A Turning Point in Global Inequality … and Beyond

François Bourguignon

1. Introduction

We are at a turning point in history. A secular trend of increasing inequality is being reversed. Inequality in the world has continuously increased for a century and a half since the beginning of the Industrial Revolution. It is now decreasing at the same time as global growth is accelerating. A historical reversal is taking place in the global economy. Many countries in the South, including large emerging countries such as China and India, appear to be on the same path of growth as today's richest countries.

This transition raises several important questions. Is this trend of decreasing global inequality sustainable? Will it continue at the same pace as global growth, or will global growth decelerate? Seeing as inequality seems to be increasing in a number of countries, could it be the case that domestic inequality will replace international inequality to some extent? If the rise of domestic inequalities were to be somehow associated with globalization in the public opinion, could it be a threat to the process of global development as a whole?

2. A Turning Point in Global Inequality?

Data and Measurement

To show the reversal of the historical trend for the period of 1989 to 2006, I am using purchasing power-corrected Gross Domestic Product (GDP) per capita figures from national accounts. For distribution I am also using data from the Organization for Economic Cooperation and Development (OECD) for OECD countries, and from the POVCAL database for developing countries. The analysis of this period is based on a group of 160 countries.[1] For the historical period I am using the results obtained by Bourguignon and Morrison (2002) based on the historical GDP series collected by Maddison (2001) and adjusted for purchasing power parity and on original distribution data.

[1] For a very limited number of countries there is no data on the within-country distribution of income. In this case we approximate and use the distributional data of a similar country.

Results

Figure 1 shows the results. The figure represents the changes in inequality using two different indicators of inequality. The solid curve is the GINI coefficient, a summary measure of inequality ranging from zero (no inequality) to one (maximum inequality). The dotted curve represents another measure of inequality: the relative income of the top twenty percent of the richest people of the global distribution over the income of the twenty percent of the poorest people. It is important to keep in mind that both 'quintiles' include people from both rich and poor countries.

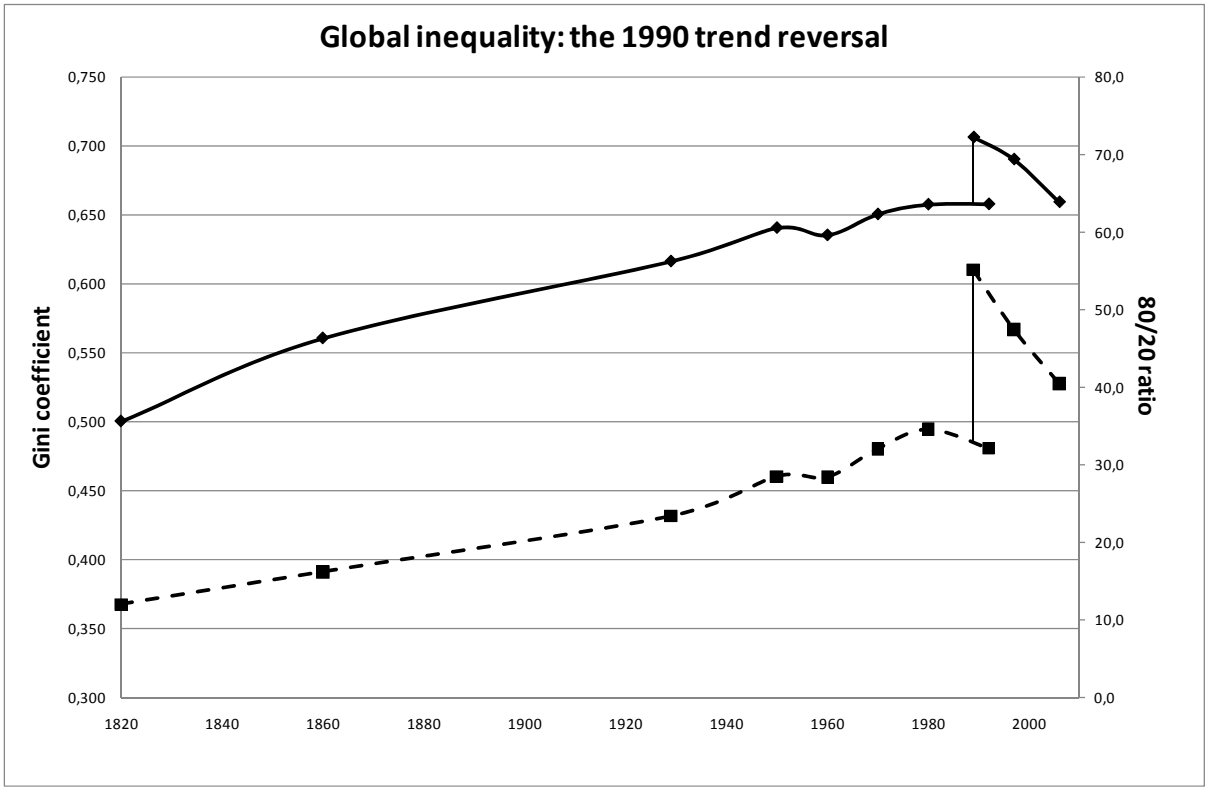

Figure 1: Global Inequality. Source: Bourguignon and Morrison (2002) and own calculations.

There is a sudden surge in the graphs at 1989 because the calculation for the period from 1820 to 1989 is not comparable to that for the more recent period. The former was based on a smaller number of countries or groups of countries. One reason for this is that many countries simply did not exist during most of that period. A second reason for the surge in the graphs is a change in the purchasing power parity. For the period from 1820 to 1989 the purchasing power parity used by Maddison is based on the year 1990, whereas for the period from 1989 to 2006 we are using purchasing power parity based on 2005 data. Changing the purchasing

power parity basis yields highly significant differences in purchasing power-adjusted income. In particular, poor countries are actually poorer when using 2005 as a basis than they are when using the 1990 basis.

The dramatic feature of Figure 1 is the increase in inequality over the nineteenth century and the first two thirds of the twentieth century, until around the 1970s and 1980s, at which point we see a flattening of the solid curve and even a small decrease in the dotted curve. In the period from 1989 to 2006, however, the trend is completely reversed. Inequality decreases, and it decreases at a very fast pace.

Figure 2 shows the reasons for this change in inequality, with the annual growth rate for GDP per capita for developing countries as the dotted curve and high-income countries as the solid curve. This figure shows what could be called a 'decoupling' of growth trends. There has been much discussion recently as to whether we are now living in a world where the economic cycles of the North and the South might be 'decoupling'. However, Figure 2 shows that even when including the recent crisis, this is certainly not the case. The same fluctuations clearly affect growth in the two sets of countries. What is remarkable, however, is that from the early 1990s onwards there is a divergence in growth trends between developing countries and high-income countries. The factor that best explains the decrease in global inequality in recent years is this divergence in growth rates, as a result of which developing countries are growing much faster than high-income countries. This is true even during the late-2000s global recession. The difference in terms of growth rates between the North and the South remained basically the same when compared to periods during which the global economy was peaking. So, there seems to have been a growth rate gap between the North and the South over the last ten years or so, the width of which has not changed significantly in the last five years. If this trend continues, it certainly is an important novelty in the history of global economy.

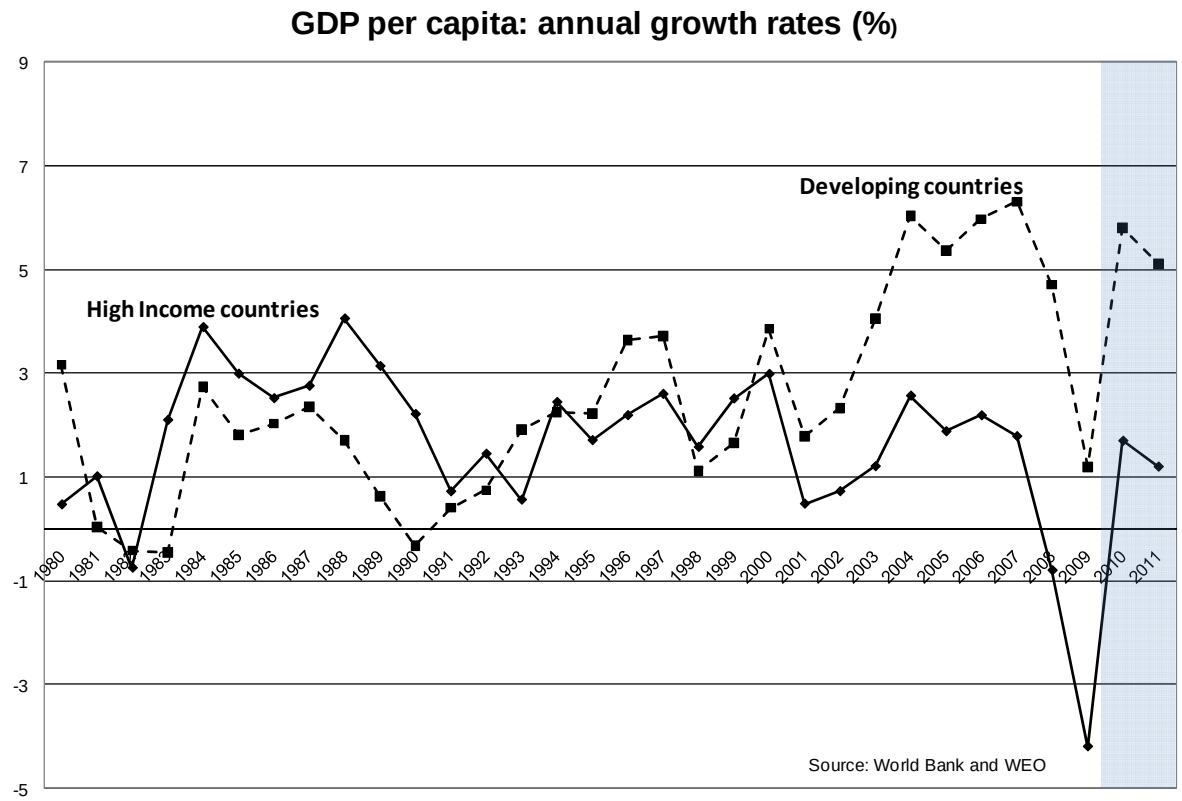

Figure 2: GDP per capita annual growth rates.

Caveats

The above results must be interpreted with some caution for several reasons. It is important to distinguish between a 'between inequality' (the inequality that would result only from the difference in mean income between countries) and a 'within inequality' (the inequality that results from income differences within countries). Figure 3 shows the decomposition of global inequality into between and within inequality using the Theil index, an inequality statistic that is easily decomposable into these two components. The solid dark curve shows the development of global inequality. It is very similar to what we see in Figure 1, with the same discontinuity and the same trend reversal. The dotted curve shows the inequality between countries. In other words, it ignores inequality within countries by assuming that within each country all people have the same income. The shape of the dotted curve graph is very similar to that of the solid curve: a large increase in inequality for a very long time and then a drop in inequality over the last 20 years. The light solid curve corresponds to the average inequality within countries. It measures the degree of inequality that would be observed if all incomes in a given country were scaled up or down so that the national mean

income would be equal to the global mean. The graph shows that in the recent past there has been a slight increase in within-country inequality.

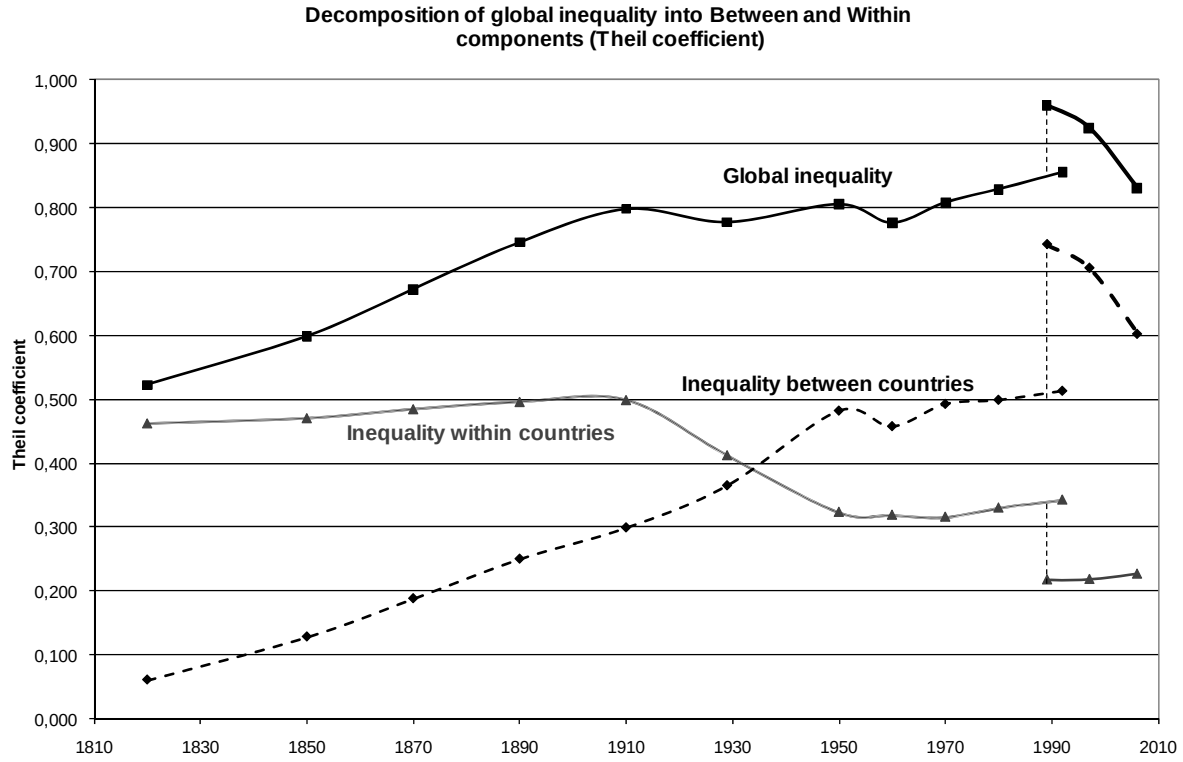

Figure 3: Decomposition of global inequality. Source: Bourguignon and Morrison (2002) and own calculations.

It must be stressed that the view that global inequality is now decreasing is challenged by some scholars. Actually, those who hold that view implicitly may be using a different concept of inequality. Figure 4 illustrates this point by showing the development of 'inter-country inequality'. This concept corresponds to the case which uses as the statistical unit the country rather than every one of its citizens. In other words, countries are no longer rated by their population, with the result that China, for example, is given the same weight as Luxemburg. Inequality measured in this way is represented by the dotted curve, whereas the solid curve shows the level of global inequality as it was measured before. Both graphs show the ratio between the mean income of the tenth decile and that of the first decile. Without the influence of population, the dotted graph thus shows the ratio between the mean income of the 16 richest countries in the world and that of the 16 poorest. With this concept, global (or inter-country) inequality continued to increase during the period from 1989 to 2006.

Proponents of the view that, based on this kind of evidence, inequality in the world has continued to increase in the recent past are not completely wrong. They are simply using an inequality measure that is somewhat extreme in the sense that what matters in measuring inequality is the relative level of welfare of the poorest individuals in the world compared to the richest, irrespectively of how many they are. In other words, the fact that a few hundred millions of people have escaped poverty in China, India, Bangladesh and other large countries cannot compensate the fact that 3 millions of Burundians have on average become slightly poorer.[2]

It should also be emphasized that the above results may vary depending on the type of data source. National account data are used here to calculate the mean income per capita in a country, while household surveys are used to estimate the relative incomes of the various deciles with respect to that mean income. It would also be possible to just use household surveys instead. Indeed, at one point in time there is a difference between the global inequality estimates obtained from these two sources. Recent inequality trends are not necessarily the same either (Milanović, 2009). In the long run, however, it is very difficult to imagine that growth rates will not be more or less comparable across the two sources.

Is the decrease in global inequality accompanied by a decrease in global poverty?

Figure 5 shows the development of poverty rates in developing countries over the past 30 years. Obviously, global poverty has been decreasing. Between 1980 and 2005 poverty was cut by half. If this trend continues until 2015, the Millennium Development Goals will most likely be achieved worldwide.

[2] Such a concept of inequality is described in the literature as 'Rawlsian', following the principles of justice proposed by Rawls (1971).

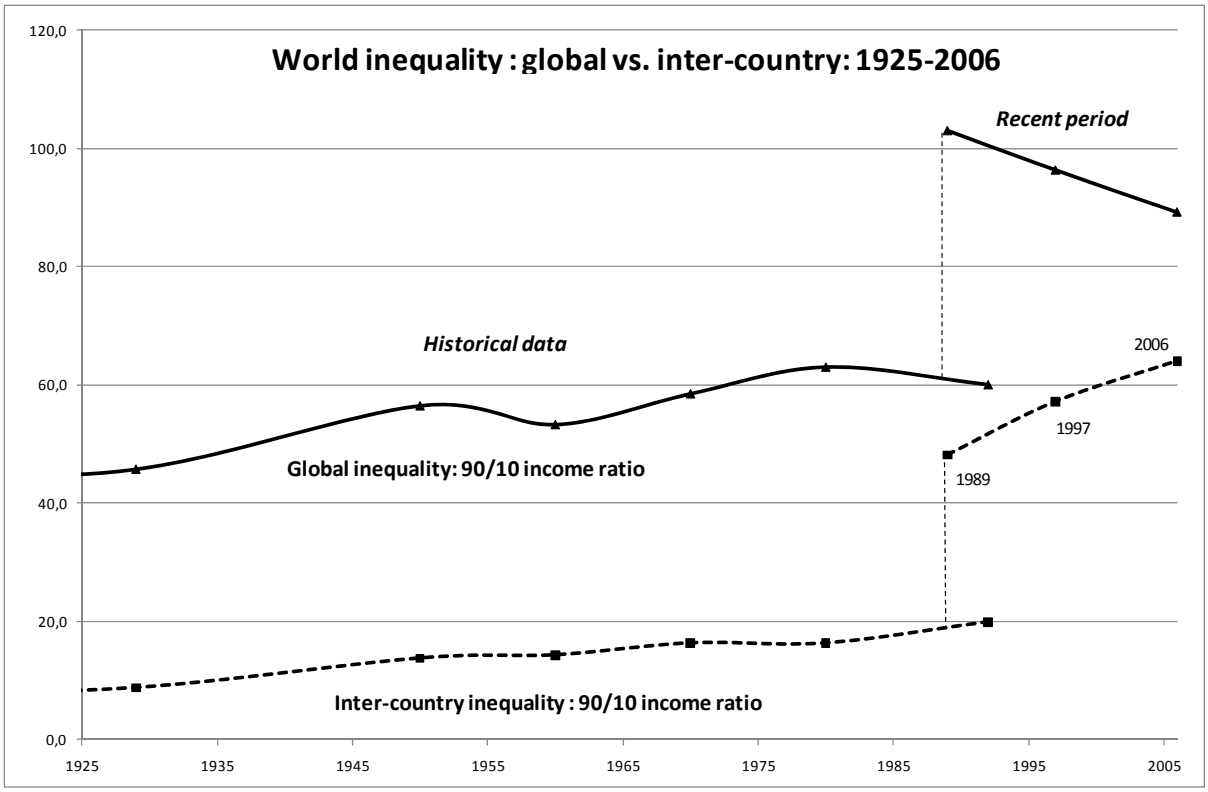

Figure 4: Global vs. Inter-country Inequality 1925-2006. Source: Bourguignon and Morrison (2002) and own calculations.

3. Medium-Term Perspectives and Issues

What is the economic outlook for the next ten years? Although it is always risky to make long-term forecasts, there are many reasons to believe that growth rates in developed countries will be limited. There are several reasons for this. First, it will be a long time before the problem of national debts is completely solved. Second, many countries are probably at the beginning of a period of fiscal contraction. Third, we know that there is a huge unemployment hysteresis which will continue to affect those economies and their consumption power for quite some time. While these three reasons are short-term and essentially cyclical, there are also long-term (or structural) causes for slow growth rates. A new wave of financial sector regulations is only starting. One of them, Basel III, will be at the top of the agenda in the next meeting of the G-20. Also, many countries of the North are in a strong and harsh process of structural adjustment. For example, manufacturing employment in the United States has been reduced by approximately five percentage points as a proportion of the total labor force over the last ten years. This implies that half a percent of the workers in manufacturing have to relocate to another sector every year, which necessarily causes

considerable friction. This phenomenon has been observed not only in the United States but also in many parts of Europe.

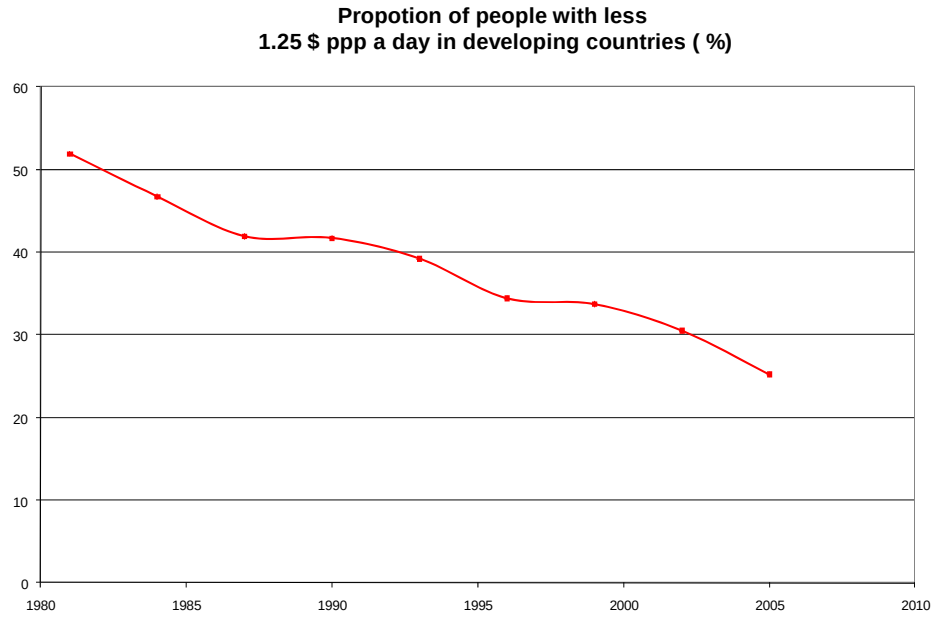

Figure 5: Proportion of people living in extreme poverty. Source: PovcalNet.[3]

In large emerging countries, on the other hand, growth is likely to continue at a fast pace. Although exports to rich countries may slow down, these countries can rely not only on very large domestic markets, but also, increasingly, on the quickly developing South-South trade. However, to continue to grow at a very fast pace, some countries, such as China, may have to change their development strategy.

China will find it necessary to shift its development strategy from foreign markets to domestic markets. Not only will the demand for exports to the North decrease but the global market share of such a large country is limited as well. To continue to grow at about twice the mean global growth rate, China will have to shift the focus to its domestic markets. This objective is explicitly mentioned in the five-year plan recently adopted by its government. The question is how to implement it.

Even though fast growth is likely to continue in large emerging countries, it will probably be at a slightly slower pace than before because of sluggish growth in the North. We

[3] The PovcalNet Online Poverty Analysis Tool is a World Bank web application which "provides distributional data and a user-defined poverty line/PPP to estimate the poverty and inequality measurements for a selected country or group of countries" (PovcalNet, 2011).

should not forget that countries in the North still represent 55 to 72 percent of global GDP, depending on whether GDP is measured in terms of purchasing power parity or in U.S. dollars. Consequently, the slow down in those countries necessarily affects the rest of the world.

Even so, the trend of decreasing global inequality due to the rebalancing of the North and the South in the global economy is most likely to continue. The decrease in global inequality over the last 20 years is not cyclical; rather, it reflects a very strong structural trend in the global economy.

Still, I would like to emphasize two important caveats.

Caveat 1: Growth in Sub-Saharan Africa

The first caveat concerns Sub-Saharan African countries. Clearly, it may not be appropriate to draw too close an analogy between economic growth in large emerging countries such as Brazil, China, and India and growth in Sub-Saharan Africa. The light dotted graph in Figure 6 shows the annual GDP per capita growth rates in Sub-Saharan Africa. A dramatic change occurred in the early 2000s, when growth rates increased significantly, even exceeding those in high-income countries. Before this change there was a long period during which the growth rates of Sub-Saharan African countries were markedly lower than those in both rich countries and other developing countries in the world.

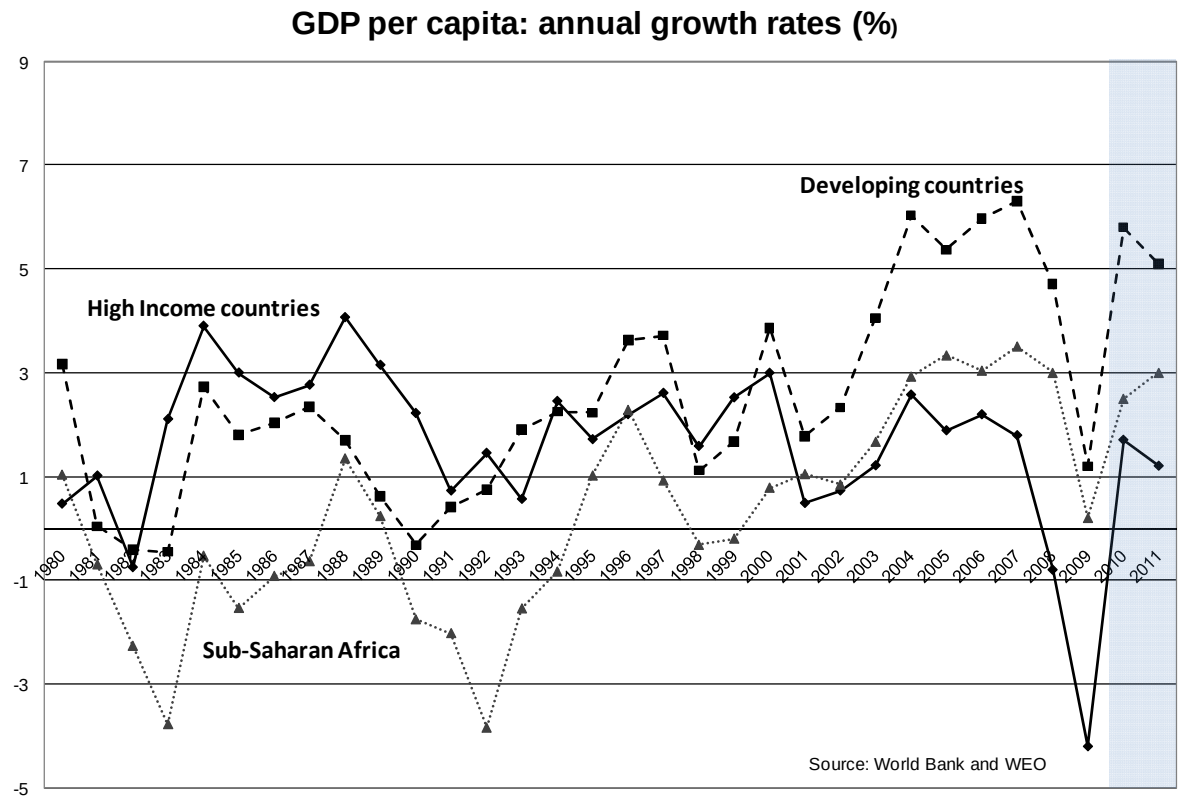

Figure 6: GDP per capita: annual growth rates.

The important and interesting question is whether this recent trend reversal in Sub-Saharan Africa is truly structural or just cyclical in nature. Some argue that the recent fast growth in Sub-Saharan Africa is the result of improved governance and is therefore structural. If there is little doubt that policies in Sub-Saharan Africa have improved, particularly in macroeconomic policies, the question is whether this is sufficient to guarantee that long-term growth will follow. Others argue that the recent fast growth in Sub-Saharan African countries is due to high commodity prices. The day those prices go down, growth rates in Sub-Saharan Africa will fall as well.

Which is most likely to explain the recent growth performances in Sub-Saharan Africa: improved governance or high commodity prices? A good reason to support the second view is the lack of significant changes in the structure of African economies. For the region as a whole, and even when abstracting from South Africa, it turns out that the manufacturing sector remained constant over time, at ten percent of GDP, even in non-oil producing countries. It is true that the GDP share of agriculture is going down, but it is essentially made up for by a growing service industry. Services typically respond more to demand stimuli than to changes in production capacity. As long as there is no sign of a change in the structure of

GDP in Sub-Saharan African countries, particularly in the production of goods rather than services, it is difficult to think that an autonomous growth process is taking place in those countries. The hypothesis that links recent growth trends in Sub-Saharan Africa to high commodity prices cannot yet be discarded and we should not be too optimistic about the sustainability of recent growth in this region.

Due to fast growth of emerging countries, demand for commodities will remain strong. Would that not imply that commodity prices will remain rather high? This is far from certain. Growth in developed countries will continue at a slower rate, with weakening effects on global commodity demand, but a supply response to presently high commodity prices may also be expected. In other words, commodity prices may not remain at the present high level for long, and if they do not, Sub-Saharan development would require greater economic diversification.

Why could Sub-Saharan African countries not live off the rent they receive for their natural resources, like the Gulf countries do? The big difference between countries of the Gulf Region and Sub-Saharan African countries lies in their demographic structure. It is very difficult to imagine that a population approaching one billion could live and develop on such rents alone. The diversification of economic activity in Sub-Saharan Africa is a necessary condition for sustainable growth. A particularly important step is diversification into a manufacturing sector that trades at regional level and/or with the rest of the world.

There is clearly a need for an actual regional integration in Sub-Saharan Africa to develop larger local markets. The combination of larger markets and population growth makes diversification possible, despite an initial comparative advantage in natural resources. Indonesia, for example, has shown that even countries with large natural resource endowments can achieve diversification of economic activities. Over the last 20 years the country has been able to develop a dynamic manufacturing sector, despite its rich oil reserves. In other words, there is no fundamental contradiction between natural resource wealth and a growing manufacturing sector. One major issue is the current small market size of all Sub-Saharan African countries except South Africa. Indonesia has a population of 250 million. There is no market of such magnitude in Africa. Regional integration should permit this problem to be rectified to create the basis for economic diversification and, thus, sustainable growth.

We have to keep in mind that poverty in the world will become more and more an African problem if current trends continue. If we really care about global inclusion and equity, we must concern ourselves with what is happening in Africa, particularly with the

available instruments for global redistribution. These instruments are not limited to foreign aid, but also include trade policies – in particular, trade preferences by countries of the North with respect to Sub-Saharan Africa.

Caveat 2: Within-country inequality

The second caveat concerns inequality within countries. Aside from a decrease in global inequality over the last 20 years, there is also a noticeable increase in inequality within a number of countries. Figure 7 shows the substantial increases in inequality in four of the G-7 countries – Germany, Italy, the UK, and the U.S. – over the last 20 years. In effect, inequality has increased in almost three quarters of the OECD countries over that period. France is among the few countries with almost no change in inequality. The inequality increases in other countries are often linked to a change in redistribution policies, but also to changes in the distribution of market incomes.

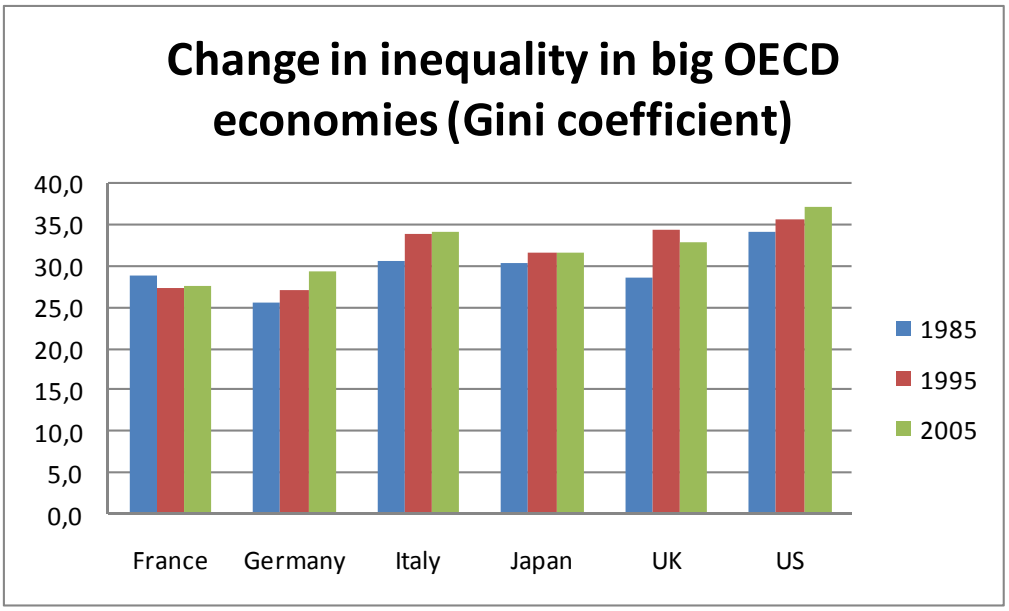

Figure 7: Change in inequality in **major** OECD countries. Source: OECD, 2009.

Figure 8 shows income distribution figures for the United States (after tax and transfers).[4] Between 1979 and 2004 the total income increase of the poorest 20 percent was six percent. The income of the richest 20 percent, however, grew by 70 percent over the same period, while the mean income of the richest percentile grew by 176 percent. Even though some feel

[4] Figures are from an official report to the U.S. Congress.

that these figures may be unrealistically high, there is little doubt that inequality in the U.S. economy has surged in recent years.

In Europe the increase in inequality is less, but at the very top of the income distribution (executives, traders, etc.) salaries paid in France, Germany, and the UK is approaching parity with income levels in the U.S. There is a growing sense of inequality due to the disparity between very high incomes at the top of the income distribution and low or even median incomes, and also due to high unemployment in some countries. Despite the benefits global growth may provide to the global community, including developed countries, such perception of a growing inequality may also lead to a backlash against globalization, for instance through a push towards protectionism.

The trend of rising within-country inequality is observed not only in OECD countries, but also in various developing countries. As many as 60 percent of the developing countries for which data are available show an increase in within-country inequality over the last 20 years or so. The country with the most dramatic increase is China, but an examination of the implications of such a development should also take into account the country's socialist past. There are also signs that inequality is increasing in India.

It is remarkable that, despite rising within-country inequality, global inequality is decreasing at a fast pace. The problem, however, is that what is happening at the national level may be more important from a political economy point of view than what is happening at the global level. An increase in inequality at the national level may become a real obstacle to global inclusion and global development even though global inequality is decreasing.

Figure 8: Average After-Tax Income by Income Group

Average After-Tax Income by Income Group (in 2004 dollars)				
Income Category	1979	2004	Percent Change 1979-2004	Dollar Change 1979-2004
Lowest fifth	$13,900	$14,700	6%	$800
Second fifth	28,000	32,700	17%	4,700
Middle fifth	39,900	48,400	21%	8,500
Fourth fifth	52,300	67,600	29%	15,300
Top fifth	92,100	155,200	69%	63,100
Top 1 Percent	314,000	867,800	176%	553,800

Source: Congressional Budget Office, *Effective Federal Tax Rates: 1979-2004*, December 2006.

4. Conclusion

Global inequality is decreasing as a result of a rebalancing between the North and the South which began nearly 25 years ago. There are many reasons to believe that this development is closely associated with globalization. Due to the strength of domestic markets in emerging economies, this rebalancing will not stop in the near future. While global inequality is on the decrease, however, in a number of countries inequality has increased. Is this a threat to globalization? If so, it is also a threat to global inclusion. We therefore have to address the rising levels of within-country inequality in whatever policies we seek to implement.

Social protection may be the answer to this issue, something that we do not have enough of at the global level. Even in some developed countries, such as the United States, there may not be enough. The adjustments which many countries have to make because of globalization may become more painful and politically more difficult than expected.

At the global level, there is also a need to improve international redistribution instruments such as development aid. More generally speaking, a greater level of development policy coherence is needed in developed countries.

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Commodity price volatility, poverty and growth inclusiveness in Sub-Saharan African countries

François Bourguignon

Introduction

The comparative advantage of Sub-Saharan African countries predominantly lies in the export of commodities, whether oil, mineral or agricultural. Managing development based on this kind of comparative advantage is difficult, however, so much so that some refer to the availability of natural resources in a country as a development 'curse'. Yet, there is little doubt that, on average, high real commodity prices as well as the discovery and exploitation of new resources are associated with faster growth, even though possibly temporarily[1]. From that point of view, it is difficult not to relate the sustained growth in Sub-Saharan Africa since the turn of the century, and for some countries really from the mid-1990s to the sustained surge in international commodity prices, itself most likely fed by the heavy demand of emerging countries. It is also interesting that this increase in commodity prices and acceleration of growth came after a long period – 15 years – of decline in commodity prices and economic stagnation.

The difficulty is that both descending and then ascending trends in the real price of the commodities exported by Sub-Saharan African countries and therefore in their terms of trade have come with a level of volatility so high that it was impossible to detect such trends. Part of the inability of SSA countries to take advantage of them or to avoid mismanaging them, and therefore part of the commodity curse, lies precisely in this volatility. There are innumerable examples of governments which increased their spending as a response to high commodity prices and had to suddenly stop ambitious investment programs because of a drop in them and the impossibility to borrow on foreign markets – often because of a debt accumulated in boom times. Interestingly enough, the huge fall in international commodity prices that took place during the 2008-09 world crisis may have been the first instance where most SSA countries were able to apply counter-cyclical policies instead of being caught, as in previous instances, into the general crush. Yet, it is not clear whether they could have gone on for very long with such policies if prices had not vigorously rebounded in 2010.

How much poor people have been affected by this volatility of commodity prices over the last 10 to 15 years and whether governments have been able to take advantage of recent favorable circumstances to engineer a new development regime that would reduce their vulnerability in the future is hard to say. In this respect, one important observation is that the structure of growth in SSA countries does not seem to have very much changed over the last decade. Faster GDP growth in the recent years concentrated very much in the sectors of construction and services, as if the additional income brought by the boom in commodity prices was mostly used to feed additional consumption and possibly to improve infrastructure in urban centers. If African

[1] There is a rather large literature on the growth impact of commodity prices in Sub-Saharan Africa. See in particular Deaton(1999), Spatafora and Tytell (2009) and Collier and Goderis (2007) for the apparent contradiction between short-run and long-run effects of commodity prices.

governments have been more cautious than in the past in managing commodity export revenues, they do not seem to have put their countries on a development path that will allow them to progressively free themselves from the volatility of international commodity prices.[2] In short, the possible trend reversal in commodity prices that may have taken place at the turn of the century may not yet have had structural effects on sub-Saharan African economies, and on their poverty reduction capacity. A possible reason for this is that the natural volatility of commodity prices rationally pushed governments not to take radical action, unlike what they often did in the past.

This short paper focuses on the evolution of poverty in the SSA region, in connection with changes in the terms of trade faced by the various countries. Of course, the link goes through GDP growth and the way it is affected by commodity prices and volatility. The first section of the paper is devoted to available empirical evidence on poverty, growth and commodity prices. The second discusses the policy instruments available in African countries to cope with the volatility of commodity prices, both at the macro and the micro level, and also through the help that the international community can bring on this matter to African countries.

1. Poverty, inclusiveness, growth and commodity price volatility

Sub-Saharan countries are heavily dependent on the export of a few commodities and the well-being of the population may be strongly affected by fluctuations in commodity prices on international markets. The channel may be a direct one as with agricultural export prices affecting farmers' income. It may be indirect, when agricultural exports are handled by a marketing board with an implicit export tax feeding the government's budget, or when the exported commodity is extracted from the ground by national or foreign companies paying royalties and taxes to the government. With the indirect channel, the well-being of the people and, of course, the poverty rate is affected by the way the government spends the revenues it gets from commodity exports.

With perfect capital markets and some stationarity in the stochastic process behind commodity prices, the effect of their fluctuations on the well-being of agents could be smoothened out through saving in good times and borrowing in bad times. In the absence of such markets and given the limited stationarity of commodity price fluctuations, the well-being of the agents and the growth rate of the whole economy may depend not only on the current price of commodities but also on their uncertainty or volatility.

In view of this, the effect of commodity price and commodity price volatility on poverty may go through two channels. At a point of time poverty may be higher because commodity prices are low, but also because commodity prices are highly volatile and this volatility affects the behavior of agents. Both effects may be direct as in the case where poor people income are directly impacted by commodity prices, as with agricultural exports without marketing board shielding, or indirect in the case where poor people income are impacted through the government's policy and its effect on the growth rate of the economy. If this is the case, the volatility of commodity prices

[2] For a contrarian and more optimistic view see McKinsey Global Institute (2010). This view about recent development policies in Sub-Saharan countries is shared by other observers – see Arbache and Page (2010), Collier and Goderis (2007), in particular.

might not affect poverty directly either but through the volatility they induce in the level of economic activity.

The importance of these various channels linking commodity prices and poverty is explored in table 1 which reports the results of various regressions where the dependent variables is the change in poverty – as measured by the headcount index with the usual 1.25 ppp USD threshold – between periods where this poverty measure is available, and the independent variables are the growth of GDP per capita, terms of trade and measures of their volatility.

Poverty data come from the UNDP MDG data base which seems the most consistent source for low income countries. GDP per capital figures are from the World Development Indicators released by the World Bank, the same being true of the terms of trade indices which for most countries summarize the impact of both exported and imported commodity prices on the domestic economy. The analysis is restricted to 53 growth spells in 25 sub-Saharan countries.

Table 1. Poverty change determinants in Sub-Saharan countries: alternative regression results[a)]

Dependent variable: poverty change during a development spell[a)]							
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Initial poverty	-0.53	-0.63	-1.16	-1.35	-1.55	-1.37	-1.62
	-3.34	*-3.78*	*-4.39*	*-4.96*	*-5.74*	*-4.90*	*-5.56*
GDP per capita growth	-0.92	-2.31	-0.76	-2.42	-2.72	-2.43	-2.81
	-5.12	*-2.75*	*-3.94*	*-2.75*	*-3.25*	*-2.71*	*-3.05*
Initial poverty*GDP per capita growth		0.03		0.03	0.04	0.03	0.04
		1.69		*1.93*	*2.45*	*1.92*	*2.27*
Standard deviation of GDP per capita growth[b)]					0.44	-	0.48
					2.30		*2.05*
Change in terms of trade (%)						-0.03	-0.04
						-0.38	*-0.44*
Coefficient of variation of terms of trade[b)]							0.04
							0.58
Fixed country effects	No	No	Yes	Yes	Yes	Yes	Yes
R2	0.39	0.42	0.69	0.72	0.76	0.72	0.77
Number of observations[a)]	53	53	53	53	53	53	53

a) An observation is a period between two dates at which poverty data are available in the UNDP/MDG database. All explanatory variables are defined over the same time intervall. T-statistics in italics.

b) Multiplied by the number of years in the development spell for consistency with the rest of the specification.

The story told by table 1 is interesting. As could be expected, GDP per capita growth turns out to be a strong explanatory factor of poverty change, with an elasticity that depends on the initial level of poverty. The elasticity of poverty with respect to GDP found in the first column of table 1 is a bit below unity, an order of magnitude consistent with earlier work – e.g. Bourguignon (2000) and Ravallion (2001). The second column of table 1 also shows that the relationship between poverty reduction and GDP growth is not linear, as found again in previous studies. All these results are robust with respect to fixed country effects as can be seen in columns 2 and 4. .

The other columns of table 1 show two other interesting results. On the one hand, the poverty change seems to be independent from the terms of trade whether one considers the change in terms of trade during a growth spell or the volatility of that change. On the other hand, the change in poverty depends on the volatility of GDP growth during the same period. Other things being the same, a given growth rate over some period of time generates less poverty reduction if it has been obtained through an irregular process than with a constant annual growth rate.

The first result suggests that if poverty reduction reacts to changes in terms of trade, it does not do so not directly but through the impact of terms of trade or their volatility on GDP, assuming of course that terms of trade affect directly GDP, a point which will be discussed further below. This would seem reasonable in countries exporting mineral commodities the extraction of which involves a tiny number of workers and the revenues of which accrue directly to the State. It may seem more surprising for agricultural commodity exporters since those commodities are much more labor intensive and often originate in small farms more vulnerable to poverty. Sudden falls in coffee or cocoa prices in countries like Ghana or Cote d'Ivoire are indeed known to have caused an acute increase in poverty. [3] However, controlling for the nature of exported commodities does not modify the independence between poverty reduction and terms of trade.

A first explanation of this result is that producers of exported agricultural commodities often are shielded from fluctuations in international prices through administered prices set by marketing boards, which does not prevent drastic adjustments in the latter from time to time. Another possible interpretation of the lack of significance of terms of trade in explaining poverty changes lies in the denominator of the terms of trade. In many countries, oil is an important component of import and its price has fluctuated widely over the recent past. It is not clear that poor people who are potentially affected by fluctuations in agricultural commodity prices would be equally affected by fluctuation in oil prices. Thus, terms of trade may not be the best indicator to describe the impact of export prices on poverty. Unfortunately, there are few sub-Saharan countries where full series of export price indices are available. The alternative to using the terms of trade would be to construct original data based on international commodity price series, export taxes, exchange rates and consumer price indices. However, this proved to be feasible only for a small number of countries.

This possible weakness of the terms of trade to catch the impact of commodity price changes on poverty may explain why GDP growth is a powerful predictor of poverty reduction. Indeed, a fall in the international price of exported agricultural commodities is likely to produce both an increase in poverty and a slow down or even a reversal in GDP growth. The GDP variable in the regressions reported in table 1 may thus catch both effects at the same time. In short, there is some ambiguity in the model being estimated. Due to data limitation, it is not clear whether commodity prices affect poverty essentially through their effect on aggregate activity, which is likely for mineral commodities, or whether they also affect poverty directly.

The second interesting result in table 1 is the fact that poverty reduction significantly depends on the volatility of growth during the spell being observed. This result is consistent with the view that poor people are somehow penalized more than the rest of the population in case of a big drop in GDP per capita and benefit less from very fast growth. In other words, they are more vulnerable to negative shocks and less favorably affected by positive shocks. On the other hand,

[3] See for instance Cogneau and Jedwab (2011) on the effect of the fall of cocoa prices in Cote d'Ivoire in the 1980s.

in line with a previous argument this non-linearity may also capture the fact that the volatility of GDP growth is itself linked to that of commodity prices that also affect poverty directly.

As the only significant determinant of poverty changes is GDP growth and GDP growth volatility, rather than the change in terms of trade and its volatility, it remains to study the extent to which GDP growth and volatility are affected by changes in terms of trade and their volatility.

First, it must be recalled that GDP growth over a period and its volatility over the same period are strongly and negatively correlated. In cross-sections of countries and over different time periods, it has been observed that countries where annual GDP growth rates are highly volatile tend to grow at a slower rate over time.[4] An illustration of that relationship is given in figure 1 which plots the mean and the standard deviation of annual growth rates of a sample of 20 low income countries (dark markers, mostly sub-Saharan countries) from 1980 to 2008. As can be seen from the trend line, a 1 percentage point increase in the standard deviation of GDP reduces the mean growth rate by .6 percentage points, a rather sizable effect.[5] For comparison, the figure also includes observations for a small sample of 10 middle income countries (light markers). It can be seen that their distribution is analogous to the distribution of low income country observations.

The next step is of course to understand the channels through which GDP growth volatility affects the average rate of GDP growth as well as to identify the sources of volatility. An important literature has developed in this respect which we do not intend to summarize here[6]. It makes a distinction between exogenous causes of GDP volatility like foreign prices, trade partners' activity, contagion in times of international financial crisis - e.g. flight for quality and sudden stops in capital flows – and endogenous factors like self-inflicted economic crises or inadequate response to exogenous shocks. Channels through which exogenous factors affect overall growth may indeed be ill adapted policies or expectations about future prices on export and import markets or about future capital flows. They may also be of a structural nature like the degree of openness of the economy, its access to international credit markets, or simply its governance and the capacity of policy makers to make appropriate decisions.

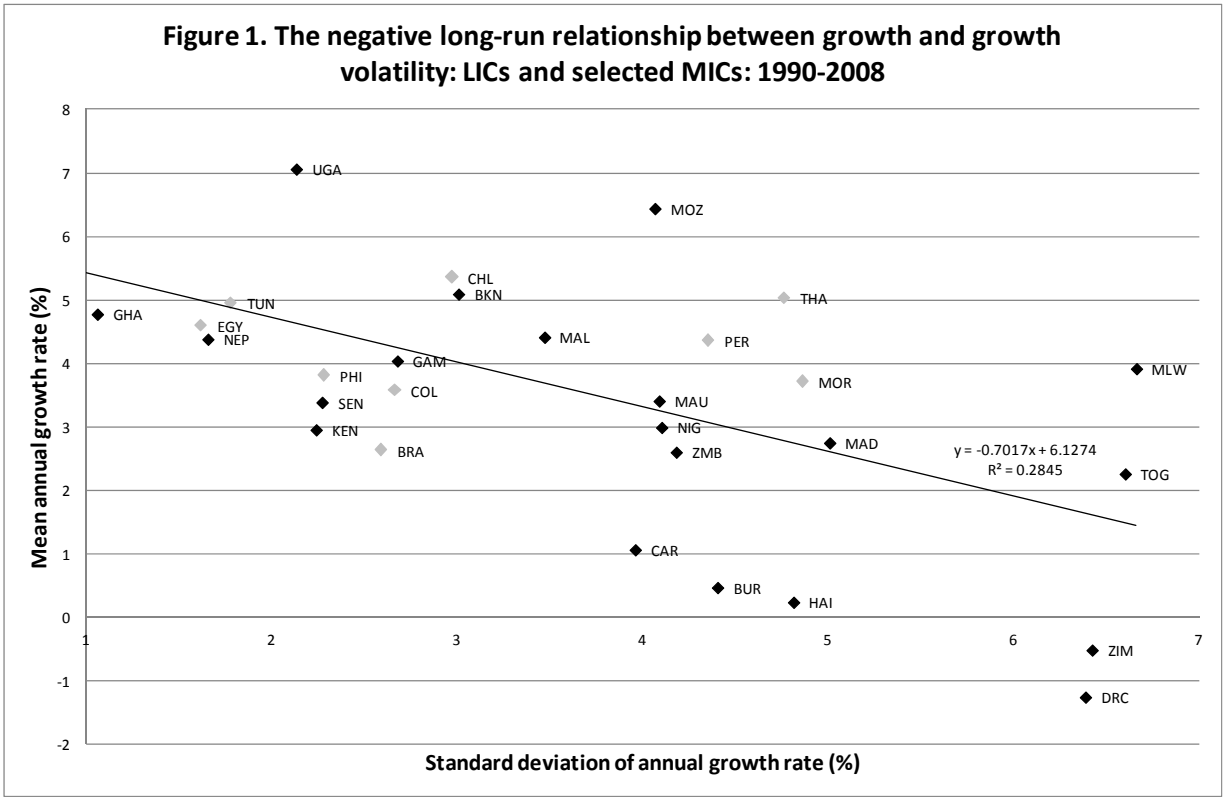
Turning now to the effect of terms of trade on growth, the literature on growth regressions offers plenty of evidence. Most growth panel regressions run on 5-year periods find that the terms of trade significantly affect growth performances in developing countries.[7] From that point of view, it is thus likely that the effect of GDP growth on poverty in the regressions reported in table 1 implicitly includes the effect of changes in terms of trade and commodity prices on the level of economic activity.

[4] See for instance Ramey and Ramey (1995), Martin and Rogers (2000), Hnatkovska and Loayza (2005)

[5] This elasticity has the same order of magnitude as the estimates found in the literature. See in particular Hnatkovska and Loayza (2005).

[6] On the size, channels and policy implications of volatility in developing countries see for instance Loayza et al. (2007). On the structural causes of volatility see Easterly, Islam and Stiglitz (2002).

[7] See for instance Loayza and Soto (2002) or more recently World Bank (2010)



Less emphasis has been given in the literature on the impact of the volatility of terms of trade on the average rate of growth. Yet, this influence is not marginal. Based on the view that past volatility is an indicator of future uncertainty on export and import prices, Mendoza (1997) showed that a substantial part of cross-country differences in consumption growth could be explained by terms of trade volatility. Bleaney and Greenaway (2001) found a significant impact of the volatility of the terms of trade on growth in a small sample of sub-Saharan countries. Recently, Furth (2010) showed on the same basic WDI data as those used above that a quarter of the variance of growth rates among 51 developing countries observed between 1980 and 2007 could be explained by the standard deviation of the terms of trade with respect to their trend, and very little by this trend itself or even by the volatility of GDP. The lack of relationship with the trend in the terms of trade in that study may seem surprising in view of the strong relationship found in some standard growth regressions, as mentioned above. The difference lies in the time horizon. Growth regression studies describe the short-run impact of fluctuations in terms of trade, whereas the analysis in Furth (2010) refers to the long-run effect, with the implicit assumption that, over various decades, countries had the time to adjust their growth strategy to long-run trends in export and import prices.

As far as the effect of terms of trade volatility on growth is concerned, it is not unlikely that the results in the various studies mentioned above significantly depends on the sample being used, the period of analysis and the cross-section vs. panel nature of the methodology. Whether working on the sample of low-income countries as in figure 1 or on the extended sample that also includes some middle-income countries, it turns out that results are not as clear cut as suggested

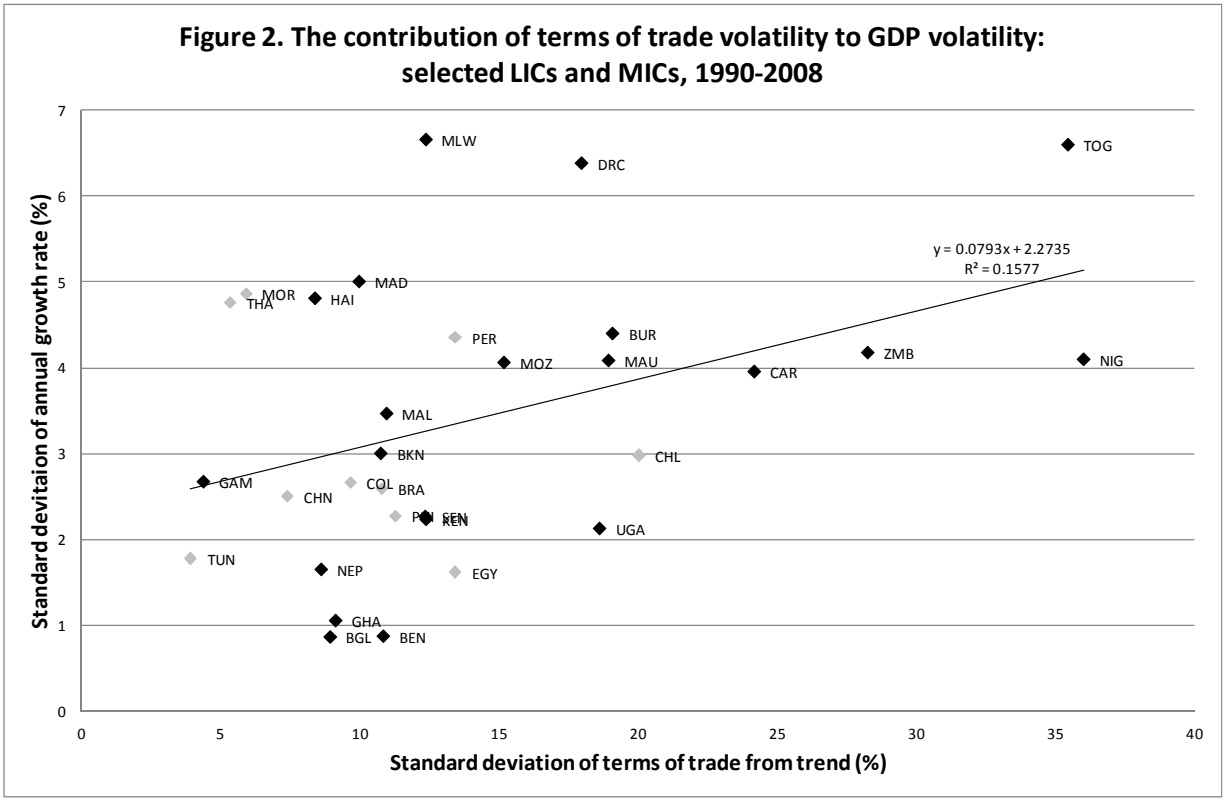
in the previous studies. Growth rates differences over the last three decades (1980-2008) or the last two decades (1990-2008) do not seem to depend significantly on terms of trade trends, and only very weakly on their volatility during the period. This variability of regression results across samples would be consistent with a relationship between growth and terms of trade volatility that would be strong for some countries but weaker or even non-existent in other countries. Some work remains to be done to identify which types of countries would belong to the first set, in particular whether they are more predominantly specialized on mineral or oil exports.

It now remains to examine the relationship between the volatility of the terms of trade and the overall volatility of GDP growth. This is less problematic as there is something mechanical in that relationship. If it is the case that the terms of trade are a significant determinant of growth in the short-run, as recalled above, then the volatility of GDP growth should automatically increase with that of the terms of trade, other things equal. This is illustrated in figure 2 which plots the volatility of GDP growth against that of the terms of trade for the same sample of countries as in figure 1.

In summary, the relationship between poverty and commodity prices in low-income countries as it appears in the cross-country analysis undertaken in this paper is quite simple. The first point is that commodity prices, somewhat awkwardly approximated by the terms of trade, seem to affect poverty mostly through GDP growth and, more interestingly, through GDP growth volatility. This is confirmed by standard cross-country analysis on GDP growth, where indeed terms of trade play a significant role in the short-run, and their volatility significantly affect overall GDP growth volatility. Of course, it is most likely that direct effects of commodity prices are missed in such an aggregate analysis because of not enough detail in the econometric specification being used and because of the cross-country nature of the exercise. Unfortunately, data needed to be more precise are unavailable for a large enough number of countries.

It is well known that growth is a major determinant of poverty reduction. The preceding results simply confirm this very simple fact, adding to it this interesting idea that the relationship between poverty and growth might be non-linear with poor people more affected than others in big recessions and benefiting less in exceptionally good times.

Repeating the preceding exercise with inequality rather than poverty, so as to evaluate the effect of commodity prices and their volatility on the inclusiveness of growth did not yield interesting results. GDP growth and volatility turned out to be non-significant, the same being true of the terms of trade. This confirms that, if terms of trade and their volatility play any role on poverty it is through growth and not through changes in the distribution of income.

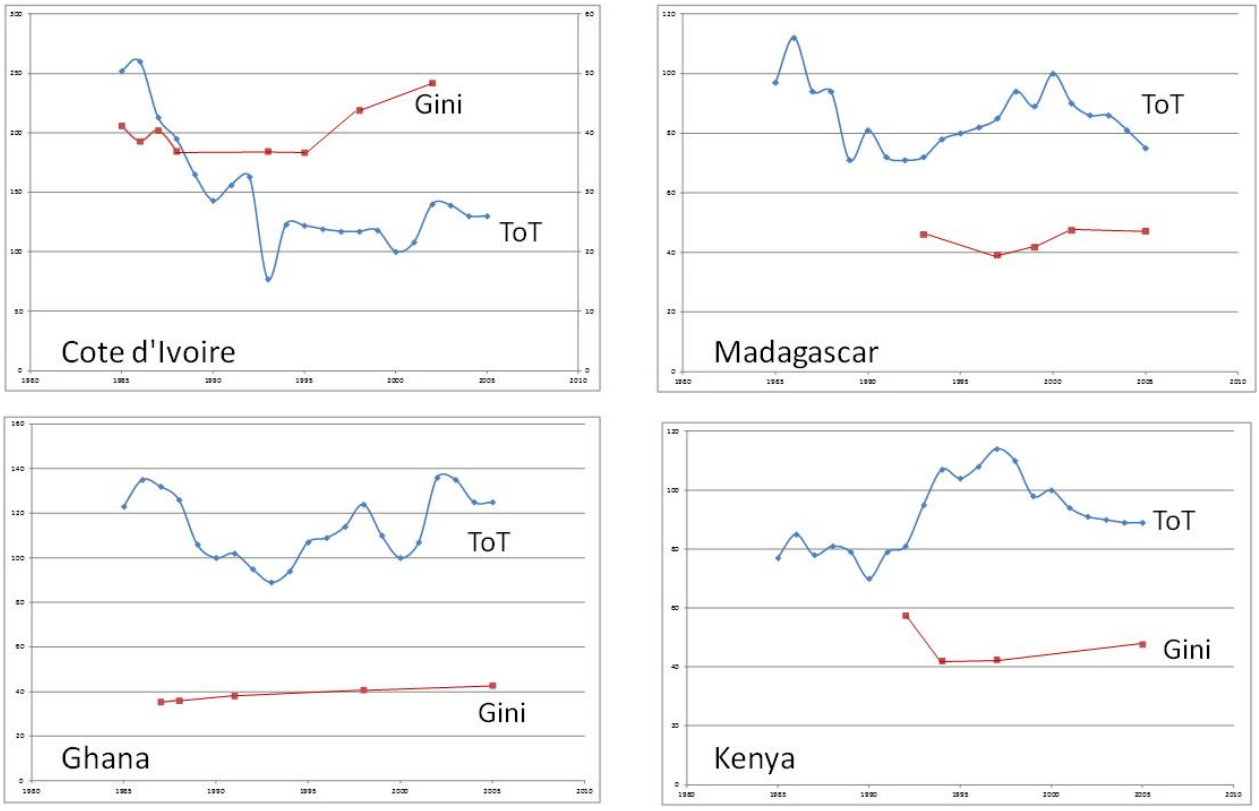


The charts in figure 3 show the evolution of the terms of trade and the inequality in consumption expenditures in four African countries the exports of which consist mostly of agricultural commodities, the price of which is expected to affect directly some specific groups in the population. It can be seen that, according to the distributional data available, the severe cocoa-led worsening of the terms of trade in Cote d'Ivoire and Ghana in the late 1980s and the first half of the 1990s did not produce any big change in inequality. It increased a bit in Ghana and decreased a bit in Cote d'Ivoire. Then inequality increased in both countries, although more in Cote d'Ivoire, whereas the terms of trade were recovering in Ghana and remained more or less stable in Cote d'Ivoire. In Madagascar, the improvement in the terms of trade in the second half of the 1990s has been associated with an increase in inequality but the opposite evolution in the early 2000s did not produce any noticeable change. Out of the four countries in figure 3, Kenya seems the only one to show a systematic pattern where inequality varies in the opposite direction of the terms of trade.

Of course, there are simple explanations behind the curves of figure 3 which show that the statistical relationship between inequality and terms of trade is necessarily a complex one. In the case of Ghana and Cote d'Ivoire, for instance, the role of the cocoa (and coffee) marketing boards has been crucial in either isolating domestic producers from international price fluctuations or in smoothing their effects or postponing them. In both countries there is indeed very little effect of the worsening of the terms of trade that took place in the 1980s and early 1990s on inequality. In Cote d'Ivoire, the administered price of cocoa was drastically lowered in 1990 by the marketing board, Caisstab, which was to be dismantled 10 years later. Presumably, this should have produced a shock on inequality if cocoa producers had been the only people hit. However, the crisis was truly national. GDP per capita dropped by 5 per cent that year so that most agents were

hit at the same time and no big change was observed in the degree of inequality. Interestingly enough, inequality increased much later, in effect at the time Caisstab had practically ceased its interventions. In Ghana, floor producer prices remained in force despite the liberalization of the "Cocobod", the equivalent of Caisstab. They were progressively adjusted proportionally to international prices at the same time as GDP per capita started stagnating. There too, the impact on inequality, although positive, was limited. Comparable country-specific explanations are available for other countries too. For instance, the loose inverse relationship between inequality and terms of trade in the case of Kenya might have to be associated with the weak regulation of the main agricultural exports in that country.

Figure 3. Terms of trade and consumption inequality (Gini) in selected sub-Saharan countries



This short discussion of the elusive relationship between the terms of trade and inequality help understand the results obtained earlier on the evolution of poverty that seemed to depend on commodity prices mostly though GDP growth and its volatility. It was already stressed that this was logically the case for exporters of mineral commodities and oil. In presence of domestic price smoothing mechanisms, it is clear that international fluctuations in the price of agricultural commodities also affect national economy agents only through aggregate mechanisms and therefore GDP fluctuations. It is therefore sufficient to have enough heterogeneity in the nature of the commodities being exported and in the marketing of agricultural exports for no discernable

effect of commodity price fluctuations on poverty or the distribution of standards of living to appear in statistical cross-section analysis. This does not mean that commodity prices do not have a direct impact on poverty and inequality in some countries or under particular circumstances. The result from the statistical analysis in this paper simply suggests that this is not the most frequent case as commodity price shocks in countries which heavily depend on commodity exports have almost an immediate macroeconomic effect and hit most agents rather than only the commodity producers.

2. Instruments to cope with the effects of commodity price volatility

The factual analysis of the relationship between poverty, inequality and commodity price volatility suggests that the main instruments to cope with the adverse effects of that volatility are more of a macroeconomic than microeconomic nature. At the same time, the presence of instruments that would permit to shield some vulnerable groups in the society from commodity shocks whether they are hit directly or indirectly through macroeconomic spillovers may enhance the efficiency of macroeconomic policies in reducing the social cost of commodity price fluctuations. From that point of view, considerable progress has been made lately in developing countries in implementing redistribution instruments that could possibly be used to cushion macroeconomic shocks on poor people. The implications of the availability of these new instruments will be examined first, before a few remarks on macroeconomic instruments and the potential role of the international community.

- *Micro instruments to help poor people cope with income shocks in low-income countries*

The 'Conditional cash transfer' programs Progresa and Bolsa Familia launched respectively in Mexico and Brazil have attracted a lot of attention in the development community. They have shown in particular that it was possible to manage huge cash transfers in developing countries at a rather low administrative cost and to substantially reduce poverty and inequality through these instruments, both in the short-run by targeting poor people and in the long-run through the obligation made to beneficiaries to send their children to school and health clinics. Programs of this type have now spread to many other Latin American countries and to other developing regions. They are now considered as an important part of social protection and of the 'social safety net' in those countries.

Such a view calls for several important remarks, with respect first to the actual 'income insurance' content of these instruments, and second to their applicability in a low income African context.

Most cash transfer programs are targeted to poor people who are identified through permanent household characteristics rather than current market income because the latter is seldom observed. The consequence is that they cannot really insure against income shocks of the type triggered by price fluctuation on international commodity markets and should not be considered as a true 'safety net'. Yet, as they provide limited resources on a regular basis, cash transfers reduce the volatility of market incomes and, when the liquidity constraint is binding, make adjustment to a worsening economic environment less painful. It must be noted moreover that this is true of all cash transfer programs, whether conditional or unconditional. For instance, transfers paid to elderly people without formal pension payment play this uncertainty reducing role when they live within larger households.

Some other social protection instruments in developing countries may play a more direct income insurance role. Although unemployment insurance schemes are still infrequent – and limited to the formal sector of the economy – public employment guarantee schemes at some arbitrary (low) wage have been used in periods of crisis and are permanent in some countries – e.g. India or South-Africa. Also, micro-credit programs allowing poor people to borrow at a reasonable rate permit to cope with the consequences of shocks, provided that they allow people to borrow for consumption purposes.

As most of these programs have been developed in middle-income countries, the issue arises of their applicability in low income sub-Saharan countries and their capacity to provide a safety net against commodity price fluctuations.[8] Concerning conditional cash transfer programs, numerous pilots have been launched in various countries (Burkina Faso, Ghana, Kenya, Malawi, Nigeria, Tanzania, Zambia,…). However, the emphasis in these experiments is more on the impact of these programs on the behavior of beneficiaries in terms of schooling and health checks of children than on the role of these transfers in reducing income volatility. With poverty rates very often close or even above 50 %, it is not clear whether it would not be extremely costly, in relative terms, to scale up these pilots so as to cover all poor people in a country. Of course, more modest programs could be envisaged that would target the poorest rather than all poor, although it might often be difficult to discriminate people according to the severity of poverty they face. Targeting specific groups of poor people easily identifiable might also be considered. Social pension programs – like the Old Persons Grant in South Africa for instance - might not cost as much and could already do much in reducing poverty and vulnerability not only for the elderly but the household where they live.[9]

Even if they are relatively modest and target only a segment of the population of poor, such cash transfer programs offer an interesting possibility in the context of commodity price shocks. They provide effective channels through which governments, and possibly foreign donors, can transfer more or less purchasing power to poor people depending on the strength of the macroeconomic shocks they have to face due to commodity price variations. In other words, once in place, those programs provide a convenient way for governments to provide some kind of insurance.

More direct income insurance instruments include public employment programs offering below market wage jobs in public works to people who cannot earn a living on the market. Most often, such programs are created in periods of crisis. This has been the case in several sub-Saharan countries (Senegal, Uganda, Tanzania, Zambia). The difficulty of such temporary programs is the cost and the delay of putting them in place, which often makes them little effective. There are strong arguments to make such programs permanent, with some monitoring of their intensity precisely to address the problems arising from fluctuations in economic activity. South-Africa's Expanded Public Work Program, created in 2004, and Ethiopia's Productive Safety Nets Program, launched in 2005 and financed by foreign aid, are examples of such permanent programs. Yet, there is little evidence on the way they can be scaled up or down as a response to the impact of macroeconomic shocks on individual standards of living.

[8] For a general analysis of Social Protection in sub-Saharan countries see European Report on Development (2010); on the issue of the replicability of Latin American conditional cash transfer programs in Africa see the early analysis of Schubert and Slater (2006).

[9] See Duflo (2003) and Bertrand, Mullainathan and Miller (2003) for evidence of this.

Microcredit, and more generally microfinance, would seem to allow poor people to effectively smoothen their consumption when hit by positive and negative shocks. Yet, the evidence on the overall effects of micro-finance on poverty and vulnerability to poverty is at this stage somewhat mixed. Rigorous impact evaluation is difficult to conduct because of the difficulty of designing truly random experiments and because of the considerable heterogeneity of micro-finance operators, from NGOs to commercial banks to informal operators, as well as in the definition of operations. The common view has long been that microfinance contributes to an alleviation of poverty and consumption smoothing but also that it does not always reach out to the poorest[10]. The few random control trials available to date tell a more cautious story.[11] In a sub-Saharan context where the large majority of poor people do not have access to any financial operator, it is unlikely that microfinance could be an effective way of coping with market income volatility today. At the same time, things are changing rapidly and this might be an area for policy intervention that could deserve special attention.

- *Fiscal policy management to cope with terms of trade volatility in low-income countries*

The micro instruments listed above are important to address idiosyncratic risks which poor households in developing countries are badly equipped to deal with. Of course, they also permit addressing systemic risks of the type generated by terms of trade volatility. Doing so, however, requires that governments have the capacity to scale up those transfers and programs through fiscal policies able to go against the direct budget effects of changes in commodity prices.

Economies which are price takers on all foreign markets and have a limited access to the international credit market have few degrees of freedom to counteract the effects of adverse changes in the foreign price of their exports or imports. Failures to handle satisfactorily this uncertainty have led to dramatic experiences in the past. It is quite clear, for instance, that the structural adjustment period in SSA countries and the so-called 'lost decade of development' in the 1980s are the direct consequences of a mismanagement, both at the country and at the world level, of the commodity price cycle that started with the oil price boom in the mid 1970s.

Since then, lessons have been learnt. The most important one being the need to apply 'prudent' fiscal policies, even in times of improving terms of trade. Accumulating reserves, under one form or another, during favorable times and de-cumulating them in a counter-cyclical way when hard times hit is the basic recipe to reduce the volatility of GDP and as was seen at the beginning of this paper to minimize the impact of commodity prices volatility on poverty and inequality.

Although simple, this basic principle is not necessarily easy to implement.[12] Political pressures for increasing fiscal spending in good times are strong and get stronger the longer the bonanza lasts. The right institutions must be set up to resist this type of pressure. At the same time, it is clear that, in the obvious absence of stationarity in the stochastic process that govern commodity prices, no automatic rule can be set, which leaves room for discretion in the conduct of policy. At the same time, excessive prudence may be costly because it slows down expected growth.

[10] For a statement of that common view, see for instance Morduch (2002).
[11] Bauchet et al. (2011).
[12] For an explicit optimal reserve accumulation policy in front of uncertainty on the terms of trade, see Barnichon (2009).

Finally, given the unpredictability of commodity price behavior, it is also clear that counter-cyclical policies will be impossible to implement if prices remain low for long enough. Thus, prudent fiscal policies are a necessary condition to escape the natural resource 'curse' brought about by the volatility of commodity prices but they are not sufficient. There will always be situations where low-income countries stricken by a long spell of low commodity prices will need to rely on foreign credit or foreign aid.

The 2008-09 crisis was a good example of how the accumulation of reserves during the previous period of favorable terms of trade helped some low-income sub-Saharan countries weather the global shock thanks to counter-cyclical fiscal policies. But such policies could not have been maintained if commodity prices had not quickly recovered in 2010.

Reserve accumulation and fiscal adjustments are short- or medium-run policies to deal with commodity price volatility. Other aspects of macro policies – monetary policy and exchange rate management - are important too. In the long-run, however, it may be more important to seek to reduce the overall importance of commodity exports within sub-Saharan countries through the diversification of economic activity. This may be obtained through more trade or more regional integration, as discussed in the next section, but also through the adequate structure of public spending. It is thus not only the size but the structure of public spending that matters to dampen the effect of commodity price volatility on growth and inclusiveness.

- *Role of the international community and donors*

The preceding discussion points to two obvious areas for the intervention of the international development community and donors to mitigate the negative effect of commodity price volatility on growth and poverty reduction in low-income countries. The first one concerns the liquidity constraint of low income countries which have gone through a sequence of negative shocks on commodity markets. The second one concerns the help that can be given to these countries to diversify their economy and make them less dependent on commodity exports.

On the first point, credit facilities of the type of the Standby Credit Facilities provided by the IMF to low-income countries with short-term balance of payment needs should be made more accessible. More generally, more innovative lending products leading that alleviate the liquidity constraint faced by low-income countries in periods of stress should be considered. This includes for instance the idea of mobilizing private lending more effectively for instance through partial guarantees provided by donors.

More explicitly linked to commodity price fluctuations, commodity price contingent aid contracts are a very attractive instrument. For instance, the French Development Agency, AFD, offers a concessionary counter-cyclical loan (PTCC) to countries which have difficulties in reimbursing their debt and face an adverse evolution in their terms of trade. Namely, the PTCC may be triggered as soon as the export revenues of a country in year t are more than 5 per cent below the average revenue observed on average during the five years before t.[13] Clearly, such a facility will not prevent the country to adjust if the drop in export revenues is permanent but it will reduce its

[13] The basic principles for the design of this facility were set in Cohen et al. (2007)

cost if such an adjustment must be undertaken and will avoid unnecessary social costs in case terms of trade appreciate again.

Concerning the diversification of economic activity in commodity export dependent countries, it must be stressed first that the initiative relies first of all on the countries themselves rather than on donors. Indeed, what is at stake here is the general development strategy of the country. Yet, foreign partners can also be very effective in helping countries achieve such a diversification.

As far as donors are concerned, focusing aid on the development of trade facilitating infrastructures ('aid for trade') as often suggested would certainly help. More helpful for low-income African countries would be to grant them effective trade preferences that would permit them to expand new non-traditional export markets for manufactured or possibly agricultural products. [14] Indeed, such preferences already exist: the African Growth Opportunity Act in the United States and the "Everything but Arms" agreement in the European Union. The problem is that they are extremely limited in scope. AGOA refers to a few, mainly textile products whereas EBA imposes very restrictive rules of origin. Very substantial progress can be made on these two fronts without real danger for domestic producers in developed countries who are not present on these production lines anyhow. Such preferences would mostly affect the geographical distribution of their imports with possibly Asian investors delocalizing part of their production to Africa. These preferences could be defined on a temporary basis, so as to simply allow African countries to overcome infant industry handicaps that presently prevent them to enter some international manufacturing markets where they could develop some comparative advantage in the long-run.

Another way of diversifying economic activity in low income African countries is to push more towards regional integration. Organized in *true* custom unions, rather than as a set of limited mostly trade diverting, rather than trade-creating preferences, larger blocks of African countries would offer more import substitution opportunities and allow individual countries to improve their competitiveness by operating on larger markets. Of course, this would require these trade-integrated blocks to protect their common markets at a reasonable rate, a measure that is not incompatible with present WTO rules. This would also require building the necessary infrastructure to facilitate trade between countries in the same trade block.

In short, there are policy measures that should reduce the cost of commodity price volatility in terms of growth, poverty reduction and inclusiveness in the low-income countries of sub-Saharan countries. A first set deals with the effects of shocks on commodity prices on individual incomes. They combine both fiscal policy rules and micro instruments allowing governments to reach the most vulnerable people and to reduce the volatility of their income. Such rules are being applied and some of the micro instruments start being developed in some countries. Yet, considerable work remains to be done before they can become truly effective in mitigating the impact of commodity price shocks on poverty, inequality and growth. A considerable amount of both national and international efforts have to be devoted to that development.

[14] This argument was first put forward by Collier and Venables (2007)

The second set of measures aim at making commodity exports, and therefore commodity price volatility less important in the development of low-income African countries. They have to do with the diversification of their economic activity and their foreign trade. The issue here is not only to reduce the individual and collective cost of commodity price volatility in those countries but also to prepare them to a more inclusive and sustainable development in the future. Given their size and the pace of demographic growth, it is indeed little likely that a development strategy based exclusively on the rent of natural resources, whether mineral or agricultural, be a long-run option for inclusive growth in Africa.

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