.6	-8	22.8	20	-9.5
Latvia	1.9	-15	0.3	-72.5	22.2	16.7	-10.7
Lithuania	1.2	-10.5	0.9	-45.6	36.4	12.2	-7
Poland	0.7	-5	0.8	-17.1	29.5	4.8	1.2
Romania	0.6	-14.5	0.9	-36.4	62	9	1.2
Russia	4.1	5.8	2.9	2.2	51.4	14.7	-3.7
Serbia	...	-16.1	2.8	-15.1	37	14.3	...
Turkey	0.3	-6.7	0.9	-12.2	32.9	12.1	4.7
Ukraine	0.6	-7.6	1	-9.5	63.9	26.8	-14.8
Gulf States							
Kuwait	13.6	45.2	...	8.9	35.5	11.4	-5.7
Saudi Arabia	7.6	31.3	...	27.9	28.5	10.6	...
UAE	5.3	27.5	...	-1.3	45.3
Africa							
Egypt	2.1	0.8	7.5	16	12.6	22.2	-11.2
Ghana	2.7	-9.8	...	-8	...	15.3	...
Nigeria	4.5	6.5	...	15.5	96.5	9.7	...
South Africa	1.2	-7.7	1.6	4.7	15.2	11.6	0.4
Uganda	2.8	-7.7	...	13.4	41.2	8.7	...

Annex 1 continued...

Asia							
China	0.3	9.8	6.9	1.1	17.5	6.3	1.2
India	0.5	-3.1	5.9	-8.9	24.1	12	-3
Indonesia	1.2	1.8	2.1	-8.5	31.4	11.9	-2.9
Korea	0.2	-1	1.3	-17.5	16	5.9	-0.7
Malaysia	1.4	11.7	6	-10.1	10.3	7.7	-4.2
Pakistan	0.6	-6.9	12.1	4.8	21.6	24.3	-11.3
Philippines	0.3	2.1	2.2	-2.2	5.2	12.2	-6.5
Thailand	0.6	3.4	3.1	3.2	7	9.2	-5.7
Vietnam	1.9	-13.6	14.5	-10.2	63.9	27	-13.9
Latin America							
Argentina	6.7	0.4	1.1	2.8	37.6	9.1	-0.2
Brazil	1.8	-0.7	1.7	-8.1	31	6.4	6.6
Chile	2.5	-0.5	1.1	-7.9	17.8	9.5	-1.8
Colombia	4.8	-4.9	1.7	0.4	21	7.5	2.5
Mexico	1.4	-1	1.4	-2.3	11.5	5.4	2.9
Peru	2.7	-0.2	3	2.6	31.7	5.8	0.2
Venezuela	8.3	7.2	2.2	24.1	51.8	33.7	-8.9

Source: Data reported in IMF (2008e:46), and compiled from various sources.

Annex 2 – Demographic Change, 1950-2050 (Population in millions, by five-year age group)



Source: Commission on Growth and Development (2008:119-120).

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