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1. Introduction

Economic growth and poverty reduction have remained elusive goals throughout most of sub-Saharan Africa since independence. Aggregate economic performance has been worse than other regions of the world, with per capita incomes actually falling in many countries throughout the 1980s and early 1990s. Social progress has also lagged other regions (IMF *et al*. 2000). At the rate of progress observed in the 1990s, there are few African countries that will realize any of the United Nations' International Development Goals by the year 2015 (Sahn and Stifel 2001).

A review of the evolution of economic and social policy in Africa leaves little doubt that the 1970s and early 1980s were a period of excessive reach of the state into all aspects of economic activity. The resulting macroeconomic and structural imbalances had become clearly unsustainable by the 1980s, giving impetus in many sub-Saharan African countries to macroeconomic policy reform as a way to address the economic stagnation that has trapped so many Africans in poverty (Sahn 1994). However, at the same time, critics have argued that, in fact, such reforms have contributed to even worse economic and social outcomes, only exacerbating the conditions that lead to poverty and vulnerability (Cornia, Jolly and Stewart 1987; UNECA 1989). Others have taken a much more positive view of adjustment programs as the key to promoting growth and reducing poverty (UNDP and World Bank 1989). Our own view is that macroeconomic adjustment programs have not been directly deleterious to the poor, in fact, they have often helped somewhat. But they have not proved sufficient to generate sustainable economic growth, and thus have failed to contribute in a large way to poverty alleviation in most countries where reforms have been undertaken (Sahn, Dorosh and Younger 1997). It is fair to say that we are disappointed in the results of adjustment programs in Africa, and that this disappointment has conditioned our sense of where the adjustment debate should go.

This paper has two main sections. One looks back at the adjustment, growth, and poverty debate, summarizing our own perspective on the key issues in that debate. We recognize that most people's views on the impact of macroeconomic reforms on poverty reduction are well established (entrenched?), and that, at this late date, we are unlikely to persuade those that do not agree with us. Nevertheless, we expect that these issues will have a hearing at this plenary, and we will take this opportunity to have our say.

Section three looks forward to where the debate might go from here and, most importantly, what sorts of issues should be getting more attention from policy-makers, and what research economists can do to inform that debate. This section is influenced by our belief that the existing debate, if not resolved, is nearly exhausted. Rather than continue to hammer away at the same, largely macroeconomic, policy questions, we think that future research on the microeconomic, structural, and institutional constraints to growth and poverty reduction is likely to be more fruitful. This is not necessarily a statement about the relative importance of macroeconomic to structural factors in explaining poverty reduction in Africa. Rather, it is a statement about where research and attention by policy-makers and donors are likely to prove more valuable at this point in time. While our answer admittedly reflects our own research agenda for the coming years, and likewise is thus partial rather than comprehensive, it is an agenda that focuses much more closely on non-macroeconomic factors that hold Africa's poor back, which we think is the important message of this paper.

2. Adjustment, Growth and Poverty – Looking Back

Macroeconomic adjustment has taken various forms and has involved various degrees of implementation and conviction across sub-Saharan Africa. Thus, the country experiences diverge in terms of the degree and nature of policy reform, in part reflecting different levels of commitment to the adjustment process. Likewise, the political, social, and economic circumstances at the country and regional level, where adjustment programs have been tried, also vary greatly. It is therefore no surprise that the subsequent outcomes of adjustment on the economy in general, and the poor specifically, are highly variable. Nonetheless, in considering the impact on the economy and on the poor, certain common features emerge from our detailed analysis of experiences in a range of countries.[2]

In general, African governments have made more progress on trade and exchange rate reforms than in any other area. Twenty years ago, African economies were more closed to international trade than any other region of the world. This was particularly problematic for most of Africa's small economies, where international trade restrictions represented a serious impediment to growth and prosperity (Easterly and Levine 1997). Most African economies outside the CFA zone had very tightly controlled foreign exchange markets, with official exchange rates that were often wildly unrealistic. The resulting shortages of (excess demand for) official foreign exchange led to pervasive and sometimes corrupt rationing, along with substantial black market activity. Both problems, once central features of economic life in Africa, have been greatly reduced in recent years in the name of adjustment. Progress on punitive trade taxes and non-tariff trade controls has been less dramatic, but it is there nonetheless. Export agriculture has been a particular beneficiary.

Given the dramatic changes in relative prices that these reforms have produced, a natural way to think about their first-order welfare consequences is to ask who are net producers of tradable goods (the winners), and who are net consumers (the losers). A great deal of concern has been voiced that the latter include the poor. This concern is based on the assumption that they are not directly involved in the production of tradable goods, and at the same time, are harmed by exchange rate reforms that depress real wages and raise the price of important consumer goods. Consequently, many critics see trade and exchange rate realignment as adversely affecting the most vulnerable in Africa.

[2] For more details on the substance of this section, see Sahn, Dorosh and Younger (1997) and Sahn (1996), from which most of this is extracted.

Our own analysis casts doubt on these presumptions about the poor's net production of tradables. Many poor people in Africa are in fact net producers of tradables, both exports and import-competing products (Sahn and Sarris, 1994). But more importantly, we argue that this approach largely misses the point (Sahn, Dorosh, and Younger, 1996). The prices that changed during trade and exchange rate reforms in Africa were almost entirely infra-marginal official prices, not market prices. As such, the most dramatic impact of these reforms is the large loss of rents among households and institutions that previously had access to the grossly underpriced official markets. In the vast majority of cases, households benefiting from these rents are not poor, nor do beneficiary institutions pass on the rents to the poor. While the corresponding gains to individual producers and consumers are not large (given that they are spread over a large segment of the population), at least some share goes to the poor, at the expense of a small number of privileged households and institutions. The implication is that such reforms are distributionally progressive, contrary to the received wisdom. While our own research on the distributional consequences of trade and exchange rate reforms is generally positive, a review of the effectiveness of exchange rate reforms at meeting macroeconomic objectives is disappointing. In particular, export response has been modest in most countries. The literature offers many possible explanations, including softening of world prices for important primary exports, political and civil unrest that contributed to uncertainty and high transaction costs, and a series of institutional failures on the part of the government, such as continued licensing regulations. Similarly infrastructure constraints remain, such as inadequate port, transport and communications facilities, that in combination raise the transaction costs of exports. Other constraints to acting upon the improved incentive structure associated with trade and exchange rate reforms include a lack of market information, or associations that are critical to small exporters to provide contacts with potential importers and access to export markets. Thus, absence of enabling complementary institutional and microeconomic changes has diminished the ability of exporters to capitalize on sweeping relative price changes.

Fiscal policy reforms have also been a central feature of macroeconomic adjustment programs. Some progress has been made in the reduction of fiscal deficits in Africa, and this, too has been the subject of great controversy. Most critics' major concern has been that adjustment policy has reduced public spending, especially on social services, in order to balance the budget. Given the heat of the debate, it is remarkable how little the basic indicators of fiscal stance have varied over time in Africa. Our earlier work argued that, while public spending as a share of GDP did decline in the 1980s, that decline was relatively small, perhaps 2-3 percent of GDP, and it only reversed an unsustainable run up in public expenditures in the late 1970s of the same magnitude, thus returning public expenditures to something like their long-term levels. The same was roughly true for public spending on health and education, either as shares of GDP or in constant US dollars per capita. More recent data would lead us to modify this argument somewhat. After stabilizing in the 1980s, there was a further decline in the share of public spending in GDP in the early 1990s, both in general and in the social sectors. But again, this is fairly small, about 2 percent of GDP for total expenditures and $US 2 per capita for education spending.

These general trends are for as many countries as we could get data for, and thus have nothing to do with adjustment policy. In fact, it is very hard to see any clear relationship between policy programs that purport to reduce fiscal deficits and actual expenditures. Instead, the only clear relationship that we find is that economic collapse, often but not always associated with severe political conflict, brings declines in public spending, both absolutely and as a share of GDP.

Such descriptive information says little about the efficacy of government expenditure, or its impact on poverty. Indications are that the level and quality of services delivered in Africa, particularly in education and health, lag behind other regions. In part, this reflects the fact that social sector expenditures, particularly on health and education, are not progressively allocated in most African countries. Subsidies are characteristically concentrated in urban areas and in services such as hospitals and universities, where the beneficiaries are usually not poor. Primary services that benefit low-income households are neglected (Sahn and Younger 2000). Other structural problems plague social service delivery in Africa. For example, a disproportionate share of resources go for wage and salary payments, leaving clinics without drugs and basic supplies, and schools without chalk board, books, and benches for children to sit on (Sahn and Bernier 1995). There is also the problem of the large share of non-wage expenditures that seems to be absorbed by administration and central bureaucracy, resulting in only small shares of the non-salary expenditures actually reaching the schools and clinics (Ablo and Reinikka 1998). By implication, far more important than the rancorous debate over the level of social expenditures, is improving allocation of resources that are available.

A third broad area of economic reform in adjusting countries has been a reduction of the state's role in commerce through privatization of state enterprises and market liberalization. In Africa, this trend is less pronounced than in other regions, but some reform has taken place, especially in agriculture. It is the agricultural sector, both in terms of marketing arrangements and related procurement policies, where the most acute distortions in commercial activity has occurred in many African countries. The implications of such interference are particularly great in this sector, given its importance in the economy in general, and as a source of employment, income and consumption goods for the poor in particular.

Liberalization of agricultural markets has been criticized for removing protection accorded to poor farmers, and for eliminating subsidies that supposedly benefit the poor. In practice, however, these criticisms are usually not valid. For producers, the benefits of subsidies on fertilizer and other inputs rarely accrue to smallholders and low-income producers. Government marketing agencies have in practice taxed producers heavily, particularly those in the export sector, often in the name of ensuring price stability. Eliminating marketing parastatals has reduced taxation of producers, often helping the poor, since rural low-income households earn significant shares of their income from agriculture goods.

On the consumer side, particular concern has been raised over the government's role in food subsidy programs, which are seen as an essential element of the social safety net. In practice, however, eliminating subsidies on food and other basic products disproportionately hurts the non-poor, particularly those relatively privileged workers in the public sector and/or living in the capital city (Sahn and Desai 1995; Sahn and Arulpragasam 1996). Rationed subsidies rarely accrued to those in greatest need, and as such, market liberalization policies that contributed to higher prices in controlled markets had, at worst, a neutral effect on open market prices and, in some cases, led to some moderation in prices in markets where the poor make most of their purchases. As in the case of other aspects of macroeconomic adjustment programs, the implication of liberalization and privatization policies on the functioning of open markets in equilibrium, versus controlled markets, are radically different (Dorosh and Sahn 2000).

Opposition to privatization is often strongest where it involves retrenchment of public sector workers who are seen as poor, if not *ex ante*, then certainly after losing their jobs. Obviously, retrenching workers hurts those who lose their jobs. However, surveys of retrenched workers in Ghana and Guinea indicate that, while earnings declined substantially after layoff, post-retrenchment workers have an earnings profile that is similar to the profile for workers with similar human capital characteristics, indicating that redeployees lost the earnings premium that they had enjoyed in the public sector. From a welfare perspective, redeployees' households tend to be better-off than the population in general before retrenchment, and are distributed roughly equi-proportionately across the population afterwards (Mills and Sahn 1997; Younger, Canagarajah and Alderman 1996). Clearly, then, poverty in this group increased, but it is not clear that this is bad public policy. One has to ask whether there is a compelling reason for this group to receive a rent that others do not. We do not think so.

Overall, our analysis of macroeconomic adjustment policies suggests that when employing the counterfactual to examine their impact, that the poor do not bear the disproportionate costs of adjustment policies. This is not to say that poverty is not severe in Africa. We know that it is. Nor is it to say that things are improving rapidly. But we do not believe that the policy reforms that we have studied are responsible either for Africa's poverty nor for its discouraging economic performance.

While our message is that adjustment policies are, on balance, beneficial to the poor, we recognize that there are few successes at raising economic output and restoring growth in African countries. Rather, the evidence suggests that in most instances adjustment policies have had small beneficial effects. This highlights the question as to why this is the case. In part, we might fault weak implementation of reforms. Adjustment in most African countries has been halting, characterized by policy reversals, and often undertaken without the commitment of political leaders or their populations. The limited number of examples of policy stability in a liberalized economy is sobering. This suggests a need to assess factors that impede progress in stabilizing African economies, as well as to analyze complementary measures and actions that can spur more rapid growth in the economy and improvements in living standards. But even among those countries most committed to the reform agenda, progress in fostering sustainable growth and poverty alleviation has been painfully slow. Our judgment is therefore, that getting the macroeconomic policy framework right is essential, but macroeconomic reforms are only part of the basis for growth and poverty reduction. We must also recognize the institutional weaknesses and structural impediments that retard the economic and social progress of Africa's poor. Given that so much attention has been dedicated to macroeconomic policy in the past twenty years, we feel that a shift in focus toward these microeconomic constraints is called for.

3. Constraints to Broad-based Growth in Africa

The vigorous debate over policy reform of the last two decades has a "top-down" nature. That is, the discussion of macroeconomic adjustment and the impact of policy reform (and related external shocks) asks how its benefits and costs work their way through the economy to the poor. We believe that focusing on "top-down" macroeconomic and sectoral issues alone obscures a deeper truth, which is becoming clear to an increasing number of researchers and policy-makers: macroeconomic reforms, while important, are only part of the basis for growth and poverty reduction. What are required are complementary actions, which start from an improved understanding of the capabilities of individuals, households, and communities—their productivities, their vulnerabilities, their institutions, and their environment—and which consider in detail how economic and social development is impeded by microeconomic constraints. The aim of such thinking is to understand further the economic, social, institutional, and natural constraints that keep Africa's poor from prospering in the context of growth-oriented reforms.

In order to provide some concrete thinking along these lines we focus on three areas that we see as paramount: human resource development, vulnerability and risk management, and fiscal management through decentralization. While all three areas are considered crucial to removing the structural and fundamentally microeconomic constraints that impede growth and poverty alleviation, they are meant to be indicative of what we see as a new set of priorities that needs to be embraced for liberal economic policy to work for the poor.

Human Resource Development

Without access for all Africans to education and health services, growth will be low and inequitable. Africa lags behind on both counts, even compared to other countries with similar income levels. Furthermore, the social indicators are not improving at a rate comparable to other developing countries (IMF *et al*. 2000). Addressing this policy failure is crucial to benefiting from market reforms that raise incentives for producers and provide access to goods and services for consumers. But the institutional structures that enable improvements in educational and health infrastructure have largely been neglected in the context of adjustment program. We, therefore, next consider the role of education and health on growth and productivity, as well as the means to raising living standards.

Education

There is little doubt that education is a priority in any effort to foster growth and reduce poverty. There is an enormous body of research confirming that education increases labor incomes (Psacharopoulos 1994). In Africa, this is true not only in the formal wage sector, but also in agriculture and the informal sector where Africa's poor are primarily engaged (Schultz 1975; Vijverberg 1995; Glick and Sahn, 1997). Education is also a leading determinant of rural households' capacity to enter into remunerative nonfarm employment in Africa (Dercon and Krishnan 1996; Barrett, Reardon and Webb 2001). Because there is a positive relationship between nonfarm income and household welfare indicators across most of rural Africa (Reardon 1997), greater nonfarm income diversification reduces households' vulnerability, allowing more rapid growth in earnings and consumption (Block and Webb 2001; Barrett, Bezuneh, and Aboud 2001). Improved access to education can thus help poorer populations access a positive feedback loop wherein those participating in the rural nonfarm economy enjoy faster income growth, thereby providing the resources to plow back into expanded nonfarm activity that diversifies incomes (Barrett, Reardon and Webb 2001).

In terms of capabilities, education produces important capabilities such as literacy and numeracy. Recent research has found that more educated households are better able to deal with income and related macroeconomic policy shocks, and thus less vulnerable than less educated households (Glewwe and Hall 1998; Barrett, Sherlund and Adesina 2001). Thus, while a flexible exchange rate is often heralded as a key element in responding, for example, to terms of trade shocks, so too is the education of producers and consumers who deal with the microeconomic consequences of such shocks. More education also equips families and individuals to cope with adverse non-economic shocks, particularly health shocks such as a sudden illness. Finally, more educated people have greater political voice (Bardhan and Mookherjee 1999). This presumably reduces the likelihood of a return to the egregious types of macroeconomic policy distortions driven by rent-seeking elites, as well as related policy failures driven by corruption, waste, and other manifestations of poor governance.

Given the universal importance of education, it is sobering to observe that school enrolments are lower in Africa than in other regions of the world, even after controlling for income level (Schultz 1999). Further, unlike other developing countries, enrolment rates have at best stagnated in Africa in the last two decades. Clearly, better understanding of the constraints that keep African children out of school is a critical question for a sound, market oriented development strategy that is at the heart of macroeconomic reforms. This is especially true for girls, whose post-primary enrolments continue to lag those of boys in Africa, a problem that has important long-term consequences because women tend to have stronger preferences for investing in their children's education than men, and also may have stronger preferences for educating their daughters (Glick and Sahn 2000). If solutions could be found to increase enrolment rates to, say, the levels found in Viet Nam today, or the East Asian Tigers in the 1960s, this would have a considerable impact on the macroeconomic performance of African economies.

Why don't more African children go to school, and why is this problem more severe for girls than for boys? The most obvious answer to the general enrolment question comes from an institutional perspective: there are simply not enough schools in Africa, and existing schools are not close enough to the widely dispersed, mostly rural population. Particularly at the secondary school level, neither the physical infrastructure nor staffing levels are sufficient. Another problem is the low quality of education in Africa: schools lack supplies; infrastructure is not maintained; teachers are poorly trained, poorly paid, and lack motivation. Poor quality and low returns may cause parents to think that, while education in the abstract is a good idea, education at *their* school is not. Econometric studies of education demand (e.g., Glick and Sahn 2000) confirm that parents respond to poor school quality by not enrolling their children. In the labor market, new research indicates that the returns to schooling, especially primary schooling, have fallen in Africa (Moll 1996; Glewwe 1996), likely reflecting declines in school quality.

Macroeconomic adjustment programs have done little to remove these institutional constraints on the supply side. As we will discuss further below, fiscal reforms associated with adjustment programs have not addressed institutional weaknesses of education ministries and local governments that have reduced the supply and quality of education services, both public and private. Beyond the supply side failures, adjustment programs have not addressed market failures that impede access, particularly among the poor. These demand side constraints, manifested in household and individual behaviors that reduce enrolments, have been given too little attention in the context of economic reform programs. Parents may find that the costs of schooling, both direct (fees, books, transport, etc) and opportunity costs (loss of the child's labor input in home production, farm work, household enterprises, etc.) are too high (Assié-Lumumba, 1993; Bray and Lillis, 1988). More subtly, even if parents believe that the benefits of schooling outweigh the costs, which virtually every study of the returns to education finds, the economic benefits come in the future when a child has begun to work, while the costs are incurred now. Families that are liquidity constrained may be unable to make a profitable investment in their children's education. Crucial to overcoming this situation is a well-functioning capital market. Access to fair-priced credit could ease this constraint. In practice, however, despite efforts at macroeconomic reform programs to develop long-term capital markets, this has proved an intractable problem on a number of levels. Firstly, unlike reforms of trade and exchange rate policies that are relatively amenable to "stroke-of-the-pen" policy changes, this is not the case with the development of capital markets that need to be built on strong institutional foundations. Second, even where financial markets have been reformed and are functioning reasonably well, the poor remain largely excluded. On one level this is inevitable since it is extraordinarily difficult to develop viable lending institutions whose clients lack sufficient collateral to ensure their viability.

By implication, seeking alternative solutions to deal with low and uneven levels of enrolment is required. For example, governments may want to subsidize the current costs of education by reducing fees or even providing negative fees, cash transfers to students' households, as in the *Progresa* project in Mexico (Schultz 2001), or in-kind transfers such as school uniforms in Kenya (Kremer, Moulin, Myatt, and Namunyu 1997). These transfer payments provide a powerful incentive for poor families to keep their children in school because current income is more valuable to families that are liquidity constrained.

From a sociological perspective, prevailing social norms may dictate that "appropriate" activities for children are other than schooling. Such constraints are often more severe for girls than for boys, because households' demands on girls' time (e.g., to do domestic chores or to care for younger siblings) are higher. In addition, social conceptions of the work that women do – trading, tending to farms, working at home, and caring for children – may lead parents to conclude that the benefits of education are less for their daughters than they are for their sons (Assié-Lumumba, 1994). Such gender-based restrictions on activities are clearly costly. A society that restricts the human capital accumulation of half its population is restricted in terms of its potential response to improved incentives brought about through macroeconomic reforms.

Health and Nutrition

Despite years of economic reform in Africa, even in those countries that have eliminated the most obvious distortion and restored macro-stability, levels of health, measured for example by life expectancy and child survival rates have not shown substantial improvements. Such health indicators are lower in Africa than in other regions of the developing world, even controlling for differences in per capita incomes (Schultz 1999). These gaps existed before the effects of the HIV/AIDS pandemic began to be felt, and they will obviously worsen because of it. Similarly, the share of pre-school age children suffering from malnutrition remains extremely high in Africa relative to southeast Asia and Latin America, though not South Asia (Sahn and Stifel 2000), and the rate of improvement in many adjusting economies has been discouraging.

At the same time, recent research on the returns to investments in human resources finds that improvements in health and nutrition contribute to increased productivity and higher incomes, both being core objectives of macroeconomic reform. This has been confirmed for Africa, for men and women and for the wage and non-wage sectors (Glick and Sahn 1998; Schultz and Tansel, 1997; Strauss, 1986). Evidence has also been compiled that cognitive development in children is enhanced by better nutrition, in terms of protein-energy status and intake of micronutrients such as iron (Pollitt 1993, 1997) and iodine (Oldham, *et al*. 1998). Consequently, healthier children do better in school, showing less grade repetition, less delayed enrolment, and better test scores (Glewwe and Jacoby 1994; Behrman 1996). The implication is that Africa's low level of health, like its low levels of schooling, acts as a major constraint on growth, and that improvements in health and nutrition will have large economic payoffs. Likewise, improved health implies greater efficiency in public expenditures in related sectors, such as education, investments in public infrastructure, and so forth.

The effects on macroeconomic as well as other shocks on health of families and their subsequently economic vitality are potentially permanent and devastating as well. For Africa, Schultz and Tanzel (1997) show that morbidity reduces labor earnings in Ghana and Côte d'Ivoire. What are not yet understood are the longer-term effects of illness at the household level. Like a crop failure, a temporarily disabling bout of illness for an income-earner in a family near the poverty line could push that family below the line, and through distress sales of assets, result in permanent impoverishment. Evidence from several cross-section surveys in Africa indicates that households do sell assets when hit by a major illness (Evans 1989; Chambers 1982).

Research in recent years for Africa has begun to analyze the individual, household, and community determinants of health and nutrition, especially of children, but important gaps remain. While the focus of advocates of socially responsible adjustment lending has been on projecting spending in the health sector, we have neglected more salient questions that revolve around a better understanding of demand behavior: why do the poor not make greater use of health services, even public services that are free or heavily subsidized? Distance or availability is one reason, but not the only one. Simply ensuring a continued or even increased level of spending to make health care, or specific treatment programs, locally available will not insure uptake and a successful course of treatment — "availability" does not mean "access" in the broader sense of the term. Low quality reduces the attractiveness of health services even where they are close at hand (Sahn, Younger, and Genicot 2003; Castro-Leal *et. al.* 1999). In addition, education, income, social attitudes, and the possibility of learning from others (or more broadly, social capital) are each also likely to be important.

While part of the supply side problem that leads to health delivery systems in Africa being under-funded is to be found in macroeconomic policy constraints – budgets that are too small and insufficient tax revenues to finance basic health care delivery systems – much of the problem, in fact, is a result of well-known misallocations. Just as governments tend to do a bad job at allocating foreign exchange and credit, thus motivating the need for open foreign exchange and financial markets, it is increasingly apparent that the same applies to many aspects of governments' involvement in health care markets. Primary care, preventative services, and rural areas receive too little funding relative to tertiary services and urban areas. In many countries in Africa, decentralization of the health sector has been implemented, or is planning to be implemented, as a way to redirect resources to rural areas and primary care, where the returns are highest. (We discuss decentralization further below.) Consistent with the broad outlines of macroeconomic reform programs, increasing the role of the private sector in health service delivery is another potential route to improving quality and utilization rates of health care services. While relatively undeveloped in Africa—accounting for about 30 percent of all care (Castro-Leal *et al.* 1999)—the private sector is thought to provide better quality services. To some extent, of course, this is consistent with higher costs charged to consumers. However, through contracting with the public sector, private providers (and concomitant incentives for quality) can be used to provide subsidized care that reaches the poor. There is a great deal of scope for research and policy on health care strategies that link public and private sectors.

Among illnesses with potentially devastating consequences for households (and macroeconomies) in Africa, HIV/AIDS obviously looms large. The implications for rural development and poverty reduction of illness and death from AIDS among working age adults are almost certainly very significant but have yet to be fully assessed. Because, unlike the implications of a temporary terms of trade shock or drought-induced crop failures, there is no recovery from the disease. We require new thinking about institutions to cope with this shock. We remain hampered, however, by the paucity of evidence on coping mechanisms and the implication for state involvement (Ainsworth and Over 1997; Ainsworth and Semali 1999). A longitudinal study of the Kagera region in Tanzania found that consumption per person of basic needs first fell but then recovered after a breadwinner died of AIDS. The recovery in basic needs consumption was funded in part by sacrificing other consumption (and presumably also investment), in part by selling assets, and in part through increased private transfers. However, a great deal more research is needed on the household-level impacts of HIV/AIDS, and on public policies to offset these impacts.

We also need only look at the variability in terms of the response of African states to this crisis to learn that, as with macroeconomic shocks, the response of government is crucial to the ability to cope with this health shock. We know that the failure of public institutions to aggressively provide appropriate information to the population will result in a more rapid spread of HIV. This reluctance of many health ministries to confront the situation and more aggressively reach out through information campaigns and other mechanisms needs to be understood as a policy failure of the same dimension as those macroeconomic distortions that were addressed in previous decades.

<u>Vulnerability and uncertainty</u>

Perhaps the most interesting finding of the recent surge in qualitative poverty analysis is the emphasis that poor people place on vulnerability when they define their own poverty or food insecurity (Kanbur and Squire, 2001; Narayan, et.al., 2000a, 2000b; Barrett, forthcoming). Time and again, the risk of falling into poverty (measured in many possible dimensions) receives as much attention as deprivation itself in conversations with the poor. Given the importance that poor people place on vulnerability and the relative scarcity of policies designed to explicitly deal with it, we see this as an area that deserves more attention.

People everywhere face risks, but these risks are larger for poor, agrarian economies, and in tropical ecologies (Sachs 2000). African economies remain mostly agrarian, and the soils, meteorology, and hydrology, including low rates of irrigation, make agricultural yields especially unstable. The risks faced by rural producers are also made worse by the fact that they tend to co-vary. There seems little doubt that the threat of covariate shocks due to crop failure, drought, pest infestations, livestock disease, etc., are particularly acute for farmers and rural households, where integration with world markets is less, and where the positive incentive effects of macroeconomic adjustment policies have been least felt. Thus, for many farmers throughout Africa, the problem is not that there has been adjustment programs, but instead that the effects of such policy changes have not yet been felt. That is, poor farmers still have not been integrated into local, let alone world markets due to failure of policies to reach more remote and less developed regions.

This again focuses our attention on the role of the state in addressing these risks through a wide variety of actions. It is likely that adjustment policies such as removing trade and exchange rate policies are necessary components of effective state action in this area. However, even here, the impact of openness is not always unambiguous. On the one hand, increased economic openness can add a degree of vulnerability, for example, through greater concentration in a narrow range of exports and the implied vulnerability to world market price fluctuations. While traditional agriculture may have combined the production of many crops to protect against the risk of specialization, this traditional coping strategy may become less viable as increased specialization in export and cash crops occurs. The related loss of traditional coping mechanisms, whether it be non-agricultural diversification or traditional community networks for risk sharing, implies greater vulnerability concurrent with increased reliance on trade. Conversely, greater openness as a result of macroeconomic reform may under other circumstances imply less covariate shocks and greater diversification, particularly outside agriculture. Economic efficiency may also increase, particularly if households abandon low-productivity agriculture, which was undertaken primarily to avoid downside risks. The more open the economy, the larger is the pool with which risks are shared. In addition, diversified economic activities, including outside agriculture, reduces vulnerability to factors such as regional crop failures and other market failures that result from thin markets being susceptible to both natural and man-made shocks.

Another area where there has been too little progress concerns agricultural and financial market liberalization that lower transaction costs in financial and input markets. Of particular concern is the limited scope for credit markets to enable consumption smoothing, especially among Africa's rural poor. In the absence of these markets, Africans often try to accumulate physical assets to cope with shocks and smooth consumption. But the possibilities for this are limited by the menu of physical assets available for accumulation and by the risk of theft in environments with little security (Greif and Bates 1995). Of course, this lack of security does more than prevent the rural poor in Africa from using assets to self-insure: it directly reduces their incentives to accumulate wealth and hence, to grow out of poverty. In many arid and semi-arid areas, Africans commonly accumulate wealth in the form of livestock. But as herd sizes increase, overgrazing can set in and supervision of individual animals declines, leading to increased livestock mortality and enormous, cyclical losses of wealth (Fafchamps, 1998; Lybbert, Barrett, Desta and Coppock, forthcoming; McPeak and Barrett 2001).

These types of problems suggest that more attention needs to be paid to the capacity of informal social insurance to cope with covariate food security risks. Thus, more narrowly defined efforts, such as market infrastructure development and policies that promoted greater access to social insurance networks (Maxwell *et al*. 2000) are among the key complements to more traditional macroeconomic solutions to stagnating agrarian economies and poverty, particularly in rural areas, and particularly for women. It is now recognized that there is also an important gender dimension to vulnerability. Women typically bear greater risk with respect to policy-related productivity shocks (Gladwin 1991; Doss, 1996; Barrett, Sherlund, and Adesina 2001) and have more difficult access to livelihood strategies that limit downside risk exposure (Barrett, Bezuneh, Clay and Reardon 2000, Canagarajah *et al.* 2001). This applies particularly to the limitations of relying on rural credit markets, whose accessibility is impeded by the absence of collateral, a problem particularly poignant for women.

The possibility that a negative shock to one's welfare could be so severe as to make it impossible to recover can contribute to falling into a poverty trap. The consequences of downside risks are overwhelmingly important if they result in households being caught in a recurring cycle of crisis and partial recovery (Barrett and Carter 2001) such that one is not expected to climb out of poverty naturally through asset accumulation over time.

The potential for market failures that contribute to poverty traps has not been given sufficient attention in the context of macroeconomic adjustment programs (McPeak and Barrett 2001; Dercon and Krishnan 1998). Poverty traps and adjustment programs are strongly related, since poverty traps are most commonly explained as arising due to capital market failures and insufficient investment in human capital. As Collier and Gunning (1999) point out, the best solutions to vulnerability allow people to smooth their consumption even as their income varies. Insurance markets achieve this, as do well-functioning capital markets in which people can borrow and save to smooth consumption. Unfortunately, despite efforts at macroeconomic reforms, Africa's poor rarely have access to such markets, especially in rural areas where most of the poor live.

In light of the failure of economic adjustment programs to address the absence of insurance or asset-based markets, and because vulnerability is so important, societies have developed a variety of strategies to deal with the risks that poor people face. Africans must deal with vulnerability by trying to stabilize their incomes directly, a strategy known as risk avoidance. In an uncertain environment, this is difficult to achieve, and it can lead to a type of poverty trap that is *caused by* vulnerability. People who are vulnerable are understandably averse to risk. Yet a variety of studies show that risky activities are also high return activities in Africa, so that a strategy that is perfectly sensible from the point of view of risk avoidance condemns one to low return activities and perpetual poverty (Binswanger and Rosenzweig 1993; Dercon and Krishnan 1998). In such an environment, finding ways to reduce Africans' vulnerability could unleash substantial economic growth potential by allowing people to invest in riskier high return activities.

Vulnerability and poverty dynamics are often closely linked to the health and education issues discussed above. Faced with an income shock, poor families may find themselves forced to pull children out of school (Davies 1996; Jacoby and Skoufias 1997; Basu 1999). Hence, child labor acts as a coping mechanism against vulnerability, albeit one that imposes severe costs by reducing future productivity and ensuring that poverty is transmitted across generations. Education policies that do not consider how poor households respond to risk may therefore fail to encourage greater school participation. On the other hand, policies that reduce agricultural risks, such as developing rural credit markets, may have large indirect benefits for children's schooling. In terms of the specifics of action that donors and governments may consider, the World Development Report (2001) considers seven specific public policy tools for dealing with vulnerability: health insurance, old age assistance and pensions, unemployment insurance and assistance, workfare programs, social funds, microfinance programs, and cash transfers.

Of these, none is a general feature of African economies, and rarely are such issued well-integrated into adjustment programs.

Expanding the benefits of insurance schemes will prove difficult in the absence of appropriate institutions in Africa. This raises the possibility that locally run micro insurance schemes could actually reduce individual vulnerability significantly and thereby stimulate investment and growth. Particular areas that warrant more attention in the context of adjustment programs are promoting micro insurance. Prevailing wisdom holds that risk in rural areas is covariate, but recent research finds that much risk is household-specific (Townsend, 1994; Deaton, 1997; Lybbert, Barrett, Desta, and Coppock, 2004).

Safe banking, especially in rural areas, is another way to break out of the vulnerability to poverty traps. If people can save in a secure, liquid financial institution, they can self-insure by accumulating assets. Bank Rakyat Indonesia's unit *desa* are an example of a successful implementation of such a strategy, having reached millions of small depositors and borrowers in a cost-efficient manner (Patten and Rosengard, 1991; Chaves and Gonzalez-Vega, 1996). While there are scattered experiments with workfare and microfinance in Africa, none have taken hold generally.

Fiscal decentralization

Faced with social and economic institutions that do not serve them well, Africa's poor frequently express a sense of powerlessness to do anything about their plight. While much of the research on voice is rightly found in political science and revolves around a lack of civil liberties and ability to engage in effective protest, we believe that there are two important areas where economic policy is informed by the research on empowerment, both of which fit squarely within the domain of economic adjustment programs: decentralization of public services and the use of social funds to allocate public investments.

While macroeconomic adjustment programs have rightfully concentrated on issues of improved policy-making at the level of the central government, skepticism over bureaucratic ineptitude, policy reversals, lack of commitment and ownership, corruption, and so forth, have increasingly focused attention on decentralization as a response, or at least a complement to policy reform measures usually associated with public expenditure reviews. Despite the fact that decentralization, particularly of public expenditures, is an idea in vogue, its actual application remains patchy in Africa. Too much of Africa's education and health budgets are spent on tertiary services (Sahn and Younger 2000). Likewise, central administration consumes large shares of public spending, instead of local services that confer benefits on the broader population. In one celebrated study, Ablo and Reinikka (1998) found that local schools received only 20 percent of the non-wage education spending that was budgeted for them in Uganda in 1995.[3] If this is true more generally in Africa (a question worth studying), then there is great scope for improving quality by reapportioning funds from central bureaucracies to local institutions

[3] The funds were not misappropriated. They simply disappeared in administration costs.

themselves. This is the goal of decentralization. Advocates argue that if the control of funds is closer to the end users, it is more likely that they will be used to provide quality services because it is easier to hold local officials accountable (Rivarola and Fuller, 1999).

In practice, the record on decentralization has been mixed so far, in part because central governments have been more willing to devolve responsibilities (buy your own drugs; pay your teacher) than the corresponding budget (through revenue sharing, for example). Even if central governments permit the necessary budgetary reallocations, administrative capacity at the local level may be lacking. For example, weak local administration has seriously hampered the implementation of Madagascar's ambitious plan to administer health services though 111 local health districts. But there are interesting successes. For example, in response to the Ablo and Reinikka study showing low share of resources that actually reached local schools, the government began to disseminate information both through the media and by posting public spending information at schools and district offices. In 1999/2000, the share of resources reaching local schools had risen to over 90 percent (although with delays), a remarkable improvement (Reinikka and Collier 2001).

One way to increase local participation and control of fiscal resources is the use of social funds, which has greatly expanded since their inception by the World Bank in 1987. These funds, often set up in conjunction with, or response to the potentially deleterious consequences of adjustment programs, generally are used for education, health, and health-related projects (water and sanitation) that are chosen directly by communities. Rather than viewing social funds as a response to the harmful consequences of adjustment programs, we would suggest that they be considered an integral part of fiscal reforms. In practice, social fund projects devolve significant responsibility *and* budgetary control to communities, thereby directly increasing the poor's power over their own lives. Schools and health posts are by far the most popular projects that communities select, suggesting that there is pent up demand for education and basic health services in poor communities. Because social funds are relatively new, however, studies of their effectiveness are limited (Newman, et al., 2002; Chase and Sherburne-Benz, 2001; Sahn and Younger, 2000). Many challenges, however, do arise in the context of designing and implementing social funds. For example, just as with central government control or fiscal resources, there is a need to avoid the potential for local elites to capture these efforts and turn them to their own advantage. Likewise, care is required to ensure that the infrastructure is built to reasonable standards, and through a competitive process that ensures cost accountability. To the extent that social funds are used to finance new infrastructure, there also remains the question of whether communities are willing and able to finance recurrent costs associated with the social fund projects. This latter point will determine the sustainability of investment in the social sectors.

Like all government involvement in markets, care is required even at the local level when social funds are used to finance services that are potentially supplied more efficiently by the private sector. For example, we need to guard against the newly constructed infrastructure substituting for existing public (or even private) schools, health facilities, etc.

A final dilemma regarding social funds revolves around their avoiding the weakening of the very institutions they are designed to strengthen. More specifically, the concern is that there is a potential conflict between local control through social funds, which involves direct relations between communities and donors, and nationally directed efforts at decentralization of the institutions of government. The very aspect of social funds that make them attractive—their direct responsiveness to community demands and strengthening of local information systems, markets, and the poor's participation in these areas—may weaken efforts to develop strong and responsible local (but supra-community) governments (Parker and Serrano 2000), presumably a central pillar of macroeconomic adjustment programs.

4. Conclusions

Even though the debate on adjustment policy has been heated, few people now doubt that a sound macroeconomic environment is important for growth. Furthermore, it is now widely agreed that economic reform is necessary but not sufficient for rapid poverty reduction in Africa. So, while the evidence suggests that these reforms have yielded some benefits for Africa's poor, with rare exceptions, the achievements on growth and poverty reduction have been disappointing (Sahn, Dorosh, and Younger 1997; Sahn 1996).

Some of the reasons that policy reform has been disappointing in Africa are clearly macroeconomic. Some governments have been half-hearted in the efforts, and a variety of clearly exogenous shocks such as highly variable terms of trade and rainfall have conspired against the continent. But we believe that there is more to Africa's poor performance. In this paper, we have discussed possible explanations that go beyond macroeconomic policy. Unlike the "stroke-of the-pen" reforms associated with adjustment programs, institutional and microeconomic constraints will be more difficult to alleviate. While fiscal deficits or parallel market premia can be eliminated as a matter of top-down economic policy, delivery of effective health and education services requires longer-term, bottom-up investments that will take time.

Looking ahead, most forecasts are at best cautious, indicating moderate improvements in growth and living standards starting from a very low level. By implication, any real progress will have to involve levels and patterns of growth that differ from what has been observed over the past decades. This is a daunting challenge, one that requires us to turn to a discussion of an agenda for what may be viewed as either complementary action to macroeconomic adjustment, or perhaps more fundamentally, a new focus for economic reform that places greater emphasis on aspects of economic and social policy that heretofore have been given too little attention.

More specifically, we have argued in favor of according increased attention to the microeconomic constraints facing Africa's poor, with a focus on individuals, households, or communities and the socioeconomic, natural, and institutional environments that condition their behavior and their welfare. While the types of policy reforms that have characterized most adjusting economies in Africa are defensible on the basis of both theory and practice, they have proven incomplete and only partially effective. Quite simply, despite macroeconomic adjustment, acute deficiencies remain in how markets and other economic institutions in Africa function. We therefore propose paying more attention to complementary measures required to spur rapid growth and reduce poverty and vulnerability.

We have highlighted a few examples of such an approach, focusing on education, health, and vulnerability and risk, as well as increasing participation at the local level through decentralization and social funds as a way of improving the effectiveness of fiscal policy. All these topics are connected along a variety of dimensions. For example, the links between health and education are well-known: better educated parents have healthier children, and healthier children do better in school. But there are many other, less obvious, interactions. For example, new research is finding that better educated people are more able to manage their vulnerability to adverse events, both shocks such as poor rainfall, as well as macroeconomic shocks such as adverse movements in the terms of trade (Grootaert and Kanbur 1997; Glewwe and Hall 1998; Barrett, Sherlund and Adesina 2000). They are more likely to understand and adapt agricultural technologies that lead to higher incomes (Feder, Just, and Zilberman 1985; Foster and Rosenzweig 1996). The links between vulnerability and education also work in the opposite direction. For example, a sudden drop in income may force parents to pull their children out of school to help maintain the level of household resources through work at home or on the farm (Davies 1996; Jacoby and Skoufias 1997; Basu 1999).

More central is that the problems that in part explain the limited success of macroeconomic adjustment programs, such as risk, vulnerability, and under-investment in human resources, all find a common cause in the weaknesses of, and limited access to markets and institutions that are crucial to a robust economy and pro-poor growth. Until these institutional weaknesses are more directly confronted, the potential benefits to adjustment will remain limited. This particularly applies to the poor, who have the most limited access to local and national institutions and suffer the most as a consequence. Some have argued, we believe incorrectly, that markets are a risk to the poor.To the contrary, we believe that the limited reach of well-functioning markets, and the consequent vagaries of the poor’s interactions with markets, are precisely the type of microeconomic impediments to growth and poverty alleviation that represent the biggest challenge for Africa today.

References

Ablo, E. and R. Reinikka. 1998. "Do Budgets Really Matter? Evidence from Public Spending on Education and Health in Uganda." World Bank Policy Research Working Paper No. 1926.

Ainsworth, M.. and Over, M. 1997. *Confronting AIDS: Public Priorities in a Global Epidemic*. Washington, DC: World Bank.

Ainsworth, M. and Innocent Semali. 1999. "Who Is Most Likely to Die from AIDS? Socioeconomic Correlates of Adult Death in Kagera, Tanzania." In M. Ainsworth, L. Fransen and M. Over,eds. *Confronting AIDS: Evidence from the Developing World*. Luxembourg: Office of the Official Publications of the European Communities.

Assié-Lumumba, N'Dri. 1993. "Coûts, financement de l'éducation de base et participation des familles et communautés rurales dans les pays du Tiers-Mondes." International Institute for Educational Planning. *Problématiques et méthodologies du développpement de l'éducation*, No. 10.

Assié-Lumumba, N'Dri. 1994. "Rural Students in Urban Settings in Africa: The Experiences of Female Students in Secondary Schools." In Nelly Stromquist, ed. *Education in the Urban Areas: Cross-National Dimensions*. Westport, CT: Praeger.

Bardhan, P. and D. Mookherjee. 2000. "Capture and Governance at Local and National Levels," *American Economic Review* 90(2): 135-39.

Barrett, Christopher B. 2004. "Food Security and Food Assistance Programs." In Bruce L. Gardner and Gordon C. Rausser, eds. *Handbook of Agricultural* Economics. Amsterdam: Elsevier Science.

Barrett, Christopher B., Mesfin Bezuneh, and Abdillahi Aboud. 2001. "Income Diversification, Poverty Traps and Policy Shocks in Cộte d'Ivoire and Kenya." *Food Policy* 26(4):367-84.

Barrett, Christopher B., Mesfin Bezuneh, Daniel C. Clay, and Thomas Reardon. 2000. "Heterogenous Constraints, Incentives and Income Diversification Strategies in Rural Africa." Project Report to USAID BASIS CRSP.

Barrett, Christopher B. and Michael R. Carter. 2001. "Can't Get Ahead For Falling Behind: New Directions for Development Policy To Escape Poverty and Relief Traps." Choices. 16(4). *In press.*

Barrett, Christopher B., Thomas Reardon and Patrick Webb. 2001. "Nonfarm Income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics and Policy Implications." *Food Policy* 26(4):315-31.

Barrett, Christopher B., Shane M. Sherlund and Akinwumi A. Adesina. 2001. "Macroeconomic Shocks, Human Capital, and Productive Efficiency: Evidence from West African Famers." Unpublished Cornell manuscript.

Basu, K. 1999. "Child Labor: Cause, Consequence, and Cure, with Remarks on International Labor Standards." *Journal of Economic Literature* 37(3): 1083-1119.

Behrman, Jere R. 1996. "The Impact of Health and Nutrition on Education. *The World Bank Research Observer* 11 (1):23-37.

Binswanger, Hans P. and Mark R. Rosenzweig. 1993. "Wealth, Weather Risk and the Composition and Profitability of Agricultural Investments." *Economic Journal* 103(416):56-78.

Block, S. and P. Webb. 2001. "The Dynamics of Livelihood Diversification in Post-famine Ethiopia." *Food Policy* 26(4): 333-50.

Bray, M. and Lillis, K., eds. 1988. *Community Financing of Education: Issues and Policy Implications in Less Developed Countries*. Oxford: Pergamon Press.

Canagarajah, S., C. Newman, and R. Bhattamishra. 2001. "Non-farm Income, Gender and Inequality: Evidence from Rural Ghana and Uganda. *Food Policy* 26 (4):405-20.

Castro-Leal, Florencia, J. Dayton, L. Demery, and K. Mehra. 1999. "Public Social Spending in Africa: Do the Poor Benefit?" *World Bank Research Observer* 14(1): 49-72.

Chambers, R. 1982. "Health, Agriculture, and Rural Poverty: Why Seasons Matter." *Journal of Development Studies* 18(2):217-36.

Chase, Robert S., and Lynne Sherburne-Benz. 2001. *Household Effects of African Community Initiatives: Evaluating the Impact of the Zambia Social Fund.* Washington, DC: World Bank.

Chaves, Rodrigo A. and Gonzalez-Vega, Claudio. 1996. "The Design of Successful Rural Financial Intermediaries: Evidence from Indonesia." *World Development* 24(1):65-78.

Collier, Paul and Jan Willem Gunning. 1999. "Explaining African Economic Performance." *Journal of Economic Literature* 37(1): 64-111.

Cornia, Giovanni Andrea, Richard Jolly and Frances Stewart. 1987. *Adjustment with a Human Face. Volume 1. Protecting the Vulnerable and Promoting Growth.* Oxford; New York; Toronto and Melbourne: Oxford University Press, Clarendon Press, 1987

Davies, S. 1996. *Adaptable Livelihoods: Coping with Food Insecurity in the Malian Sahel*. New York: St. Martin's Press, Inc.

Deaton, Angus. 1997. *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy.* Baltimore and London: Johns Hopkins University Press for the World Bank.

Dercon, S. and P. Krishnan, P. 1996. "Income Portfolios in Rural Ethiopia and Tanzania: Choices and Constraints." *Journal of Development Studies* 32(6): 850-75.

Dercon, Stefan and Pramila Krishnan. 1998. "Changes in Poverty in Rural Ethiopia 1989-1995: Measurement, Robustness Tests and Decomposition."Centre for the Study of African Economies Working Paper: 98/07 (March).

Dorosh, Paul and David E. Sahn. 2000. "A General Equilibrium Analysis of the Effect of Macroeconomic Adjustment on Poverty in Africa." *Journal of Policy Modeling* 22(6):753-76.

Doss, Cheryl R. 1996. "Intrahousehold Resource Allocation in an Uncertain Environment." *American Journal of Agricultural Economics* 78(5): 1335-39.

Easterly, William and Ross Levine. 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics.* 112(4): 1203-50.

Evans, T. 1989. "The Impact of Permanent Disability on Small Households: Evidence from Endemic Areas of River Blindness in Guinea." *IDS* Bulletin 20(2):41-48.

Fafchamps, Marcel. 1998. "The Tragedy of the Commons, Livestock Cycles and Sustainability." *Journal of African Economies* 7(3):384-423.

Feder, Gershon, Richard E. Just and David Zilberman. 1985. "Adoption of Agricultural Innovations in Developing Countries: A Survey." *Economic Development and Cultural Change* 33(2): 255-98.

Foster, Andrew and Mark R. Rosenzweig. 1996. "Technical Change and Human-Capital Returns and Investments: Evidence from the Green Revolution." *American Economic Review* 86(4): 931-53.

Gladwin, Christina H., ed. 1991. *Structural Adjustment and African Women Farmers*. Gainesville: University of Florida Press for the University of Florida Center for African Studies.

Glewwe, Paul. 1996. “The Relevance of Standard Estimates of Rates of Return to Schooling for Education Policy: A Critical Assessment.” *Journal of Development Economics* 51(2): 267-90.

Glewwe, Paul and Gillette Hall. 1998. “Are Some Groups More Vulnerable to Macroeconomic Shocks Than Others? Hypothesis Tests Based on Panel Data from Peru.” *Journal of Development Economics* 56(1):181-206.

Glewwe, Paul and Hanan Jacoby. 1994. “Student Achievement and Schooling Choice in Low-Income Countries: Evidence from Ghana.” Journal of Human Resources 29(3): 843-64.

Glick, Peter and David E. Sahn. 1997. “Gender and Education Impacts on Employment and Earnings in West Africa: Evidence From Guinea.” *Economic Development and Cultural Change* 45(4):793-823.

Glick, Peter and David E. Sahn. 1998. “Health and Productivity in a Heterogeneous Urban Labor Market.” *Applied Economics* 30: 203-216.

Glick, Peter and David E. Sahn. 2000. “Schooling of Boys and Girls in a West African Country: The Effects of Parental Education, Income, and Household Structure.” *Economics of Education Review* 19(1):63-87.

Greif, A. and R. H. Bates. 1995. “Organizing Violence: Power and Limited Government,” mimeo, Stanford University.

Grootaert, Christiaan, Ravi Kanbur, and Oh, Gi-Taik. 1997. “The Dynamics of Welfare Gains and Losses: An African Case Study.” *Journal of Development Studies* 33(5):635-57.

International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank. 2000. “A Better World for All: Progress Towards the International Development Goals.” A joint report that can be downloaded from the web: www.paris21.org/betterworld.

Jacoby, Hanan G. and Emmanuel Skoufias. 1997. “Risk, Financial Markets, and Human Capital in a Developing Country.” *Review of Economic Studies* 64(3):311-35.

Kanbur, Ravi and Lyn Squire. 2001. "The Evolution of Thinking About Poverty: Exploring the Interactions." Revised version published in G. Meier and J. Stigltiz (eds.), *Frontiers of Development Economics: The Future in Perspective*. Washington, DC: World Bank and Oxford; New York: Oxford University Press.

Kremer, Michael, Sylvie Moulin, David Myatt and Robert Namunyu. 1997. "The Quality-Quantity Tradeoff in Education: Evidence from a Prospective Evaluation in Kenya." Manuscript, Massachusetts Institute of Technology.

Lybbert, Travis J., Christopher B. Barrett, Solomon Desta, and D. Layne Coppock. Forthcoming. "Stochastic Wealth Dynamics and Risk Management Among A Poor Population." *Economic Journal.*

Maxwell, D., C. Levin, M. Armar-Klemesu, M. Ruel, S. Morris, and C. Ahiadeke. 2000. *Urban livelihoods and food and nutrition security in Greater Accra, Ghana*. Research Report 112. Washington, D.C.: International Food Policy Research Institute in collaboration with Noguchi Memorial Institute for Medical Research and the World Health Organization, 2000.

McPeak, John G. and Christopher B. Barrett. 2001. "Differential Risk Exposure and Stochastic Poverty Traps among East African Pastoralists." *American Journal of Agricultural Economics.* 83(30: 674-79.

Mills, Bradford and David E. Sahn. 1997. "Labor Market Segmentation and the Implication for Public Sector Retrenchment Programs." *Journal of Comparative Economics* 25(3):385-402.

Moll, Peter. 1996. "The Collapse of Primary Schooling Returns in South Africa 1960-90." *Oxford Bulletin of Economics and Statistics* 58(1):185-209.

Narayan, D., R. Chambers, M. K. Shaw, and P. Petesch. 2000a. *Voices of the Poor: Crying out for Change*. New York and Oxford: Oxford University Press for the World Bank.

Narayan, D., D. Narayan-Parker, and M Walton (eds). *Voices of the poor: Can anyone hear us?* Oxford and New York: Oxford University Press for the World Bank.

Newman, J., M. Pradhan, L. B. Rawlings, G. Ridder, R. Ga, and J. L. Evia 2002. "An Impact Evaluation of Education, Health, and Water Supply Investments of the Bolivian Social Investment Fund." *World Bank Economic Review* 16(2):241-74..

Oldham, E. A., C. Barrett, S. Benjelloon, and A. Ahhanou. 1998. "An Analysis of Iodine Deficiency Disorder and Eradication Strategies in the High Atlas Mountains of Morocco." *Ecology of Food and Nutrition*. 37(3):197-217.

Parker, Andrew and Serrano, Rodrigo. 2000. *Promoting Good Local Governance through Social Funds and Decentralization*. Washington, DC: World Bank.

Patten, Richard H. and Jay K. Rosengard. 1991. *Progress with Profits: The Development of Rural Banking in Indonesia.* Sector Studies, no. 4. A

Copublication of the International Center for Economic Growth and the Harvard Institute for International Development. San Francisco: ICS Press, 1991.

Pollitt, Ernesto. 1997. “Iron deficiency and educational deficiency.” *Nutrition Reviews* 55 (April): 133-41.

Pollitt, Ernesto. 1993. “Iron deficiency and cognitive function.” *Annual Review of Nutrition* 13:521-37.Psacharopoulous, George. 1994. “Returns to Investment in Education: A Global Update.” *World Development*. 22(9): 1325.

Reardon, Thomas. 1997. “Using Evidence of Household Income Diversification to Inform Study of the Rural Nonfarm Labor Market in Africa.” *World Development* 25(5): 735-747.

Reinikka, R. and P. Collier. 2001. “Recovery in Service Delivery: Evidence from Schools and Health Centers.” In R. Reinikka, and P. Collier, eds. *Uganda’s Recovery: The Role of Farms, Firms, and Government*. World Bank Regional and Sectoral Studies, Washington D.C. (February).

Rivarola, M. and B. Fuller. 1999. “Nicaragua’s Experiment to Decentralize Schools: Contrasting Views of Parents, Teachers, and Directors.” *Comparative Education Review* 43(4): 489-521.

Sachs, Jeffrey D. 2000. “Tropical Underdevelopment.” CID Working Paper No. 57 (December). Cambridge, MA: Center for International Development, Harvard University.

Sahn, David E. 1994. *Adjusting to Policy Failure in African Economies*. Editor. Ithaca, NY: Cornell University Press, 1994.

Sahn, David. E. 1996. *Economic Reform and the Poor in Africa*. Editor. Oxford: Oxford University Press, 1996.

Sahn, David E. and Jehan Arulpragasam. 1996. *Economic Transitions in Guinea: Implications for Growth and Poverty*. New York: New York University Press.

Sahn, David E. and René Bernier. 1995. “Have Structural Adjustments Led to Health Sector Reform in Africa?” *Health Policy* 32: 193-214.

Sahn, David E. and Jaikishan Desai. 1995. “The Emergence of Parallel Markets in a Transition Economy: The Case of Mozambique.” *Food Policy* 20(2): 83-98.

Sahn, David E. and Sarris, A. H. 1991. “Structural Adjustment and the Welfare of Rural Smallholders: A Comparative Analysis from Sub-Saharan Africa.” *World Bank Economic Review* 5(2):259-89.

Sahn, David E., Paul Dorosh and Stephen Younger. 1997. *Structural Adjustment Reconsidered: Economic Policy and Poverty in Africa*. Cambridge: Cambridge University Press, 1997.

Sahn, David E. and David C. Stifel. 2003. "Progress Toward the Millennium Development Goals in Africa" *World Development* 31(1):23-52.

Sahn, David E. and Stephen Younger. 2000. "Expenditure Incidence in Africa: Microeconomic Evidence." *Fiscal Studies* 21(3): 329-47.

Sahn, David. E., Stephen Younger, and Garance Genicot. 2003. "The Demand for Health Care Services in Rural Tanzania." *Oxford Bulletin of Economics and Statistics.* 65(2):241-59.

Schultz, Paul T. 2001. "School Subsidies for the Poor: Evaluating the Mexican *Progresa* Poverty Program." Economic Growth Center Discussion Paper No. 834. New Haven: Yale University.

Schultz, Paul T. 1999. "Health and Schooling Investments in Africa." Journal of Economic Perspectives 13(3):67-88.

Schultz, Paul T. and Aysit Tansel. 1997. "Wage and Labor Supply Effects of Illness in Côte D'Ivoire and Ghana: Instrumental Variable Estimates for Days Disabled." *Journal of Development Economics* 53(2): 251-86.

Schultz, T. W. 1975. "The Value of the Ability to Deal." *Journal of Economic Literature* 13(3):827-46.

Strauss, J. 1986. "Does Better Nutrition Raise Farm Productivity?" *Journal of Political Economy* 94:297-320.

Townsend, Robert M. "Risk and Insurance in Village India." *Econometrica* 62(3):539-91.

United Nations Development Program (UNDP) and World Bank. 1989. *African Economic and Financial Data.* New York and Washington, D.C.: UNDP and World Bank.

United Nations Economic Commission for Africa (UNECA). 1989. *Statistics and Politics – EGA Preliminary Observations on the World Bank Report.* Addis Ababa: UNECA.

Vijverberg, Wim. 1995. "Measuring Income from Family Enterprises with Household Surveys." In *Small Firms and Economic Growth*. Volume 2. Cheltenham, U.K.: Elgar Reference Collection. International Library of Critical Writings in Economics, vol. 61.

World Bank. 2001. "World Development Report: Attacking Poverty 2000/2001" Washington, DC: World Bank.

Younger, Stephen D., Sudarshan Canagarajah and Harold Alderman. 1996. "A Comparison of Ghanaian Civil Servants' Earnings Before and After Retrenchment." *Journal of African Economies* 4(2):259-88.