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**Poverty, Growth, and Inequality in Sub-Saharan Africa:  
Did the Walk Match the Talk under the PRSP Approach?**

by Daouda Sembene

**I N T E R N A T I O N A L M O N E T A R Y F U N D**

**IMF Working Paper**

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**Poverty, Growth, and Inequality in Sub-Saharan Africa:  
Did the Walk Match the Talk under the PRSP Approach?**

**Prepared by Daouda Sembene<sup>1</sup>**

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**Abstract**

Poverty Reduction Strategy Paper (PRSP) countries in Sub-Saharan Africa have shown strong signs of growth resilience in the aftermath of the recent global crisis. Yet, this paper finds evidence that growth has more than proportionately benefited the top quintile during PRSP implementation. It finds that PRSP implementation has neither reduced poverty headcount nor raised the income share of the poorest quintile in Sub-Saharan Africa. While countries in other regions have been more successful in reducing poverty and increasing the income share of the poor, there is no conclusive evidence that PRSP implementation has played a role in shaping these outcomes.

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## I. Introduction

Toward fulfilling the “dream of a world free of poverty” noticeably enshrined in the lobby of the World Bank’s headquarters, the Poverty Reduction Strategy Paper (PRSP) initiative was expected to go a long way. From its launch by the Bretton-Woods Institutions in 1999, many countries in the developing world began to put an unprecedented focus on poverty reduction that was further reinforced by the establishment of the Millennium Development Goals (MDGs) during the following year. In sub-Saharan Africa where the incidence of poverty remains high by world standards, the PRSP approach created high expectations among policymakers fueled by its promise of providing concessional financing and debt relief under the enhanced Heavily Indebted Poor Country (HIPC) Initiative. Senior government officials enthusiastically prefaced their country’s PRSP, persuaded by its highly publicized potential to make significant inroads into poverty.

Poverty reduction strategies implemented under the PRSP approach were expected to help improve growth and poverty reduction outcomes in developing countries given the broad principles that were meant to guide their preparation. These include their country-driven nature and expected adaptation to country-specific circumstances as well as the broad participation of all stakeholders in their design and monitoring. In an early evaluation of the PRSPs conducted by the IMF’s Independent Evaluation Office (IEO, 2004) in parallel with its World Bank’s counterpart, the PRSP approach was found to be a marked improvement over previous development plans, owing to its stronger focus on poverty, results-oriented nature, and long-term perspective. However, the evaluation report notes that the effectiveness of the PRSP approach “in identifying constraints to accelerating growth and making it pro-poor” was limited although it did a great job of improving poverty diagnoses.

Understandably, evaluations conducted in the infancy of the PRSP initiative tended to focus on procedural issues and its impact on the quality of policy implementation. In most cases they fell short of assessing whether PRSP implementation was successful in achieving its long-term objective of accelerating growth and reducing poverty. More than fifteen years after the launch of the initiative, such an assessment is now well overdue, especially in light of a number of developments. First, longer data series have become available, allowing a more informed assessment of the effectiveness of poverty reduction strategies. Second, the World Bank has recently weakened its PRSP requirements, which augurs the imminent end of the PRSP era by taking away any incentives for IDA-eligible and post-HIPC completion countries to continue to adhere to the lengthy and resource-intensive process of preparing PRSPs. Third, many MDGs have been unmet in Sub-Saharan Africa, particularly the goal of halving the proportion of people living on less than \$1.25 a day. In consequence ongoing efforts to shape the post-2015 development agenda will need to be supported by a better understanding of the effects of PRSP policies on poverty in the region.

In this light, this paper takes stock of poverty reduction strategies implemented in Sub-Saharan Africa in the context of PRSPs. It then examines whether PRSP implementation contributed to improving poverty outcomes. More specifically, the study aims to determine whether countries in this region were successful in reducing poverty incidence and securing a higher income share for the poorest quintile during PRSP times. In so doing, the paper does

not attempt to gauge the intrinsic quality of PRSPs, nor does it seek to assess the role played by the World Bank, the IMF, and other external stakeholders in the PRSP process.

The selective survey of PRSPs carried out in this paper suggests that most strategies have broadly ambitioned to alleviate poverty by accelerating growth and implementing specific anti-poverty programs and policies. Based on an unbalanced panel of country-year observations covering a total of 87 countries, including 35 Sub-Saharan African countries with at least one full PRSP and more than two decades beginning from the early 1990s, the empirical evidence confirms that the majority of PRSP countries in Sub-Saharan Africa has achieved stronger growth in the five years following the adoption of their first PRSP.<sup>2</sup> However, the findings suggest that PRSP implementation has neither reduced poverty headcount, nor raised the income share of the poorest quintile in Sub-Saharan African countries. Yet, there is significant evidence that income share of the top quintile has increased in these countries the presence of PRSPs. By contrast, PRSP countries outside the region have been more successful in reducing poverty headcount and increasing the income share of the poor although no firm evidence links these outcomes to the presence of PRSPs.

The rest of this paper is structured as follows. Section II provides a selective survey of poverty reduction strategies set forth in Sub-Saharan African countries' PRSPs. Section III describes growth, inequality and poverty outcomes secured by these countries under the PRSP approach. Section IV describes the modeling framework and reports the econometric evidence on the effects of PRSP implementation on poverty incidence and the welfare of the poor in Sub-Saharan Africa. The concluding section summarizes key findings of the paper and draws some lessons for the success of future poverty reduction strategies.

## **II. Typology of Poverty Reduction Strategies in Sub-Saharan Africa**

The PRSP Sourcebook indicates that priority public actions aimed at raising sustainable growth and reducing poverty should constitute the heart of a poverty reduction strategy. Along these lines, Sub-Saharan African countries have typically sought to implement growth-friendly and anti-poverty policies to improve the welfare of the poor and vulnerable households, as illustrated by the review of PRSPs summarized in Appendix Table 1. In addition, there are many policy measures and programs outside the scope of PRSPs that are intended to benefit the poor. For the sake of comprehensiveness, this section focuses on policies and programs set out within and outside the context of PRSPs in Sub-Saharan Africa, while providing a selective survey of poverty reduction strategies implemented in both PRSP and non-PRSP countries in the continent.

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<sup>2</sup> In this paper, full PRSPs are distinguished from interim-PRSPs that were usually issued prior to the finalization of the final PRSPs.

### **A. Pro-growth policies for poverty reduction**

The PRSP Sourcebook defines economic growth as the “single most important factor influencing poverty.” Consistent with this definition, growth strategies appear to have typically been among the key elements of African policymakers’ poverty reduction toolkit, as reflected by the recurrence of pro-growth public actions among the main pillars of their PRSPs.<sup>3</sup> By emphasizing growth and making no reference to poverty, the title of many countries’ PRSPs was unambiguously suggestive of the importance accorded to growth in the quest for poverty reduction. For instance, Ghana’s first PRSP finalized in February 2003 was referred to as an Agenda for Growth and Prosperity. Similarly, Benin’s second PRSP which was validated in April 2007 was unequivocally entitled Growth Strategy for Poverty Reduction while Cameroon’s second PRSP finalized in August 2009 was entitled Growth and Employment Strategy Paper.

In order to foster growth, PRSPs identify several policy actions that typically aim to develop human capital and infrastructure, improve competitiveness, foster economic diversification, and promote private sector development. In addition, most action plans crafted in these documents encompass cross-cutting areas that are viewed by government officials as important determinants of growth, including governance, rural development, social inclusion, and human and institutional development. In addition, a number of countries on the World Bank’s latest list of Fragile and Country Affected Situations have generally embedded peace and security consolidation, state-building, and institutional development in their poverty reduction framework. These include the Republic of Congo, Democratic Republic of Congo, Cote d’Ivoire, Guinea-Bissau, Liberia, Mali, Niger, and Sierra-Leone).<sup>4</sup>

### **B. Policy Interventions for Poverty Reduction**

The survey of poverty reduction strategies in Sub-Saharan Africa suggests that anti-poverty policies and programs are usually designed to achieve a variety of pro-poor outcomes. In particular, these include improving access of the poor to basic social services such as education, healthcare, housing, and drinking water, strengthening and expanding social security coverage, increasing employment and other income-generating opportunities for the poor, and reducing income and non-income inequalities. More specifically, pro-poor interventions take several forms in Sub-Saharan African countries, including unconditional

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<sup>3</sup> See Appendix Table 1.

<sup>4</sup> The World Bank defines countries in fragile situations as those that have either a) a harmonized average CPIA country rating of 3.2 or less, or b) the presence of a UN and/or regional peace-keeping or peace-building mission during the past three years.

and conditional cash transfer programs, in-kind transfer schemes, and public works programs.<sup>5</sup>

**Unconditional cash-transfers.** In general, most cash-transfer programs implemented in Sub-Saharan Africa tend to be unconditional. Garcia and Moore (2012) estimate that three out of four programs put in place since 2000 are unconditional. According to these authors, the primary recourse to unconditional cash transfers likely reflects weak institutional capacities in fragile states and social preferences in wealthier countries. In a number of Sub-Saharan African countries, social security systems have long been the main form of state-sponsored social protection programs and key providers of contributory cash-transfers. However, social security coverage remains limited in many countries and its benefits usually tied with employment in still anemic formal sectors.<sup>6</sup> In this context, a number of countries in the region began in recent years to introduce, without conditionality, social assistance programs exclusively targeted at the poor and untied with formal sector employment. For instance, unconditional cash-transfers schemes targeting primarily the extreme poor, labor-constrained individuals and victims of food insecurity have been implemented in Ethiopia, Malawi, Mozambique, and Zambia (Schubert and Slater, 2006). Similar programs were also found to be very successful in eastern Africa, notably in Kenya and Uganda. In the latter country, stipends provided unconditionally to groups of young entrepreneurs helped raise their average earnings by half in four years.<sup>7</sup> Moreover, a number of southern African countries such as South Africa, Botswana, Namibia, and Lesotho developed noncontributory transfer programs that received much praise.

**Conditional cash-transfers.** Breaking previous trends, most recent cash-transfer programs in Sub-Saharan Africa have increasingly tended to introduce conditionality, reflecting the renewed interest of domestic and external stakeholders in strengthening social safety nets. Many such programs are usually designed to improve school attendance and health conditions for children.<sup>8</sup> The financing and implementation of such transfer schemes often entails the primary involvement of donors, development agencies, charities, and NGOs. Although African governments have attempted to keep up with the pace, cash transfers remain very small as a share of GDP. For instance, Kakwani et al. (2005) review cash transfer programs conditional on school attendance in 15 Sub-Saharan African countries and find their size to be much smaller than is needed to secure a significant poverty impact,

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<sup>5</sup> See Desai (2007) for a broad overview of large-scale antipoverty programs, including conditional and unconditional cash transfers, public works, and in-kind transfers. To a lesser extent, there has also been perceptible interest in asset-based programs that have notably aimed to ease access to financing through microfinance institutions.

<sup>6</sup> Kalusopa, Dicks, and Osei-Boateng (2012), find mandatory social security to benefit less than one-tenth of the labor force in the region.

<sup>7</sup> See the Economist (2013) which argues that the renewed interest in these transfer schemes presumes a fundamental departure from the usual caricature of the poor as prone to irrational behavior and irresponsible fund management.

<sup>8</sup> See Garcia and Moore (2012).

which is at least 2 percent of GDP according to their estimates. Even though cash transfers are demonstrated to have been successful in regions such as Latin America, the empirical evidence that they work in Africa is still limited—albeit rapidly growing. The literature highlights a number of constraints that might undermine the introduction and effectiveness of conditionality in cash-transfer schemes in African countries, including supply-side constraints, weaknesses in implementation capacities of social welfare services, and cost-benefit considerations.<sup>9</sup>

**In-kind Transfer Schemes.** These schemes are used prevalently in many Sub-Saharan African countries, notably in the form of subsidized agricultural inputs, food and energy price subsidies, and school feeding programs.

- ***Agricultural subsidies:*** After being eliminated or downscaled during the 1980s as part of structural adjustment programs, a number of agricultural support schemes were resuscitated in the following decades, reflecting probably the critical need for any large scale antipoverty programs to cover rural areas where the majority of the poor live. More recently, many African countries including Ghana, Malawi, Nigeria, and Tanzania introduced agricultural subsidies in a number of countries after the 2008 global food price crisis in an attempt to stabilize prices and ensure food security, as noted by Benin *et al.* (2013).
- ***Food and energy price subsidies:*** At the onset of the crisis, food price subsidies also became increasingly popular across the continent, notably with many governments cutting value-added taxes and suspending customs duties on a range of food commodities in order to address actual or potential social unrest triggered by the crisis. Furthermore, several countries have also had recourse to energy price subsidies amid recurrent crises in the sector. Most notably, these took the form of fuel and/or electricity tariff subsidies in several countries. According to the IMF (2013a), many countries have limited at some point the full pass-through of fluctuations in global energy prices, including Ghana, Kenya, Mali, Namibia, Niger, Nigeria, Senegal, and Uganda. As of 2012, the fiscal cost of fuel subsidies is estimated by the IMF staff to have totaled about 1.4 percent of Sub-Saharan Africa's GDP and quasi-fiscal deficits of state-owned electricity companies found to have claimed an equivalent share in 2009-10.
- ***School feeding programs:*** These programs are among the most popular types of in-kind transfers around the world and in Sub-Saharan Africa in particular. In this region, their use is promoted by a number of domestic and external stakeholders, including the NEPAD, the World Food Program (WFP), the World Bank, and some UN agencies. For instance, the Home-Grown School Feeding program initiated by NEPAD in partnership with the WFP other institutions has helped several Sub-

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<sup>9</sup> See for instance Schubert and Slater (2006).

Saharan African countries increase students' participation in school feeding programs in the past several years. Many such initiatives undertaken in the region typically aim to improve school enrollment and attendance, educational performance, and children's health, while promoting agricultural development and food security.<sup>10</sup> Yet, the bulk of these programs are often underfunded and the ineffectiveness of targeting approaches adopted in many countries constrains their potential positive impact on the poor.<sup>11</sup>

**Public Works Programs.** Public works and employment guarantee schemes are featured among pro-poor programs implemented in Sub-Saharan Africa. Most public works programs set up in the region aim to overcome chronic poverty and unemployment by provide social protection or create jobs. However, only a few of these programs are government funded, with the majority being supported by the donor community. For instance, McCord and Slater (2009) survey 167 public works programs implemented in 29 Sub-Saharan African countries and find 83 percent of them to be donor funded. Often cited among public works programs implemented in Africa is also South Africa's Expanded Public Works Programme (EPWP) introduced in 2004 which is an innovative job creation scheme aimed at fostering social inclusion and economic empowerment. The first-phase of the program targeted the creation of one million jobs within five years, even though this ambitious objective proved difficult to achieve in the short-term partly due to limited budgetary allocations (Antonopoulos, 2013).

### **III. Growth, Inequality and Poverty Outcomes under the PRSP approach**

This section offers a comparative analysis of growth, inequality and poverty outcomes in Sub-Saharan African countries that have embarked on the PRSP process (hereafter PRSP countries) relative to those that have not done so (non-PRSP countries). It also examines whether PRSP implementation was associated with improved growth performance and changing patterns of income distribution and poverty in the region.

#### **A. Did PRSP countries in Sub-Saharan Africa grow faster than their peers?**

Across Sub-Saharan Africa, growth performance has been uneven among PRSP and non-PRSP countries. During the 1990s, non-PRSP countries registered impressive real GDP growth rates, averaging about 7 percent, as illustrated in Figure 1. By contrast, countries that would later adopt a PRSP performed relatively poorly during the same period, with growth barely hitting 2 percent. Much of this weak growth occurred in the first half of that decade

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<sup>10</sup> See Gelli, Meir, and Espejo (2007) on the impact of school feeding programs on school enrollment in a sample of 32 Sub-Saharan African countries.

<sup>11</sup> See Bundy *et al.*, (2009).

when average output grew by less than 1 percent, as 26 out of the 35 PRSP countries experienced at least one year of GDP contraction during between 1990 and 1994. Incidentally, this period witnessed several episodes of political instability throughout the region, notably with the introduction of multipartism in many countries. From 1995 until the launch of the PRSPs in 1999, economic activity recovered significantly in a number of countries, thereby raising average growth rates in prospective PRSP countries above 3 percent. Similarly, economic performance in other countries was much stronger during the second half of that decade, with average growth rates tripling compared to their level in the first half.

In recent decades, Sub-Saharan Africa has been among the fastest growing regions in the world. In recent publications, the IMF cites improved macroeconomic management alongside favorable commodity prices and strong investment among the key factors that underpinned sub-Saharan Africa's robust growth performance through the Great Recession.<sup>12</sup> As illustrated in Figure 1, this pattern of strong growth has been sustained after the launch of the PRSP process in 1999.

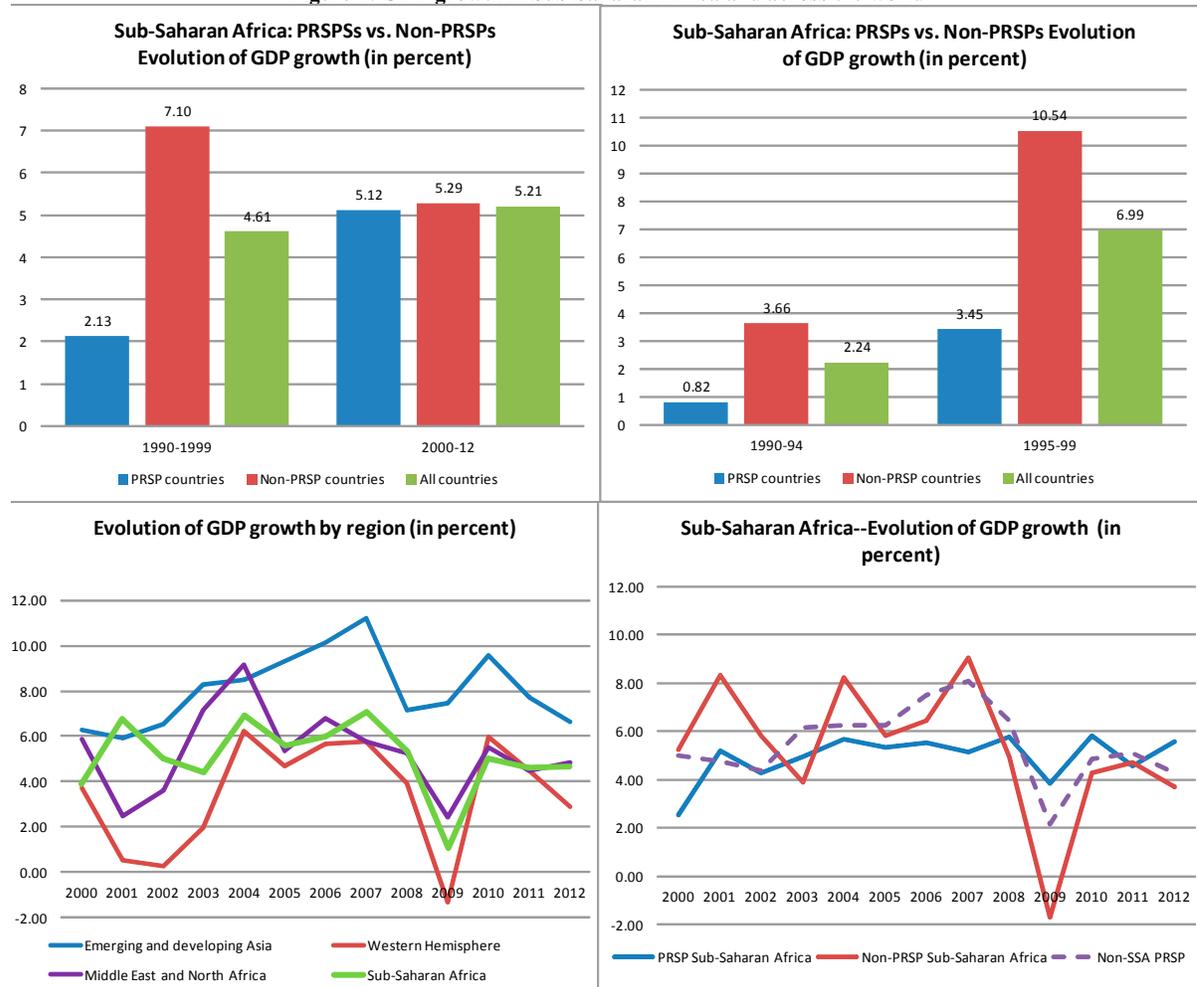
Beyond this overall performance, disaggregated data show that, on average, PRSP countries in Sub-Saharan Africa have underperformed non-PRSP countries in the region as well as PRSP countries outside the region until the onset of the global financial crisis in 2008. Afterward, there has been a marked trend reversal with non-PRSP Sub-Saharan Africa—and to a lesser extent PRSP countries from the rest of the world—lagging behind PRSP countries in terms of growth performance. As a result, the average growth differential between countries with a PRSP and those without one has almost entirely dissipated between 2000 and 2012.

However, Figure 2 shows that large differences in economic performance as measured by per capita GDP growth persisted during the same period even though they narrowed down compared to their level in the previous decade. While average GDP per capita growth declined by about 1 percentage point in non-PRSP countries relative to the period 1990-99, it rose in Sub-Saharan African PRSP countries out of negative territory to 2.20 percent during 2000-12. Still, income per capita growth remained broadly weaker in the latter than in their international peers which embraced the PRSP initiative.

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<sup>12</sup> IMF (May 2013), *Regional Economic Outlook—Sub-Saharan Africa: Building Momentum in a Multi-Speed World*. And IMF (October 2013), *Regional Economic Outlook—Sub-Saharan Africa: Keeping the Pace*.

Figure 1. GDP growth in Sub-Saharan Africa and across the world



Source: WEO, IMF, October 2014. The total sample comprises 43 Sub-Saharan countries, of which 34 PRSP countries and 9 non-PRSP countries. It excludes Eritrea, Liberia, South Sudan, Sudan, and Zimbabwe. Non-SSA PRSP includes 24 PRSP countries outside Sub-Saharan Africa. See Annex for the list of PRSP and non-PRSP countries.

After the recent global crisis broke out, per capita GDP growth appears to have generally been more resilient in PRSP countries from Sub-Saharan Africa relative to non-PRSP countries in the region and PRSP countries from the rest of the world. The fact that in the crisis aftermath growth performance weakened less in Sub-Saharan African PRSP countries than in their regional and international peers suggests that the latter may have been more vulnerable to shocks affecting the global economy. While both groups of countries include commodity-producing and exporting economies that were adversely hit by price developments in global markets during the crisis, they display striking differences notably in terms of the nature of external financing and types of insurance against shocks to which they have access. This is consistent with the fact that PRSP countries from Sub-Saharan Africa are typically low-income countries whereas non-PRSP countries comprise middle-income countries that are relatively more exposed to turmoil in global financial markets. Arguably, the improved performance of PRSP countries in the aftermath of the crisis could also stem from successful efforts to build buffers during PRSP implementation, thereby increasing their ability to run counter-cyclical policies. However, the latter hypothesis is not tested hereafter, as it is beyond the scope of this paper.

**Figure 2. Per capita GDP growth in Sub-Saharan Africa and across the world**  
**Sub-Saharan Africa: Evolution of per capita GDP growth in PRSP and non-PRSP countries (in percent)**



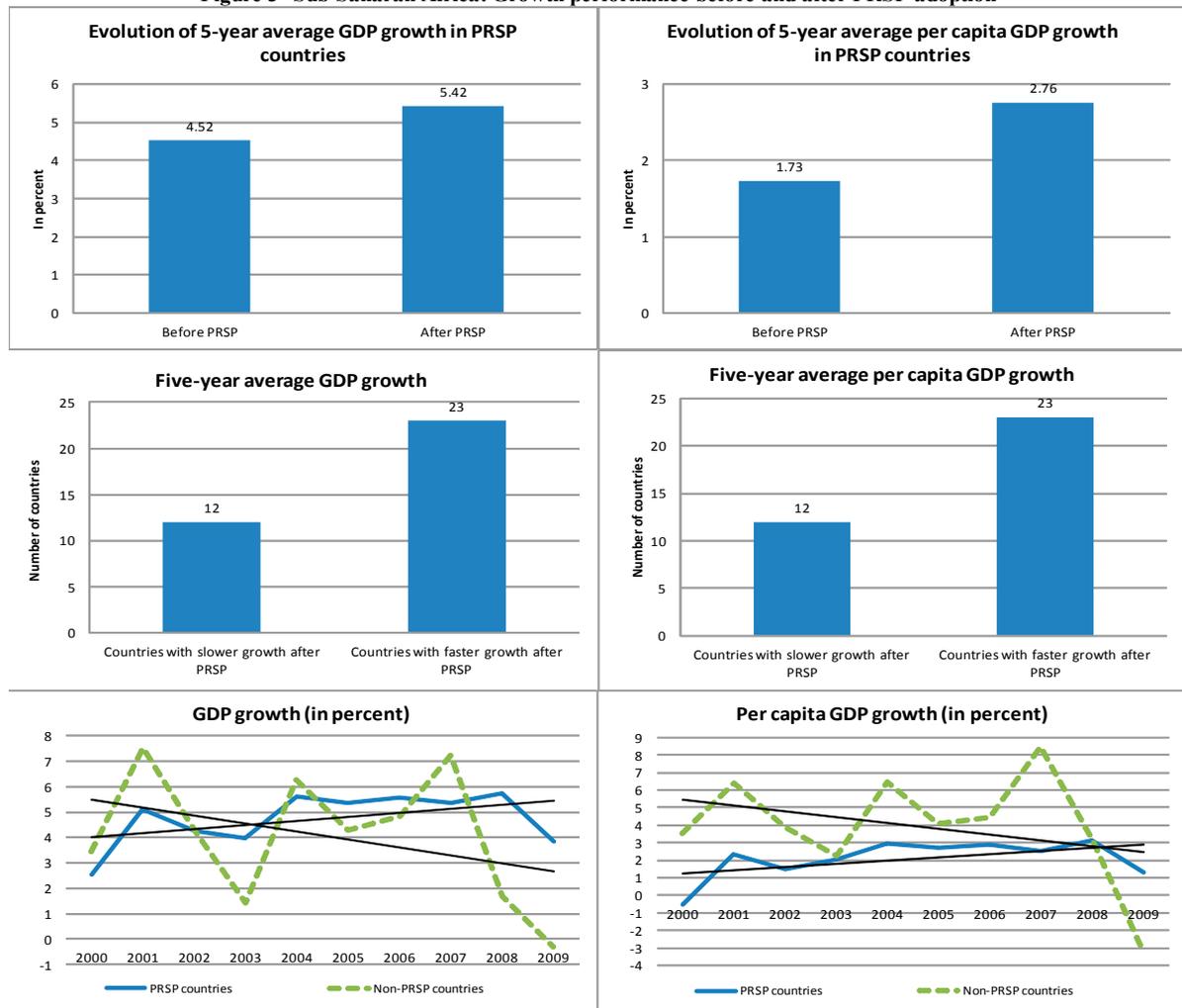
Source: WEO, IMF, October 2014. The total sample comprises 43 Sub-Saharan countries, of which 34 PRSP countries and 9 non-PRSP countries. It excludes Eritrea, Liberia, South Sudan, Sudan, and Zimbabwe. Non-SSA PRSP includes 24 PRSP countries outside Sub-Saharan Africa. See Annex for the list of PRSP and non-PRSP countries.

## B. Did growth accelerate after PRSP adoption?

In the previous section, growth performance in PRSP countries was computed without consideration of the timing of PRSP adoption. In reality, there is a large variance in the specific years from which individual countries embarked on the PRSP process. While some sub-Saharan African countries have produced their first PRSP approach as early as 2000, others have done so as late as 2009. Taking into account the exact timing of the introduction of the PRSP is therefore critical to determine the real implications of the approach for economic performance.

Figure 3 does so by plotting average growth of GDP and per capita GDP in Sub-Saharan African countries before and after they adopted their first PRSP. It shows that, on average, GDP and per capita income grew in these countries by about a percentage point of GDP faster five years after adopting the PRSP than five years before. Among the 35 PRSP countries selected in this study, 23 experienced more rapid income growth during the five years following the adoption of their first PRSP than they did during the previous five years.

Figure 3—Sub-Saharan Africa: Growth performance before and after PRSP adoption

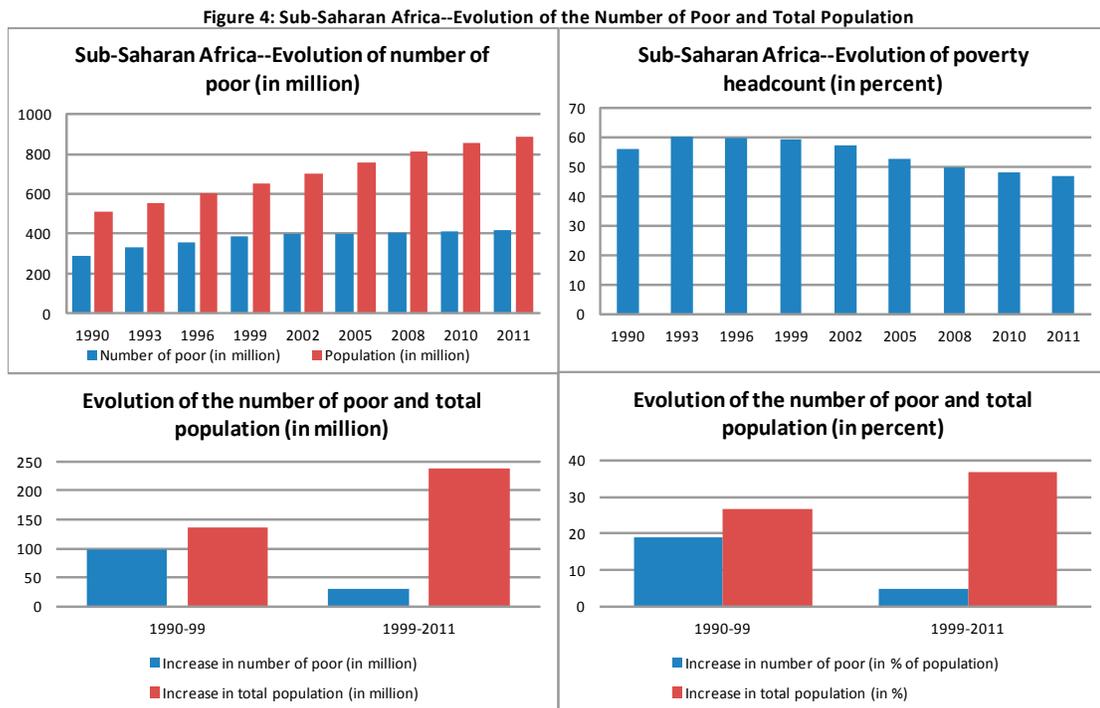


Source: WEO, IMF, October 2014. The total sample comprises 43 countries located in the region, of which 34 PRSP countries and 9 non-PRSP countries. It excludes Eritrea, Liberia, South Sudan, Sudan, and Zimbabwe. See Annex for the list of PRSP and non-PRSP countries.

Equivalently, one out of three PRSP countries register weaker growth performance during the five years following the adoption of their first PRSP than during the similar time span immediately leading up to it. In this light, it appears that PRSP implementation did not immediately lead to growth acceleration in Sub-Saharan Africa. Still, the patterns of income growth trended upward in PRSP countries as they progressively embraced the PRSP process between 2000 and 2009. By contrast, growth performance in non-PRSP countries tended to follow a negative slope during the same period, aided by its sharp weakening after 2007.

### C. How did poverty and inequality evolve in Sub-Saharan Africa after the launch of the PRSP process?

The previous sections illustrate Sub-Saharan Africa's strong growth performance amid the renewed focus on poverty reduction that began to gain steam in Sub-Saharan policy circles at the end of the last millennium. This section investigates whether increased growth rates were associated with improved poverty outcomes in the region. Figure 4 shows that the number of people living in the region on less than \$1.25 a day increased by almost 100 million between 1990 and 1999, representing about a fifth of population growth. Between 1999 and 2011, the increase in the number of poor was barely 30 million, equivalent to only 5 percent of the total population increase that took place in the region during the same period. As a result, poverty headcount ratios have continued to decline since the mid-1990s after reaching a record high of 60 percent. Still, poverty incidence remains high with almost one out of every two Africans living under the poverty line. In addition, the pace of poverty reduction has been very slow, averaging less than half a percentage point per annum over the period 1990-2011.



Source: World Bank *PovCalNet* and author's calculations.

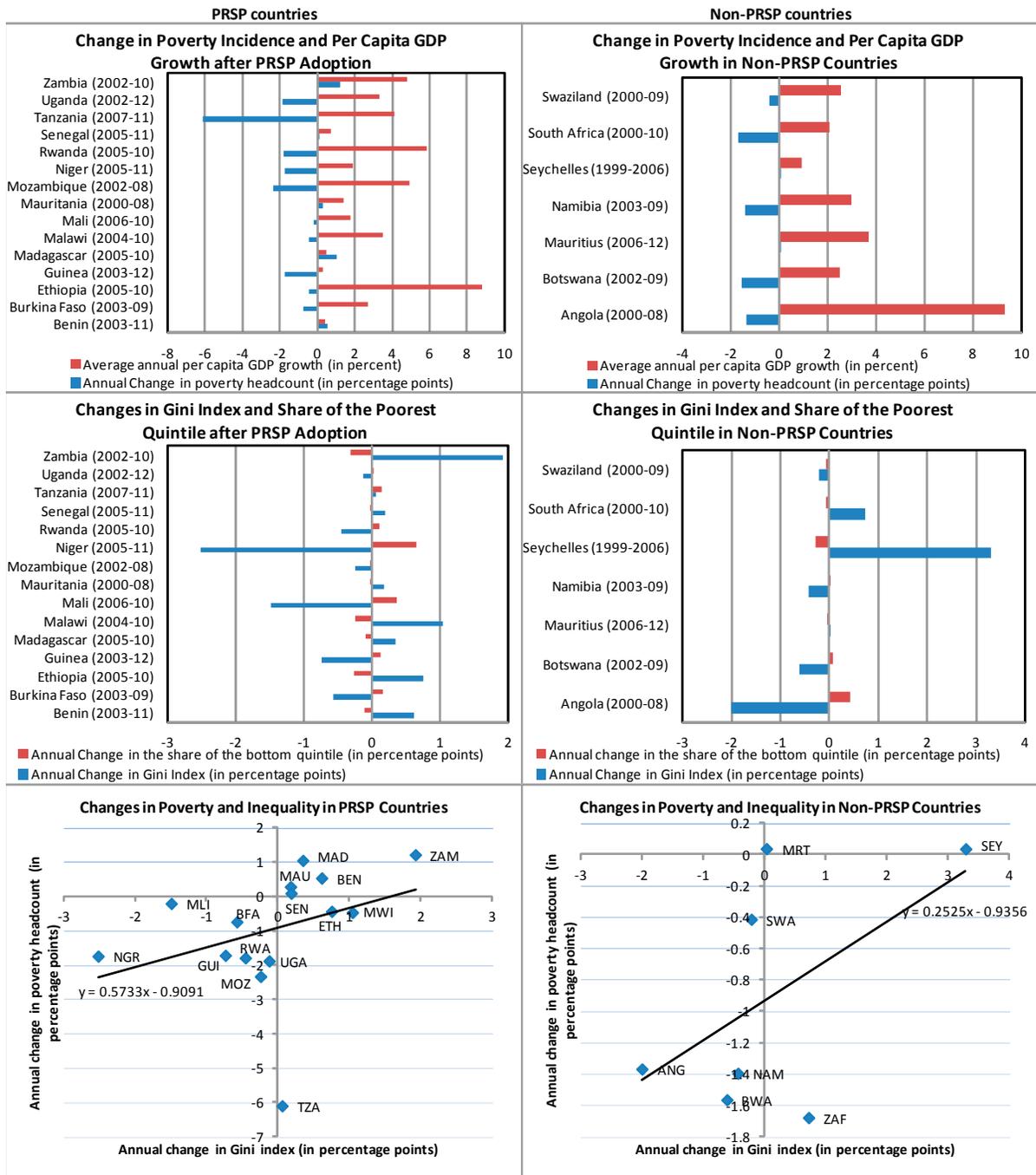
Figure 5 plots average annual changes in poverty headcount, growth and inequality in a sample of 15 PRSP countries and 7 non-PRSP countries for which such data is available after PRSP adoption and the launch of the PRSP process, respectively.<sup>13</sup> During selected time spans, poverty outcomes deteriorated in one-third of selected PRSP countries. By contrast, poverty rates were significantly curtailed in five out of seven non-PRSP countries, while remaining unchanged in the two other countries. However, inequality increased in about half of the sample of PRSP and non-PRSP countries even though the latter experienced relatively more cases of improved Gini indices. Moreover, greater income inequality appears to be associated with higher poverty incidence in PRSP countries. At the same time, only modest increases in the income share were secured for the poorest quintile in less than half of these countries.

Overall, the graphical analysis undertaken in this section suggests that across Sub-Saharan Africa non-PRSP countries grew faster than PRSP countries before the launch of the PRSP initiative and this pattern continued until recent global crisis broke out. Moreover, it appears that inequality increased in both PRSP and non-PRSP countries, with higher inequality being associated with more significant effects on poverty incidence in PRSP countries. Yet, caution is warranted in interpreting these results, as correlation does not necessarily imply causation. Arguably, these stylized facts may also raise adverse selection issues. Indeed, it is likely that countries embarked on the PRSP process not only because it was a requirement for benefiting from debt relief under the enhanced HIPC initiative, but also because they found it difficult to jumpstart growth and reduce inequality and poverty. To address the relation between poverty, growth, and other poverty determinants is therefore further investigated in the next section with the use of appropriate estimation techniques.

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<sup>13</sup> When more than one data spell are available for a country, the longest one is selected.

Figure 5--Sub-Saharan Africa: Evolution of growth, inequality, and poverty after the launch of the PRSP process



Source: World Bank *PovCalNet*, IMF WEO, 2014, and author's calculations.

## IV. Econometric Evidence

### A. Model and Estimation Strategy

In order to assess the impact of PRSP implementation on poverty incidence and the income share of the poor in Sub-Saharan Africa, the following equations are estimated:

$$pov_{i,t} = \alpha_0 + \alpha_1 y_{i,t} + \alpha_2 gini_{i,t} + \alpha_3 SSAPRSP_{i,t} + \alpha_4 NonSSAPRSP_{i,t} + \alpha_5' X_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$quintile1_{i,t} = \beta_0 + \beta_1 y_{i,t} + \beta_2 SSAPRSP_{i,t} + \beta_3 NonSSAPRSP_{i,t} + \beta_4' Z_{i,t} + \mu_{i,t} \quad (2)$$

where  $pov$  is the log of the poverty headcount index at \$1.25/day poverty line,  $y$  denotes the log of average per capita income and  $gini$  is the log of the Gini index.  $SSAPRSP$  is a dummy for Sub-Saharan African countries with PRSPs that takes either the value of 1 in the presence of a full PRSP or 0 otherwise. Similarly,  $NonSSAPRSP$ , a dummy for PRSP countries from other regions around the world, is equal to 1 during years of PRSP implementation and 0 in the absence of a PRSP. Subscripts  $i$  and  $t$  index countries and years respectively; and  $\alpha_0$  and  $\beta_0$  are constants.  $Quintile1$  is the log of the income or consumption share of the poorest quintile.  $X$  and  $Z$  are two sets of additional control variables that may have an impact on poverty incidence and the income share of the poor either directly or through their effects on growth and income distribution.

Equation (1) is a basic specification of the link between poverty incidence, growth and inequality to which dummies for PRSP countries in Sub-Saharan Africa and the rest of the world are augmented to assess the extent to which PRSP implementation may have contributed to poverty reduction.<sup>14</sup> Given its logarithmic form, the model provides estimates of  $\alpha_1$ , the “growth elasticity” of poverty with respect to average income, and  $\alpha_2$  the elasticity of poverty with respect to inequality of income or consumption. In line with the literature, a negative estimate of  $\alpha_1$  is interpreted in this paper as evidence of “pro-poor” growth, as it implies a reduction in the incidence of poverty.<sup>15</sup>

In line with Dollar and Kraay (2002), equation (2) provides an estimate of the elasticity of the income of the poor with respect to mean income ( $1 + \beta_1$ ). If the estimate of  $\beta_1$  takes a negative (positive) value, then growth benefits less (more) than proportionately people in the bottom quintile. Growth is also deemed inclusive if the estimate of  $\beta_1$  is positive. This is consistent with the definition of inclusive growth as a growth episode that does not take place along with an increase in inequality or, equivalently, a reduction in the income share of the poorest quintile.<sup>16</sup> Here again,  $SSAPRSP$  and  $NonSSAPRSP$  are added to the list of right-hand

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<sup>14</sup> See Balakrishnan, Steinberg, and Syed (2013) on how the specifications of the model match the poverty literature.

<sup>15</sup> See Ravallion and Chen (2003).

<sup>16</sup> See Balakrishnan, Steinberg, and Syed (2013).

side variables to capture the effects of PRSP implementation on the income share of the poorest quintile.

In order to capture the specific poverty impact of PRSPs in Sub-Saharan Africa and elsewhere, equations (1) and (2) a specification that only links poverty variables and PRSP dummies is first estimated with fixed effects and instrumental variable (IV) techniques. These equations are then estimated using IV regression techniques to address the possibility of endogeneity bias, measurement error in the mean household income, and omission of relevant variables. In conducting these IV regressions, this paper follows Balakrishnan, Steinberg, and Syed (2013) in using lagged values of real per capita compiled in the *Penn World Tables* as instruments for household survey-based mean income. Consistent with Easterly (2001), the interaction between mean income and the Gini index is also added to the list of instruments to address the possibility of reverse causation from poverty to growth and inequality which is extensively documented in the context of Sub-Saharan Africa.<sup>17</sup> For the same reason, interaction terms including either one of these two variables are also added to the list of instruments in any regressions where they are among control variables.

The regression analysis is performed on the basis of an unbalanced panel dataset constructed from the World Bank's *POVCALNET* database. From this database, two measures of poverty are selected in this paper: the poverty headcount index at \$1.25/day poverty line and the income/consumption share of the bottom quintile of the population.<sup>18</sup> While the \$1.25/day poverty headcount index may be of limited use in studies covering many other regions, it remains relevant for Sub-Saharan Africa where about 47 percent of total population lived under \$1.25 a day as of 2011, according to World Bank's estimates. The dataset covers 59 PRSP countries around the world that adopted at least a full PRSP of which 35 countries are from Sub-Saharan Africa. A total of 28 countries that have never adopted a PRSP, including 6 from Sub-Saharan Africa, are also added to the sample as benchmark countries.<sup>19</sup> These include not only IDA countries that did not embrace the PRSP process, but also all other developing and emerging countries for which the level of extreme poverty has exceeded at some point a given cutoff limit during the past quarter century.<sup>20</sup>

<sup>17</sup> Thorbecke (2013) offers a detailed review of the literature on the reverse causality between reduced poverty and more inclusive growth in Sub-Saharan Africa. Go and others (2007) also provide some evidence that inequality is a strong predictor of growth in the region, implying that the patterns of income distribution are indirectly affected by poverty.

<sup>18</sup> The dataset used in this paper selects available *POVCALNET* surveys-based estimates of the income or consumption share of the bottom quintile as measure of welfare of the poor. For terminological convenience, this share is referred to only as income share in the rest of the paper.

<sup>19</sup> Equatorial Guinea, Eritrea, and Zimbabwe were excluded from the sample due to data shortcomings, while Mauritius and Seychelles were not selected because the few *POVCALNET* data available for these countries show no instances where the \$1.25/day poverty headcount exceeded 1 percent over the period 1990 onwards.

<sup>20</sup> In all non-PRSP countries selected in the sample the \$1.25/day poverty headcount index available in *POVCALNET* has exceeded 10 percent at least once since 1990. On the basis of this cutoff rule, a few non-PRSP countries from Sub-Saharan Africa were excluded from the sample, including Mauritius and Seychelles. Due to poverty data shortcomings Equatorial Guinea, Eritrea and Zimbabwe were not selected.

## B. Did PRSP implementation reduce poverty in Sub-Saharan Africa?

Table 1 reports the fixed effects and IV regression results for Equation 1. The results obtained using the basic specification without the PRSP dummies confirm that growth has overall been pro-poor in emerging and developing countries around the world (columns 1-2). Income growth exerts a positive impact on the pace of poverty reduction, as a 1 percent increase in average per capita income leads to about a 2 percent decline in the incidence of poverty if inequality is kept unchanged. By contrast, inequality is found to have damaging effects on poverty, with the potential to more than offset the pro-poor aspects of growth.<sup>21</sup> More specifically, a 1 percent increase in income inequality, as measured by the Gini index, results in over 4 percent increase in the poverty rate, holding constant average incomes. Moreover, the income-inequality interaction is not significant, suggesting that stronger growth does not mitigate the adverse effects of inequality on poverty headcount. As a result, poverty incidence may edge up on average by more than 2 percentage points on average for an equivalent increase in growth and inequality.

When the PRSP dummies are added to the basic specification, the results show no significant evidence that PRSP implementation has helped reduce extreme poverty in Sub-Saharan Africa, once growth and inequality are controlled for (column 3). By contrast the presence of a PRSP is significantly—albeit at 10 percent only—associated with the reduction of the poverty headcount in PRSP countries from other regions around the world. However, additional tests that are performed provide no firm evidence of a causal effect of PRSPs on poverty reduction in these countries.<sup>22</sup>

Remaining columns of Table 1 convey the results of two variants on the basic specification with PRSP dummies. In the first variant, interactions of PRSP dummies with mean income and the Gini index are added to the regressions (columns 4 and 5). Since the dummy for non-PRSP countries is omitted, these specifications help to determine whether the elasticities of poverty with respect to average income and inequality differ between PRSP and non-PRSP countries. The results show that all interaction terms are statistically insignificant, suggesting that there is no evidence that higher average income or lower inequality are associated with better poverty outcomes in PRSP countries relative to others. In the second variant, control variables include interactions of income and inequality with decade dummies, with the 2010s dummy being the omitted category (columns 6 and 7). Here again, none of the interaction

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<sup>21</sup> Similar evidence on the pro-poor content of growth and the negative poverty impact of inequality in developing and emerging regions is particularly widespread in the literature. See for instance Christiansen and others (2013) and Balakrishnan, Steinberg, and Syed (2013).

<sup>22</sup> The tests consisted in assigning artificial dates of PRSP implementation to each of these countries and comparing the regressions results with those obtained using the actual implementation dates. The two sets of regressions produced broadly similar results, implying that improvements in poverty outcomes that took place in these countries cannot be conclusively attributed to PRSP implementation. Other factors inherent in the study period could have contributed to these outcomes, including worldwide low interest rates and favorable commodity price developments.

variables is significant, which indicates that the elasticities of poverty with respect to average income and inequality have remained unchanged over time.

The above analysis found no indication that PRSP implementation helped to reduce poverty in Sub-Saharan Africa once the effects of growth and inequality are controlled for. Arguably, the insignificance of the SSA PRSP dummy along with the strong significance of growth and inequality could be expected given the close link between the latter two variables and poverty. To assess if PRSP implementation affects poverty through any channels, including growth and inequality, a basic specification that regresses poverty on PRSP dummies only is estimated using fixed effects techniques. Here again, the results show that PRSP implementation has had no significant impact on the incidence of poverty in Sub-Saharan Africa even though it has been associated with a reduction of poverty in other regions around the world (column 8). In particular, this suggests that neither growth nor inequality has been effective channels through which PRSP implementation shaped positively poverty outcomes in Sub-Saharan Africa.

Overall, the regressions results reported in this section confirm that growth has been broadly pro-poor and inequality poverty-augmenting in emerging and developing countries. Indeed, income growth is found to be associated with a reduction of poverty, while higher inequality correlates with increased poverty headcount. However, the empirical evidence fails to support claims that PRSP implementation has helped reduce poverty in Sub-Saharan Africa. While PRSP countries from other regions have reduced poverty further during PRSP implementation, there is no conclusive evidence that PRSP implementation helped secure this positive outcome. More generally, there is not any strong indication that PRSP countries have been more successful than other countries in making growth more pro-poor and reducing the adverse effects of inequality on poverty incidence.

Table 1. Sub-Saharan Africa--Impact of PRSP Implementation, Growth and Inequality on Poverty Incidence								
	Dependent variable: Log of Poverty Headcount Index at \$1.25 a day							Fixed Effects, IV (8)
	Instumental Variables							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Log of mean household income (Income)	-1.9702*** (0.0995)	-1.7067*** (0.6355)	-1.9851*** (0.1070)	-1.9055*** (0.1386)	-2.1636*** (0.3067)	-1.9773*** (0.0764)	-1.6878*** (0.0549)	
Log of Gini Index	4.6579*** (0.4145)	5.1761*** (1.3074)	4.5580*** (0.4803)	4.5758* (2.6390)	5.3865*** (1.6394)	4.6220*** (0.2018)	3.2165*** (0.1913)	
SSAPRSP			-0.0908 (0.1098)	1.5381 (3.1866)	-9.2443 (55.0760)	-0.1033 (0.1113)	-0.0464 (0.1069)	-0.1994 (0.1405)
NonSSAPRSP			-0.2517* (0.1513)	0.1717 (6.3206)	1.7435 (4.4580)	-0.2449** (0.0988)	-0.1813** (0.0843)	-0.6344*** (0.1162)
Income*Gini		-0.0000 (0.0001)						
SSAPRSP*Income				-0.0253 (0.0574)				
NonSSAPRSP*Income				-0.0023 (0.0319)				
SSAPRSP*Gini					0.2070 (1.2647)			
NonSSAPRSP*Gini					-0.0389 (0.1003)			
1990s*Income						-0.0004 (0.0005)		
2000s*Income						-0.0002 (0.0005)		
1990s*Gini							0.0008 (0.0023)	
2000s*Gini							0.0016 (0.0020)	
Constant	-5.6417*** (1.1696)	-8.5278 (6.9733)	-5.1388*** (1.4077)	-5.6310 (10.2221)	-7.4825 (6.4646)	-5.3872*** (0.7172)	-1.5207*** (0.5823)	2.8439*** (0.0385)
R-squared	0.7655	0.7403	0.7628	0.7534	0.4613	0.7602	0.7960	0.7908
Cragg-Donald F-statistic	19.69	4.72	11.10	0.07	0.03	120.27	270.47	--
Number of observations	465	465	465	464	464	464	464	465

Source: *POVCALNET*, The World Bank.

Notes: Significance at 1% (5%) (10%) is denoted by \* (\*\*) (\*\*\*). Standard errors are in parentheses. The selected sample covers 1992-2011 and includes a total of 87 countries, of which 61 have adopted at least one PRSP. PRSP countries include 35 countries from Sub-Saharan Africa (SSAPRSP dummy) and 24 IDA-eligible countries from other world regions (*NonSSAPRSP* dummy). The sample of non-PRSP countries comprises 28 countries, including 6 Sub-Saharan African countries. See Data Appendix for sample description.

### C. Did PRSP implementation raise the income share of the poor?

As previously noted, the estimation of equation 2 is suggestive of the extent to which growth is inclusive. Table 2 conveys the results of this estimation which show that overall growth less than proportionately benefits people locked in the bottom quintile, while raising the share of the top quintile (columns 1, 2, 6 and 7). However, the results also suggest that Sub-Saharan African countries experienced neither higher average income share for the poorest quintile nor lower share for the richest quintile during PRSP implementation. By contrast, the presence of a PRSP in other regions is found to be associated with an increased share for the poor and a lower share for the richest quintile even though there is no evidence that PRSP policies played a role in shaping these outcomes.<sup>23</sup>

In column 3, interactions between average income and PRSP dummies are added to the basic specification, respectively. Once again, the dummy for non-PRSP countries is omitted. Given the negative coefficients on the interactions of income with *SSAPRSP* and *NonSSAPRSP*, the results suggest that the elasticity of income of the poorest quintile with respect to average income is lower—albeit not significantly—in PRSP countries than in non-PRSP countries. Running the same regressions with the income share of the richest quintile as dependent variable generates strong evidence that the average income share of the top quintile is significantly highest in Sub-Saharan Africa’s PRSP countries relative to PRSP countries from other regions and non-PRSP countries from the region and around the world (column 8).

When using instead interactions with decade dummies as regressors with the 2010s dummy being omitted, the coefficients on these interactions are negative and significant, as displayed in column 4. This suggests that the elasticity of the average income of the poor with respect to average income differs by decade and is significantly higher in the 2010s than in the previous two decades. Similarly, there is conclusive evidence that the average income share of the top quintile was smallest in the 2010s (column 9).<sup>24</sup>

The regression analysis conducted in this section finds no significant impact of the PRSP approach on the income shares of the bottom quintile in Sub-Saharan Africa, aside the effects of growth on poverty. Still, there is not any strong basis for concluding that PRSP implementation has affected the welfare of the poorest quintile through its potential effects on growth. To address this concern, a simple fixed effects regression of the income share of the bottom quintile on PRSP dummies is run. The results reported in column 5 evidence a lack of significant impact of PRSPs on the income share of the segment of the population in

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<sup>23</sup> The lack of causality from PRSP implementation to poverty reduction is evidenced by the results of abovementioned tests involving the use of artificial PRSP implementation dates.

<sup>24</sup> However, this result must be cautiously interpreted given that the dataset used in this paper only covers the first three years of the current decade.

Sub-Saharan Africa and beyond. Similarly, PRSP implementation appears to have no statistically significant effects on the income share of the top quintile (column 10).

In a nutshell, there is no significant evidence that PRSPs helped raise the average income share of the poor in Sub-Saharan Africa. Yet, countries outside the region have secured a higher income share for the poorest quintile during—though not thanks to—PRSP implementation. However, there is robust evidence that, on average, the top quintile has enjoyed during PRSP times a higher share of income in Sub-Saharan Africa than in PRSP countries from other regions and non-PRSP countries within and outside the continent.

Table 2. Sub-Saharan Africa—Impact of PRSP Implementation and Growth on the Income/Consumption Share of the Bottom and Top Quintiles										
Dependent variable: Log income or consumption share of the bottom quintile (Quint1) and top quintile (Quint5)										
	Instumental Variables Regressions				Fixed Effects_IV logQuint1 (5)	Instumental Variables Regressions				Fixed Effects_IV logQuint5 (10)
	logQuint1 (1)	logQuint1 (2)	logQuint1 (3)	logQuint1 (4)		logQuint5 (6)	logQuint5 (7)	logQuint5 (8)	logQuint5 (9)	
Log of mean household income (Income)	-0.4680*** (0.0444)	-0.4256*** (0.0428)	-0.3328*** (0.0807)	-0.2826*** (0.0594)		0.1172*** (0.0118)	0.1153*** (0.0107)	0.1188*** (0.0296)	0.0693*** (0.0148)	
SSAPRSP		0.0475 (0.0913)	0.9725 (2.0358)	0.0214 (0.0907)	0.8094 (6.3136)		0.0022 (0.0229)	1.4499* (0.7472)	0.0081 (0.0226)	-0.6545 (2.6752)
NonSSAPRSP		0.4510*** (0.0737)	0.8666 (0.5624)	0.3961*** (0.0747)	0.6877 (1.3012)		-0.1785*** (0.0185)	-0.4621** (0.2064)	-0.1616*** (0.0186)	-0.0754 (0.5513)
SSAPRSP*Income			-0.0137 (0.0330)					-0.0239** (0.0121)		
NonSSAPRSP*Income			-0.0024 (0.0032)					0.0017 (0.0012)		
1990*Income				-0.0018*** (0.0004)					0.0005*** (0.0001)	
2000*Income				-0.0010** (0.0004)					0.0003*** (0.0001)	
Constant	3.7303*** (0.2123)	3.4451*** (0.2095)	2.9681*** (0.4155)	2.9349*** (0.2500)	1.3156*** (0.4389)	3.3762*** (0.0564)	3.4164*** (0.0525)	3.3954*** (0.1525)	3.5836*** (0.0624)	4.0097*** (0.1860)
R-squared	0.2122	0.2865	0.2328	0.3098	0.6936	0.2059	0.3603	-0.4733	0.3879	0.2297
Cragg-Donald F-statistic	402.27	234.58	1.122	186.73	--	402.27	234.58	1.12	186.73	--
Number of observations	467	466	466	466	475	467	466	466	466	475

Source: *POVCALNET*, World Bank.  
Notes: Significance at 1% (5%) (10%) is denoted by \* (\*\*) (\*\*\*). Standard errors are in parentheses. The selected sample covers 1992-2011 and includes a total of 87 countries, of which 61 have adopted at least one PRSP. PRSP countries include 35 countries from Sub-Saharan Africa (*SSAPRSP dummy*) and 24 IDA-eligible countries from other world regions (*NonSSAPRSP dummy*). The sample of non-PRSP countries comprises 28 countries, including 6 Sub-Saharan African countries. See Data Appendix for sample description.

## D. Robustness Tests

The empirical findings discussed in previous sections could be subjected to several caveats. Key among these are concerns over potential adverse selection, especially in view of the noticeable differences in the level of economic development that prevail between control and treatment groups of countries included in the selected sample. In addition the relevance of the selected poverty measures may also be questioned, with notably the poverty headcount index at \$1.25 a day being often viewed as irrelevant for many middle income countries. Finally, it could be argued that the pro-poor PRSP effect could take time to materialize. Supportive of

this argument is the fact that PRSP countries in Sub-Saharan Africa have shown relatively stronger signs of resilience in the post-financial crisis era, as illustrated in Figure 1.

In light of the above, a number of robustness checks are conducted in this section. The first set of robustness checks addresses the issue of adverse selection. The second set examines the extent to which the empirical evidence reported previously is robust to the use of alternative measures of poverty. The last one investigates whether PRSP countries outperformed their peers in terms of poverty reduction in the aftermath of the global financial crisis.

### **Addressing Selection Bias**

Two approaches are followed to assess the extent to which the empirical results reported in this paper are robust to selection bias. First, the basic specifications of Equations 1 and 2 augmented with PRSP dummies are estimated using Heckman's two-steps estimation procedure and the results are compared with the estimates displayed in Tables 1 and 2.<sup>25</sup> Overall the results obtained using Heckman selection model are found to be broadly similar with those reported in Tables 1 and 2, as both the signs and significance of the estimated coefficients remain virtually unchanged.

Second, the overall sample of PRSP and non-PRSP countries is streamlined to include only countries eligible to borrow from the International Development Association (IDA), the World Bank's concessional lending window. As eligibility for IDA support is mainly based on countries' relative poverty defined as GNI per capita below a given, annually updated threshold<sup>26</sup>, IDA borrowing countries have highly comparable levels of economic development. Table 3 reports the regression results based on this reduced sample of 61 IDA borrowing countries, including 57 PRSP countries and 4 non-PRSP countries.<sup>27</sup> Here again the results are broadly similar to those obtained with the broader sample.<sup>28</sup> They show no significant evidence that the PRSP experience either helped to reduce poverty headcount or raise the income share of the poor in IDA borrowing countries from Sub-Saharan Africa. In addition, the evidence supports the finding that growth more than proportionately benefited the richest quintile in IDA countries. It also appears that the income share of the top quintile increased during PRSP implementation in Sub-Saharan African countries—albeit not in a statistically significant manner.

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<sup>25</sup> In performing this estimation procedure, the PRSP dummy is used as the dependent binary variable in the selection equation while the level of income and inequality are assumed to determine a country's decision to adopt the PRSP.

<sup>26</sup> This threshold is \$1,215 in fiscal year 2015.

<sup>27</sup> The overwhelming majority of IDA eligible countries have produced at least one PRSP, which compounds the difficulty of forming a broad control group with similar characteristics as PRSP countries. Selected IDA countries that did not embark on the PRSP process include India, Micronesia, Papua New Guinea, and St Lucia.

<sup>28</sup> The results are robust to the exclusion of India from the list of non-PRSP IDA borrowing countries.

Dependent variable:	Log of Poverty Headcount Index at \$1.25 a day		Log of income share of the bottom quintile			Log of income share of the top quintile			
	Instrumental Variables		Fixed Effects, IV	Instrumental Variables		Fixed Effects, IV	Instrumental Variables		Fixed Effects, IV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Log of mean household income (Income)	-1.5389*** (0.0972)	-1.3603*** (0.1345)		-0.4160*** (0.0617)	-0.4815*** (0.0677)		0.0842*** (0.0201)	0.1133*** (0.0217)	
Log of Gini Index	2.6057*** (0.3853)	2.2091*** (0.4561)							
SSAPRSP		-0.0072 (0.0845)	-0.1938 (0.1308)		0.0578 (0.0746)	-0.5082 (1.4313)		-0.0046 (0.0240)	0.0786 (0.3830)
NonSSAPRSP		-0.4256*** (0.1364)	-0.5820*** (0.1267)		0.2793*** (0.0851)	0.6569 (0.8158)		-0.1006*** (0.0273)	-0.1810 (0.2183)
Constant	0.1896 (1.1343)	1.0132 (1.2517)	3.5175*** (0.0572)	3.4585*** (0.2659)	3.6582*** (0.2843)	1.6332*** (0.1250)	3.5286*** (0.0865)	3.4295*** (0.0913)	3.9112*** (0.0334)
R-squared	0.7666	0.7769	0.7191	0.1880	0.2665	0.4712	0.0787	0.1891	0.6056
Number of observations	231	231	231	231	231	239	231	231	239

Source: POVCALNET, The World Bank.  
Notes: Significance at 1% (5%) (10%) is denoted by \* (\*\*) (\*\*\*). Standard errors are in parentheses. The selected sample covers 1990-2012 and includes a total of 61 IDA borrowing countries, of which 57 have adopted at least one PRSP. PRSP countries include 35 countries from Sub-Saharan Africa (SSAPRSP dummy) and 22 IDA-eligible countries from other world regions (NonSSAPRSP dummy). The sample of non-PRSP IDA countries comprises India, Micronesia, Papua New Guinea, and St. Lucia. See Data Appendix for sample description.

## Using an alternative measure of welfare

Using the human development index as an alternative poverty measure, the baseline model is estimated and the results reported in columns 1-3 of Table 4. Like in Tables 2 and 3, the estimates contained in this table evidence the positive effects of growth on the welfare of the poor, while confirming the damaging impact of inequality. Here again, there is not any statistically significant effects of PRSP implementation on the selected measure of welfare.

## Assessing the poverty impact of PRSP implementation in the crisis aftermath

To assess the impact of PRSP implementation on poverty interaction of PRSP dummies with a financial crisis dummy are introduced in the basic fixed effects model. The regression results reported in columns 4 and 5 of Table 4 show no significant evidence of improved poverty reduction outcomes in Sub-Saharan African PRSP countries in the crisis aftermath relative the pre-crisis period. By contrast, poverty incidence has improved more significantly in PRSP countries outside the region after the crisis broke out. However, it appears that PRSP countries regardless of their region of origin have not succeeded in securing a higher share of income for the bottom quintile in the crisis aftermath.

Table 4. Robustness Checks using Alternative Welfare Measures and a Financial Crisis Dummy					
Dependent variable:	Log of Human Development Index		Log of Poverty Headcount Index	Log of income share of the bottom quintile	
	Instrumental Variables		Fixed Effects, IV	Fixed Effects, IV	
	(1)	(2)	(3)	(4)	(5)
Log of mean household income (Income)	0.4459*** (0.0758)	0.3348*** (0.0556)			
Log of Gini Index	-1.0435*** (0.3772)	-0.7686*** (0.2610)			
SSAPRSP		-0.1276** (0.0496)	0.8106 (0.9734)	-0.2378 (0.1679)	0.0772 (0.0730)
NonSSAPRSP		-0.1402** (0.0649)	0.7191 (0.8065)	-0.6441*** (0.1297)	-0.0430 (0.0556)
SSAPRSP*CRISIS				-0.0219 (0.1940)	0.0023 (0.0844)
NonSSAPRSP*CRISIS				-1.0506*** (0.1637)	0.0730 (0.0707)
Constant	1.2633 (1.0975)	0.8025 (0.7725)	-0.9966*** (0.2380)	2.9002*** (0.0376)	1.5046*** (0.0164)
R-squared	0.3280	0.6058	0.1142	0.8145	0.8487
Number of observations	122	122	407	465	467

Source: *POVCALNET*, The World Bank.

Notes: Significance at 1% (5%) (10%) is denoted by \* (\*\*) (\*\*\*). Standard errors are in parentheses. The samples corresponds to the ones used for Tables 1 and 2. The HDI ratings range from 0 (worst) to 1 (best). CRISIS is a financial crisis dummy that takes the value of 1 from 2008 onwards and 0 otherwise. See Data Appendix for sample description.

## V. Conclusions and Policy Implications

The empirical findings reported in this paper suggest that PRSP implementation has not significantly impacted poverty incidence and the income share of the poorest quintile in Sub-Saharan Africa. Yet, there is robust evidence that the top quintile was able to secure a higher share of income during PRSP times. By contrast, Sub-Saharan Africa's regional and international peers were more successful in reducing poverty headcount and raising the fraction of income accruing to the poor although PRSP implementation does not appear to have played any role in securing these outcomes. The failure of PRSPs to achieve targeted poverty reduction outcomes in Sub-Saharan Africa was partly facilitated by unfavorable patterns of income distribution which largely mitigated the pro-poor effects of growth. Moreover, average per capita GDP in PRSP countries grew less rapidly than regional

averages, even though the majority of them registered stronger growth rates after adopting their first PRSP.

The evidenced failure of PRSPs to reduce poverty significantly in Sub-Saharan Africa is yet another testimony of the importance of domestic ownership of countries' development strategies. In this context, it is not surprising that a number of internal IFI watchdogs have voiced in recent years growing calls for their institutions to address concerns over ownership of pro-poor and pro-growth policies in collaboration with country authorities. Beyond this well-evidenced need for better ownership, the PRSP experience also provides a number of important lessons for the success of poverty reduction strategies.

First, it will prove useful to raise further awareness about the need to mitigate the damaging effects of inequality on the welfare of the poor. While many PRSPs acknowledged the need to improve the distributional patterns of growth as recommended in the PRSP Sourcebook, they failed to instill among policymakers a sense of urgency in this area commensurate with the strong emphasis that has rightly been put by PRSPs on the importance of growth for poverty reduction. Yet, with the benefit of hindsight, higher inequality appears to have more than offset the positive impact of growth on poverty in Sub-Saharan Africa. Going forward, a more significant reduction of poverty incidence in the region will entail a decisive reversal of the rising trends in inequality. This requires bolder policy measures than envisaged in PRSPs aimed at addressing the underlying causes of deteriorating trends in income distribution.

Second, the limited inroads made by Sub-Saharan countries in reducing extreme poverty evidence the ineffectiveness of the large panoply of pro-poor policies and programs undertaken in the context of PRSPs. Given the small budgetary allocations usually earmarked to these initiatives, this outcome is unsurprising. However, increased resources may produce little effects unless sustained efforts are made to overcome existing impediments to the effectiveness of antipoverty and social protection programs. In particular, improved targeting of pro-poor programs and policies could be of critical importance although care needs to be taken to account for political economy considerations. Indeed the notion that increased targeting efficiency might loosen political support for redistributive policies is well-evidenced in the political science literature.

Clearly, the intrinsic nature of cross-country analyses along with the highly heterogeneous political landscape in Sub-Saharan Africa should preclude any temptation for a "one-size-fits-all" approach in overcoming extreme poverty. In fact, the success of poverty reduction strategies in general and pro-poor and inclusive growth strategies in particular will require in all likelihood that these are appropriately tailored to country-specific circumstances even though similar structural characteristics across Sub-Saharan African countries could be capitalized on. This lesson inspired by the PRSP experience is particularly relevant at a time when African countries are endeavoring to "domesticate" their own Agenda 2063. While a common strategic framework for inclusive growth and sustainable development in Africa may offer a welcome picture of the shared vision and aspirations of African policymakers, any region-wide framework to be effective must be closely aligned with national development strategies, without being prescriptive.

Appendix Table 1—Review of First Generation Poverty Reduction Strategy Papers			
Countries	Year	Title	Pillars and Priorities of Poverty Reduction and Growth Strategies
Benin	Dec. 2002	Poverty Reduction Strategy Paper (2003-05)	(i) Strengthening the medium-term macroeconomic framework (ii) Developing human capital and environmental management (ii) Strengthening good governance and institutional capacity (iv) Promoting employment and strengthening the ability of the poor to participate in decision-making and production processes
Burkina Faso	May. 2000	Poverty Reduction Strategy Paper	(i) Accelerate equity-based growth (ii) Guarantee that the poor have access to basic social services (iii) Expand opportunities for employment and income-generating activities for the poor (iv) Promote good governance
Burundi	Sep. 2006	Poverty Reduction Strategy Paper	(i) Improve Governance and Security (ii) Promote Sustainable and Equitable Economic Growth (iii) Human capital development (iv) Combating HIV/AIDS
Cameroon	Apr. 2003	Poverty Reduction Strategy Paper	(i) Promoting a stable macroeconomic framework (ii) Strengthening growth by diversifying the economy (iii) Revitalizing the private sector as the main engine of growth and a partner in delivering social services (iv) Developing basic infrastructures and natural resources while protecting the environment (v) Accelerating regional integration in the framework of CEMAC (vi) Strengthening human resources and the social sector and facilitating the integration of vulnerable groups into the economy (vii) Improving the institutional framework, administrative management, and governance
Cape Verde	Sep. 2004	Growth and Poverty Reduction Strategy Paper	(i) Promote good governance, reinforcing effectiveness and guaranteeing equity (ii) Promote competitiveness to foster economic growth and employment creation (iii) Develop and upgrade human capital (iv) Improve and develop basic infrastructure, promote land use management, and protect the environment (v) Improve the effectiveness and sustainability of the social protection system
Central African Republic	Sep. 2007	Poverty Reduction and Growth Strategy Paper	(i) Consolidation of peace and conflict prevention (ii) Governance and the rule of law (iii) Economic recovery and diversification (iv) Development of human capital
Chad	June. 2003	National Poverty Reduction Strategy Paper	(i) Promoting good governance (ii) Ensuring strong and sustained economic growth (iii) Improving human capital (iv) Improving the living conditions of vulnerable groups (v) Restoring and safeguarding ecosystems
Comoros	Oct. 2005	Poverty Reduction and Growth Strategy Paper	(i) Stabilize the economy and lay the groundwork for strong and equitable growth (ii) Strengthen key sectors by focusing on institution building and ensuring a broader role for the private sector (iii) Strengthen governance and social cohesion (iv) Improve the health status of the general public (v) Promote education and vocational training with the aim of developing human capital (vi) Promote environmental sustainability and civilian security

(...)

Dem. Rep. Congo	Jul. 2006	Poverty Reduction and Growth Strategy Paper	(i) Promote good governance and consolidating peace through institution building (ii) Consolidate macroeconomic stability and growth (iii) Improve access to social services and reduce vulnerability (iv) Combat HIV/AIDS (v) Promote local initiatives
Rep. of Congo	Aug. 2012	Growth, Employment, and Poverty Reduction Strategy Paper	(i) Improvement of governance and consolidation of peace and security (ii) Promotion of growth and macroeconomic stability (iii) Improvement of public access to basic social services (iv) Improvement of the social environment and integration of disadvantaged groups (v) Combating HIV/AIDS
Cote d'Ivoire	Jan. 2009	Stratégie de relance du développement et de réduction de la pauvreté	(i) Consolidation of peace, protection of life and property and promotion of good governance (ii) Stabilization of the macroeconomic framework (iii) Creation of jobs and wealth through support to the rural sector and promotion of the private sector as an engine of growth (iv) Improvement of the accessibility and quality of basic services, protection of the environment, promotion of gender equality and social protection (v) Decentralization as a means of participation of the population in the process of development and reduction of regional disparities (vi) International context and regional integration
Ethiopia	Jul. 2002	Sustainable Development and Poverty Reduction Program	(i) Agricultural development led industrialization (ii) Justice system and civil service reform (iii) Decentralization and empowerment (iv) Capacity building in public and private sectors
Djibouti	Mar. 2004	Poverty Reduction Strategy Paper	(i) Strengthen the country's competitiveness and to create conditions conducive to a strong and sustainable economic growth (ii) Accelerate the development of human resources through the implementation of programs targeted to poverty areas and vulnerable populations (iii) Reduce poverty by improving access to water and basic services for the poor (iv) promote good political, local, economic, and financial governance; strengthen the capacities for planning and for administrative management; and modernize its ways and means
The Gambia	Apr. 2002	Strategy for Poverty Alleviation (SPA II)	(i) Creating an enabling environment to promote economic growth and poverty reduction (ii) Enhance the productive capacity and social protection of the poor and vulnerable (iii) Improve coverage of the basic social service needs of the poor and vulnerable (iv) Build the capacity of local communities and civil society organizations (CSOs) to play an active role in the process of poverty reduction (v) Mainstream poverty-related cross-cutting issues into the Strategy for Poverty Alleviation (SPA II)
Ghana	Feb. 2003	An Agenda for Growth and Prosperity	(i) Ensuring macroeconomic stability (ii) Increasing production and gainful employment (iii) Human development and provision of basic services (iv) Implement special programs for the vulnerable and excluded (v) Good governance
Guinea	Jan. 2002	Poverty Reduction Strategy Paper	(i) Boosting economic growth (ii) Developing basic services and equitable access to such services (iii) Improving governance and institutional and human capacity-building
Guinea-Bissau	Sep. 2006	Second National Poverty Reduction Strategy Paper	(i) Strengthen governance, modernize public administration and ensure macroeconomic stability (ii) Promote economic growth and job creation (iii) Increase access to basic social services and social infrastructure (iv) Improve the living conditions of vulnerable groups

(...)

Kenya	Mar. 2004	Investment Program for the Economic Recovery Strategy for Wealth and Employment Creation (2003-07)	(i) Economic growth--Strong macroeconomic framework, financial sector reform and expansion of infrastructure investments and productive sector infrastructure (ii) Equity and Poverty Reduction--Improve the access of the poor to basic services and promote agricultural growth (iii) Governance--Strengthening public safety, law, and order
Lesotho	Jul. 2005	Poverty Reduction Strategy (2004-07)	(i) Facilitating employment through private sector-led economic growth (ii) Securing access to income opportunities for the poor and the vulnerable through poverty-targeted programs (iii) Improving governance and public sector performance
Liberia	Jul. 2008	Poverty Reduction Strategy	(i) Consolidating peace and security (ii) Revitalizing the economy (iii) Strengthening governance and the rule of law (iv) Rehabilitating infrastructure and delivering basic services
Madagascar	Jul. 2003	Poverty Reduction Strategy Paper	(i) Restoring the rule of law and well-governed society (ii) Fostering and promoting economic growth (iii) Fostering and promoting systems for ensuring human and material security and social protection
Malawi	Apr. 2002	Malawi Poverty Reduction Strategy Paper	(i) Ensure rapid sustainable pro-poor economic growth and structural transformation (ii) Human capital development (iii) Improving the quality of life of the most vulnerable (iv) Good governance
Mali	May. 2002	Poverty Reduction Strategy Paper	(i) Ensuring Institutional development and improved governance and participation (ii) Ensuring human development and strengthening the access to basic social services (iii) Developing infrastructure and support for key productive sectors
Mauritania	Dec. 2000	Poverty Reduction Strategy Paper	(i) Accelerating economic growth and stabilizing the macroeconomic framework (ii) Developing the potential for growth and the productivity of the poor (iii) Developing human resources and improving access to basic services (iv) Promoting institutional development supported by good governance
Mozambique	Apr. 2001	Action Plan for the Reduction of Absolute Poverty (2001-05)	(i) Creating a favorable environment for rapid, inclusive and broad-based growth (ii) and promoting human development (through six priorities: education, health; agriculture and rural development; basic infrastructure; good governance; and macro-economic and financial management)
Niger	Jan. 2002	Poverty Reduction Strategy	(i) Promoting sustainable and robust growth through a strong macroeconomic framework (ii) Developing production sectors strategies (iii) Securing the access of the poor to basic social services (iv) Promoting good governance and decentralization and strengthening human and institutional capacity
Nigeria	Dec. 2005	National Economic Empowerment and Development Strategy	(i) Empowering people by creating jobs, creating affordable housing, improving health care services, strengthening the skill base, protecting the vulnerable, and promoting peace and security (ii) Promoting Private Enterprise by Improving infrastructure and agriculture, and promoting industry (iii) Reforming laws and the way the government works

(...)

Rwanda	Jun. 2002	Poverty Reduction Strategy Paper	<ul style="list-style-type: none"> <li>(i) Rural development and agricultural transformation</li> <li>(ii) Human development</li> <li>(iii) Economic infrastructure</li> <li>(iv) Governance</li> <li>(v) Private sector development</li> <li>(vi) Institutional capacity-building</li> </ul>
Sao Tome and Principe	Dec. 2002	National Poverty Reduction Strategy	<ul style="list-style-type: none"> <li>(i) Reforming public institutions, building capacities, and promoting good governance</li> <li>(ii) Accelerated and redistributive growth</li> <li>(iii) Creating opportunities to increase and diversify income</li> <li>(iv) Developing human resources and access to basic social services</li> <li>(v) Monitoring, assessing, and updating the strategy</li> </ul>
Senegal	May. 2002	Poverty Reduction Strategy Paper	<ul style="list-style-type: none"> <li>(i) Wealth creation</li> <li>(ii) Capacity-building and promotion of basic social services</li> <li>(iii) Improving the living conditions of vulnerable groups</li> </ul>
Sierra Leone	Mar. 2005	Poverty Reduction Strategy Paper	<ul style="list-style-type: none"> <li>(i) Promoting Good Governance, Peace and Security</li> <li>(ii) Promoting pro-poor sustainable growth for food security and job creation</li> <li>(iii) Promoting human development</li> </ul>
Tanzania	Oct. 2000	Poverty Reduction Strategy Paper	<ul style="list-style-type: none"> <li>(i) Reducing income poverty;</li> <li>(ii) Improving human capabilities, survival and social well-being;</li> <li>(iii) Containing extreme vulnerability among the poor</li> </ul>
Togo	May. 2009	Poverty Reduction Strategy Paper	<ul style="list-style-type: none"> <li>(i) Strengthening governance</li> <li>(ii) Consolidating the foundations of strong and sustainable growth</li> <li>(iii) Promoting human capital development</li> <li>(iv) Promoting community development and reducing regional imbalances</li> </ul>
Uganda	Mar. 2000	Poverty Reduction Strategy Paper/Poverty Eradication action Plan (PRSP/PEAP)	<ul style="list-style-type: none"> <li>(i) Creating a framework for economic growth and transformation</li> <li>(ii) Ensuring good governance and security;</li> <li>(iii) Increasing the ability of the poor to raise their incomes</li> <li>(iv) directly increasing the quality of life of the poor</li> </ul>
Zambia	Mar. 2002	Poverty Reduction Strategy Paper (2002-04)	<ul style="list-style-type: none"> <li>(i) Foster growth-promoting activities in key economic sectors</li> <li>(ii) Improve access to and quality of social services and expand the income of the poor, notably through agricultural development</li> <li>(iii) Improve governance</li> <li>(iv) Address cross-cutting issues: HIV/AIDS, Gender, and Environment</li> </ul>

Appendix Table 2: Data availability by country									
PRSP countries	PRSP adoption	Approximated PRSP implementation dates***	Data source	Poverty headcount/Mean income/inequality		Non-PRSP countries	Data source	Poverty headcount/Mean income/inequality	
				Total obs.	Available years			Total obs.	Available years
<b>Sub-Saharan Africa</b>									
Benin	2002	Since 2002	PCN	2	2003; 2011	Angola	PCN	2	2000; 2008
Burkina Faso	2000	Since 2000	PCN	4	1994; 1998; 2003; 2009	Botswana	PCN	3	1993; 2002; 2009
Burundi	2006	Since 2006	PCN	3	1992; 1998; 2006	Equatorial Guinea**	PCN	0	
Cameroon	2003	Since 2003	PCN	3	1996; 2001; 2007	Eritrea**	-	0	
Cape Verde	2004	Since 2004	PCN	2	2001; 2007	Gabon	PCN	1	2005
Central Afr. Rep.	2007	Since 2007	PCN	3	1992; 2003; 2008	Mauritius*	PCN	2	2006; 2012
Chad	2003	Since 2003	PCN	2	2002; 2011	Namibia	PCN	3	1993; 2003; 2009
Comoros	2009	Since 2009	PCN	1	2004	Seychelles*	PCN	2	1999; 2006
Rep. of Congo	2008	Since 2008	PCN	2	2005; 2011	South Africa	PCN	6	1993; 1995; 2000; 2005; 2008; 2010
Dem. Rep. Congo	2006	Since 2006	PCN	1	2005	Swaziland	PCN	3	1994; 2000; 2009
Cote d'Ivoire	2009	Since 2009	PCN	5	1993; 1995; 1998; 2002; 2008	Zimbabwe**	-	0	
Djibouti	2004	Since 2004	PCN	1	2002				
Ethiopia	2002	Since 2002	PCN	4	1995; 1999; 2005; 2010				
The Gambia	2002	Since 2002	PCN	2	1998; 2003				
Ghana	2003	Since 2003	PCN	3	1991; 1998; 2005				
Guinea	2002	Since 2002	PCN	5	1991; 1994; 2003; 2007; 2012				
Guinea-Bissau	2006	Since 2006	PCN	3	1991; 1993; 2002				
Kenya	2004	2004-07	PCN	4	1992; 1994; 1997; 2005				
Lesotho	2005	2005-12	PCN	4	1993; 1994; 2002; 2010				
Liberia	2008	Since 2008	PCN	1	2007				
Madagascar	2003	Since 2009	PCN	6	1993; 1997; 1999; 2001; 2005; 2010				
Malawi	2002	Since 2002	PCN	3	1997; 2004; 2010				
Mali	2002	Since 2002	PCN	4	1994; 2001; 2006; 2010				
Mauritania	2000	Since 2000	PCN	5	1993; 1995; 2000; 2004; 2008				
Mozambique	2001	Since 2001	PCN	3	1996; 2002; 2008				
Niger	2002	Since 2002	PCN	5	1992; 1994; 2005; 2007; 2011				
Nigeria	2005	2005-07	PCN	4	1992; 1996; 2003; 2009				
Rwanda	2002	Since 2002	PCN	3	2000; 2005; 2010				
Sao Tome and Principe	2003	Since 2003	PCN	2	2000; 2010				
Senegal	2002	Since 2002	PCN	5	1991; 1994; 2001; 2005; 2011				
Sierra Leone	2005	Since 2005	PCN	2	2003; 2011				
Tanzania	2000	Since 2000	PCN	4	1991; 2000; 2007; 2011				
Togo	2009	Since 2009	PCN	2	2006; 2011				
Uganda	2000	Since 2000	PCN	7	1992; 1996; 1999; 2002; 2005; 2009; 2012				
Zambia	2002	2002-10	PCN	8	1991; 1993; 1996; 1998; 2002; 2004; 2006; 2010				
<b>Other regions</b>									
Afghanistan**	2008	2008-13	-	0		Belize	PCN	6	1993-94; 1996-99
Albania	2001	2001-13	PCN	6	1996; 2002; 2004; 2005; 2008; 2012	Brazil	PCN	19	1990; 1992-93; 1995-99; 2001-09; 2011-12
Armenia	2003	Since 2003	PCN	14	1996; 1998; 2001-12;	China	PCN	8	1990; 1993; 1996; 1999; 2002; 2005; 2008; 2010
Azerbaijan	2003	2003-05	PCN	7	1995; 2001-05; 2008	Colombia	PCN	16	1992; 1996; 1999-2012
Bangladesh	2005	Since 2005	PCN	5	1991; 1995; 2000; 2005; 2010	Ecuador	PCN	14	1994; 1998-2000; 2003-12
Bhutan	2004	2004-12	PCN	3	2003; 2007; 2012	El Salvador	PCN	8	1991; 1995-96; 1998-2012
Bolivia	2001	2001-06	PCN	15	1990; 1993; 1997; 1999-02; 2004-09; 2011-12	Fiji	PCN	2	2002; 2008
Bosnia and Herzegovina	2004	2004-07	PCN	3	2001; 2004; 2007	Guatemala	PCN	7	1998, 2000, 2002-04; 2006; 2011
Cambodia	2002	2002-10	PCN	7	1994; 2004; 2007-11	India	PCN	3	1993; 2004; 2009
Georgia	2003	2003-07	PCN	17	1996-2012	Indonesia	PCN	8	1990; 1993; 1996; 1999; 2002; 2005; 2008; 2010
Guyana	2002	2002-09	PCN	2	1992; 1998	Jamaica	PCN	5	1990; 1996; 1999; 2001-02
Haiti	2008	Since 2008	PCN	1	2001	Mexico	PCN	12	1992; 1994; 1996; 1998; 2000; 2002; 2004-06; 2008; 2010; 2012
Honduras	2001	2001-07	PCN	21	1990-99; 2001-11	Micronesia	PCN	1	2000
Kyrgyz Republic	2002	Since 2002	PCN	14	1993; 1998; 2000-11	Panama	PCN	15	1991; 1995; 1997; 2000; 2002-12
Lao People's Dem. Rep	2004	2004-10	PCN	5	1992; 1997; 2002; 2007; 2012	Papua New Guinea	PCN	1	1996
Maldives	2006	2006-10	PCN	2	1998; 2004	Paraguay	PCN	16	1990; 1995; 1997; 1999; 2001-12
Moldova	2004	Since 2004	PCN	15	1992; 1997-99; 2001-11	Peru	PCN	16	1997-2012
Mongolia**	2003	2003-06	-	0		Philippines	PCN	1	1991; 1994; 1997; 2000; 2003; 2006; 2009; 2012
Nepal	2003	2003-07	PCN	3	1995; 2003; 2010	St Lucia	PCN	1	1995
Nicaragua	2001	Since 2001	PCN	5	1993; 1998; 2001; 2005; 2009	Suriname	PCN	1	1999
Pakistan	2004	2004-06	PCN	8	1990; 1996; 1998; 2001; 2004-05; 2007; 2010	Thailand	PCN	11	1990; 1992; 1994; 1996; 1998-2000; 2002; 2006; 2008; 2010
Sri Lanka	2002	Since 2002	PCN	5	1990; 1995; 2002; 2006; 2009	Venezuela	PCN	10	1992; 1995; 1998-99; 2001-06;
Tajikistan	2002	Since 2002	PCN	5	1999; 2003-04; 2007; 2009				
Timor Leste	2002	2002-07	PCN	2	2001; 2007				
Uzbekistan**	2008	2008-10	-	0					
Vietnam	2003	2003-06	PCN	8	1992; 1998; 2002; 2004; 2006; 2008; 2010; 2012				
Yemen	2003	2003-05	PCN	2	1998; 2005				

Notes: When both data on consumption and income shares are available for the same year, only income data are retained.

\* Excluded from the sample because the \$1.25/day poverty headcount available in *POVCALNET* is too low to be relevant during all the study period.

\*\* Excluded due to lack of poverty data from *POVCALNET*.

\*\*\* PRSP dates approximated on the basis of related information posted on the external website of the IMF and the World Bank.

Appendix Table 3: Data sources		
Variables	Description	Sources
Poverty headcount	% of population living in households with consumption or income per person below the poverty line	PovCalNet
Mean household income	Average monthly per capita income/consumption expenditure from survey in 2005 PPP	PovCalNet
Gini index	Measure of inequality between 0 (everyone has the same income) and 100 (richest person has all the income)	PovCalNet
Human Development Index	Measure of achievement in key dimensions of human development. Takes the value of 1 from 2008 onwards and 0 otherwise	UNDP website

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