

Commodity Market Reform in Africa: Some Recent Experience

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Summary

Since the early 1980s, dramatic changes in export commodity markets, shocks associated with resulting price declines and changing views on the role of the state have ushered in widespread reforms to agricultural commodity markets in Africa. The reforms significantly reduced government participation in the marketing and pricing of commodities. This paper examines the background, causes, process and consequences of these reforms and derives lessons for successful reforms from experiences in markets for four commodities important to Africa – cocoa, coffee, cotton, and sugar. The commodity focus of the paper highlights the special features associated with these markets that affect the reform process. The paper complements the current literature on market reforms in Africa, where grain-market studies are more common. We suggest that the types of market interventions prior to reform are more easily classified by crop than by country. Consequently, there are significant commodity-specific differences in the initial conditions and in the outcomes of reforms related to these markets. However, there are general lessons as well. We find that the key consequences of reform have been significant changes in or emergence of marketing institutions, and a significant shift of political and economic power from public to private sector. In cases where interventions were greatest and reforms most complete, producers have benefited from receiving a larger share of export prices. Additionally, we conclude that the adjustment costs of reform can be reduced in most cases by better understanding the detailed and idiosyncratic relationships between the commodity subsector, private markets, and public services. Finally, while there are significant costs to market-dependent reforms, experiences suggest that they are a necessary step toward a dynamic commodity sector based on private initiative. Indeed, this is particularly true in countries and sectors where interventions were greatest and market-supporting institutions the weakest.

Table of contents

1. Introduction	1
2. The rise of commodity market interventions	3
3. What prompted market reforms?	5
General causes	6
Specific commodity and country considerations	10
4. Consequences of market reforms?	13
Findings from related studies of market reforms	14
Evaluations based on sector data	14
Spatial studies	16
Evaluations based on household data	16
Lessons from commodity market reforms	18
Producer prices	18
Price volatility	21
Supply response	23
Private sector activities and institutional changes	25
5. Key factorsS for successful market reforms	28
6. Concluding remarks	33
References	35

List of tables

Table 1: Conditions under World Bank agricultural structural adjustment loans in Sub-Saharan Africa, 1980-1995	43
Table 2: Trade reforms for cocoa, coffee cotton, and sugar in selected countries	44
Table 3: Producer prices for coffee and their share of international prices, for selected countries, 1987-89 and 1997-99 averages.	46
Table 4: Wholesale refined sugar prices in selected countries relative to world prices, 1988-90 and 1997-98.	47

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1. INTRODUCTION

As a result of reforms initiated in the mid-1980s, there has been a sea change on how agricultural export commodities are marketed and financed in many African countries. The reforms have had profound ramifications for the roles of the government and the private sector, and hence for all the institutions related to agriculture.

Generally, market reforms are intended to boost an economy's efficiency – that is, to enhance the productivity of human talents and physical assets. In turn, these improvements in efficiency are expected to generate growth that improves the lives of many and especially the poor. In practice, reform has meant relying more heavily on markets to direct how resources are used and to direct future investments. In the context of this paper, the term market reform refers to steps taken toward opening domestic and export markets to competition and toward putting in place public and private institutions consistent with and supportive of private markets. For commodity markets, market reform has meant reducing government involvement in marketing and in production, increasing participation of the private sector in these activities and reducing distortions in commodity prices – especially producer prices. Measures implemented to achieve these goals have varied but often they included elimination or privatization of government marketing agencies, the introduction of competition in marketing, the elimination of administered prices, reduction in explicit and implicit taxes, and the privatization of government-owned assets.

Events triggering commodity market reforms were not independent of broader political and economic changes in most countries and the consequences of reform are often linked as well. However, issues related to the approaches and effects of general and agricultural market reforms have been discussed elsewhere and receive minimal treatment here. Instead, our purpose is to discuss reform in the specific context of

cocoa, coffee, cotton, and sugar markets, and to provide lessons by selectively drawing on African cross-country experiences in those markets¹.

A central theme of this paper is that commodity markets warrant special attention for several reasons. First, commodities play an especially important role in many developing countries, especially in Africa. Reforms and the process of reform of commodity markets can affect communities and sometimes economies in significant ways. Conversely, it was the fiscal consequences of a sharp commodity price decline in the 1980s and the early 1990s that triggered economy-wide reforms in many African countries. Second, these markets illustrate well how special features – based in part on the production characteristics of the commodities and in part on historic developments – can affect the reform process and illustrate the importance of taking initial conditions into account when designing reform. Third, experience from commodity markets also illustrates how long-standing interventions like marketing boards and the public ownership of processing facilities can crowd out markets and institutions that support private initiative. Lessons on how private markets and policymakers cope with missing markets and institutions are noteworthy. Finally, close examination of reform at the commodity level illustrates the practical ways that changes in marketing systems often leads to a diffusion of political power as market participants take part in setting industry rules, standards, and policy. This is significant, since it provides commodity sector participants greater autonomy to adapt to future events.

The commodities chosen for analysis in this paper are coffee, cocoa, cotton, and sugar. We focus on these commodities because of their importance for African countries. As for the country coverage, the paper focuses exclusively on Africa because (i) it is the region that depends most on primary commodities as sources of export revenues and employment; (ii) significant market reform for the four commodities has occurred in this region in recent years; and (iii) it is where development effort is most needed because of its low income levels and weak physical and institutional infrastructure.

¹ This paper draws on African experiences of market reform, some of which are included in a more general discussion by Akiyama, Baffes, Larson and Varangis (2001.)

The rest of the paper is organized as follows. Section II provides a brief and general description of the types of prevalent market interventions and the motivation for those interventions prior to recent reforms. Section III discusses what prompted recent reforms. Section IV examines the consequences of reform. Section V points out the scope and likely success of commodity market reform and discusses important lessons for managing the reform process. Section VI concludes.

2. THE RISE OF COMMODITY MARKET INTERVENTIONS

Several factors – political and economic events and development approaches – contributed to the presence of governments in commodity markets during the second half of the twentieth century. In many countries, primarily in Africa, governments inherited control of agricultural commodities, along with supporting institutions, from their colonial past.

Often government control came in the form of marketing boards, but also included government-run plantations and industries. Often marketing boards are viewed one of several instruments designed to promote and protect colonial interest (Clarence-Smith, 1995). However it is worth noting that the rise of marketing boards in Africa coincided with the view that agricultural and commodity markets benefited from interventions – a view based on developed country experiences following the Depression and World War II².

Several themes from development theory as well as practical political considerations supported continued intervention. Many developing countries, held a strong belief in state-dominated economic development.³ Moreover, governments frequently pursued policies that taxed agriculture in order to promote industrial development. This approach seems to have been supported by several development

² Harriss-White, 1995, makes a similar point, arguing that the original purpose of the colonial grain marketing regulations was to better organize grain for export.

³ The 1997 World Development Report, *The Changing Role of the State*, examines the rise of central planning and the belief by policymakers of many developing countries after independence that (the) state would mobilize resources and people and direct them toward rapid growth... State control of the economy, following the example of Soviet Union, was central to this strategy. Many [Asian], Latin American, Middle Eastern and African countries followed this state-dominated [industrialization path]. (p. 23, World Bank, 1997).

economists' views in the 1950s (Lewis, 1954; Hirschman, 1958). In addition, arguments by Prebisch (1949) and Singer (1950) that the terms of trade of commodities had been and would continue to decline over time encouraged discriminatory policies against agriculture in order to more quickly shift resources out of agriculture. Intervention garnered support for practical and political reasons as well. For one thing, the systems often proved useful for collecting taxes and providing political patronage (Bates, 1981). Indeed, for some countries, taxing commodity exports provided the most convenient and practical way to support the state budget. The government-controlled system, often combined with misaligned exchange rates, provided financial benefits to the urban elite who formed important allies to politicians (Lipton, 1977 and Bates, 1981).

For many African countries, one or two commodities were especially important in terms of employment, export income and government revenues. Governments considered these markets too important, both politically and economically, to be left to the private sector. Most commonly, government control of marketing was implemented through a monopolistic parastatal buying and exporting agency or through controlling of the activities of private traders using regulations and licenses. The state through institutional arrangements sought to control the flow of commodities and domestic prices (producer and consumer). The stated objectives of the control over marketing were to protect farmers and consumers from exploitation by merchants and middlemen, reduce price fluctuations, and ensure tax and foreign exchange revenues. The latter was critical since several developing countries implemented foreign exchange controls resulting in large premiums for hard currencies. Government control of key markets also extended to public ownership of key processing and transport facilities. Sometimes state ownership was viewed as a way of protecting farmers from the local monopolies of privately owned processing facilities. Because export commodities and the hard currencies that they earned passed through a limited number of ports, processing plants and banks, controls on these markets were more effective than similar controls on other agricultural products.

Not all policy measures were domestically motivated. Commodity producing and often consuming countries sought to stabilize commodity prices. Keynes (1943) viewed commodity booms and busts as a significant source of economic instability and

advocated interventions. Theoretical findings by Johnson (1953) and Bhagwati (1958) that declining prices associated with expanding exports could slow growth were also used to support calls for interventions⁴. For resource rich and commodity dependent countries, interventions were recommended to counter Dutch Disease problems. (See Corden, 1984, for an early synthesis of the literature.)

The interventions mainly took the form of quota or buffer stock programs organized through international commodity agreements (Larson, Varangis and Yabuki, 1998). The IMF offered lending instruments to cope with unexpected revenue shortfalls beginning in 1963, as did the EU for selected countries – including several in Africa – under the 1975 Lomé Agreement. The successful attempts by OPEC in 1973 to raise crude oil prices gave added motivation for collective action among commodity producers and prompted the launch by UNCTAD in 1975 of the Integrated Program for Commodities. The program attempted to stabilize the prices of major commodities exported by developing countries (including coffee, cocoa and natural rubber) primarily through buffer stock operations under international commodity agreements and led eventually to the establishment of the Common Fund for Commodities. The IMF offered a lending program to support commodity stabilization programs beginning in 1969.

3. WHAT PROMPTED MARKET REFORMS ?

Though largely triggered by sudden and often unpredicted political and economic events, the commodity market reforms of recent years also reflect an evolution in development economists' views on the importance of agriculture to economic development and on the role of government in the development process. The change in philosophy was reinforced and partly motivated by the increasingly evident inefficiencies of interventionist policies. Further, structural changes in commodity markets, generated by changing production, transportation and information technologies, brought increasing pressure to bear on interventionist instruments as world commodity prices declined during the 1980s and 1990s. Hence, policies to get

⁴ This general problem became known as the adding-up or fallacy of composition problem. See Cline, 1982, for an early exposition.

prices right became a special concern in the early 1980s especially with the introduction of structural adjustment lending by the Bretton Woods institutions. This section discusses these common themes as well as the events specific to the commodities covered in this paper that influenced the pace and chosen approaches to commodity market reforms.

General causes

Not all economists agreed with the prevailing views of government intervention and price controls in commodity markets. Johnson (1947, p. 31), for example, argued that prices should not be used as goals to be achieved and that agricultural sectors required few interventions. Further, Friedman (1954) disputed the benefits of managing commodity income variability. Johnson and Mellor (1961) attacked the pro-urban policy and neglect of agriculture prevalent in many developing countries. Bauer (1976) and Lal (1985) criticized government controlled pricing and marketing systems. Bates (1981) argued that in order for rural communities to prosper, most developing government policies concerning markets would need to change⁵.

These arguments were given an institutional voice by the World Bank through a series of publications. The first was the release of its 1983 World Development Report , which concluded that policy interventions slowed growth (World Bank, 1983, chapter 4). Later, the 1985 World Development Report focused specifically on the problems associated with agricultural policy interventions by both developed and developing countries. In 1992, a series of developing country studies edited by Krueger, Schiff and Valdès examined in detail the extent of distortions affecting the agricultural sector introduced through sector-specific and macroeconomic policies in 18 developing countries.

Concurrently, researchers also focused on how pricing policies distort related markets for services and inputs, for example Gersovitz (1989, 1992). Other writers focused on the historic inability of governments to manage the revenues and shortfalls

⁵ Bates (1989) also argued that markets adjust automatically, leaving the realignment of government institutions as the real task of structural adjustment.

associated with commodity cycles. Gelb (1988) provided an influential set of case studies and Bevan, Collier and Gunning (1992) provided a detailed study of Kenya's coffee boom during the late 1970s⁶.

As development economists' preference for market-based policy instruments grew, a number of political and economic events reinforced the notion that market interventions stifled growth and economic opportunity and created an opportunity for reform. These include the successful adoption of more market-oriented domestic agricultural policies in China, the failure of several commodity agreements, and the collapse of the Soviet Union. Additional factors also encouraged change, including accumulated debt burdens in Latin America and Africa and increased activism by the international financial institutions to bring about policy changes.

Following the failed Great Leap Forward, China adopted a more market-based approach to domestic agriculture, making noticeable progress by the 1970s.⁷ China's success and the success of the agricultural sectors of other East Asian countries were not strictly interpreted as an endorsement of free trade but the outcomes did reflect an increased reliance on market mechanisms. Moreover, by the late 1980s, the economic performances of these countries were often contrasted with the government-controlled systems of Sub-Saharan Africa (Wallace, 1997; Lindauer and Roemer, 1994).

The economic problems of the Soviet Union, evident by the mid-1980s, and its eventual collapse shook policymakers' belief in government-lead and government-controlled economic development strategies. This had a significant impact on both philosophy and implementation of economic and political systems in many developing countries and in Eastern Europe.

A similar sea change occurred in international commodity markets. The buffer stock programs planned under UNCTAD's Integrated Program for Commodities proved unsuccessful for structural and political reasons and the Common Fund was never put to its intended use. Other international agreements that existed with the aim of stabilizing

⁶ Schuknecht (1999) includes a review of recent literature on windfalls and custodial governments.

⁷ With regard to China's agricultural productivity and production growth, the World Bank (1993) noted, reforms giving farmers greater control over the land they tilled, together with a 25 percent real increase in crop prices, boosted agricultural productivity (p. 59).

or raising commodity prices also faced difficulties and eventually collapsed. For example, the buffer stock provisions of the International Tin Agreement, International Cocoa Agreement (ICCA), the International Rubber Agreement and the quota-mechanism of the International Coffee Agreement (ICA) failed and member countries chose to dismantle them.

At the same time, prices declined sharply in international markets for most commodities. For some commodities – especially coffee – the declines were due mainly to the release of policy-driven inventories following the collapse of the commodity agreements (Reinhart and Wickham, 1994). In turn, the price declines caused significant fiscal and balance of payments problems for commodity dependent countries and serious financial problems for the parastatals managing their commodity subsectors. This was especially the case for a number of Sub-Saharan African countries dependent on coffee and cocoa. International programs designed to provide financial assistance to developing countries suffering balance of payment problems from declines in commodity prices such as EU's STABEX and the IMF's compensatory financing program had limited effects. Moreover, the parastatals charged with stabilizing domestic prices came under increasing pressure as commodity prices continued to fall.⁸ Indeed, motivation for reforms came in part from the rigidities in the pre-reform pricing systems and their inability to cope with the post 1973 price volatility.

A significant push for market reform came from the World Bank, which introduced Structural Adjustment Loans (SALs) in 1980. Initially the objective was to financially assist developing countries with debt problems – especially in Latin America and Africa – caused by poor fiscal management and exacerbated by the sharp oil price increase in 1979. The basic recommended policy was the retreat of the state from economic life and the opening up of economic activity – especially in agriculture – to the free play of market forces (p. 24, Mosley *et al.*, 1991).

International organizations began to recommend market reforms, often as a condition for financial assistance. The Bank's SALs often accompanied devaluation

⁸ Farm support programs in developed countries were not immune. Australia's wool stabilization scheme failed in the 1980s (Bardsley, 1994) and both the US and the EU accumulated large and expensive stockpiles of commodities during the 1980s only to be liquidated at high costs to taxpayers.

prompted by IMF and this contributed in favor of exportable commodities including many agricultural products. Generally, the conditions that were applied to agricultural commodity subsectors were significant reduction in government intervention in determining prices, a reduction of the power of state marketing boards and elimination of agricultural import subsidies (Mosley, 1987). The basis for this policy approach drew heavily on the development economists' arguments discussed earlier and from the Bank's own experience (Cleaver, 1987). Also, as a practical matter, by the late 1980s and early 1990s, many of the commodity parastatals were insolvent and many governments, whether convinced of the merits or forced by events, began to revamp the subsector marketing systems and policies.

The early history of agricultural market reforms and structural lending by the World Bank is well reviewed in a 1997 World Bank Operations Evaluation Study (Meerman, 1997.) The author notes that by 1991 structural lending relied heavily on markets. Conditions for the loans sought to (a) eliminate price controls; (b) develop competitive local markets for inputs (land, agro-chemicals, credit) and outputs; (c) reduce state interventions in international trade to enhance integration into world markets; (d) improve aspects of the regulatory systems; and (e) privatize inefficient public enterprises (page 2).

Still, early World Bank structural lending for agricultural markets often focused improving the efficiency of marketing boards by linking domestic prices to international markets and by reducing subsidies. In fact, prior to 1995, trade liberalization was rarely a condition for World Bank agricultural lending (table 1). Among the first 50 agricultural structural adjustment loans, only 10 – all approved after 1991 – fit the market-based model. Meerman attributes the shift in Bank policy to a combination of factors including: a recognition among Bank staff and client countries that early approaches to structural adjustment had failed to achieve their objective; empirical results from World Bank and academic research that measured the costs of distorting policies; and the positive examples of early reforms in Chile, China and elsewhere.

The shift in policy was formalized in a 1992 World Bank Operational Directive (OD 8.60), *Adjustment lending policy*. The directive does not distinguish between lending for agriculture or other sectors, but rather provides a clear motivation for

structural adjustment, as an activity separate from macroeconomic stabilization (Meerman, pages 29-30). The directive recommends the elimination of price controls and suggests variable tariffs to pursue stabilization goals. Eliminating state marketing boards and liberalizing trade are cited as policy changes that are likely to encourage growth. Policies of phased privatization and the replacement of general food subsidies with targeted subsidies are recommended as well. The directive urges the strengthening of a supporting regulatory environment and recognizes the fact that “adjustment operations require strong political commitment” (paragraphs 37-39).

The stated purpose of structural adjustment lending was to reduce poverty through economy-wide growth. An improved investment climate and better incentives were to stimulate growth and consequently changes in productive activities were to be expected. However, born of crises, the approach to reform, which combined aspects of macroeconomic stabilization, fiscal constraint and structural change was without obvious precedent. Not all consequences of reform were anticipated and some were not planned for – a topic that we return to in the context of the consequences of specific market reforms.

Specific commodity and country considerations

The general factors driving change were influenced by differing conditions among commodities and potentially different outcomes from implementing reform in each of the commodity markets. Table 2 reports on the state of commodity market interventions in 1999 and prior to the reform process. While, as a general matter, most governments adopted broad market-oriented economic strategies, the degree of market reform differed significantly among crops. For coffee and to a lesser extent cocoa, the state monopolies that implicitly taxed producers gave way to liberalization. For cotton, policy approaches differed significantly between western and eastern Africa – due in part to very different initial conditions. For sugar, where industries grew dependent on past government interventions, the process of privatization and market liberalization was uneven in domestic markets and trade interventions remain common.

Cocoa: As discussed earlier, the fiscal problems governments and the financial difficulties of parastatals prompted market reforms in many cocoa producing countries. Ironically, cocoa prices and producing countries were less affected by the collapse of the ICCA's buffer scheme simply because the stock program had not been very effective in stabilizing cocoa prices. (See Gilbert, 1996, 1997.) The stabilization aspects of domestic commodity programs also came under pressure. Cameroon, Congo, Côte d'Ivoire, Ghana, Nigeria and Togo moved to free internal trade – although the reforms in Ghana were partial. World Bank lending also played a role in Côte d'Ivoire, Ghana and Togo, while EU lending supported reforms in Cameroon. Except for Ghana, state export monopolies or restricting licensing arrangements were lifted as well (Varangis and Schreiber 2001).

In the case of Togo, a prolonged general strike that lasted from late 1993 to mid 1994 also contributed to fiscal problems. Ghana's limited reform in the cocoa subsector in the early 1980s was required to correct an economic crisis and to improve cocoa farmers' income. The Nigerian cocoa subsector literally was reformed overnight in 1987 when the government decided to dismantle all the marketing boards and staunch the boards' drain on the treasury.

Coffee: Following the collapse of the economic clauses of the International Coffee Agreement most African countries moved to eliminate government export monopolies in coffee – examples include Cameroon and Côte d'Ivoire, Madagascar, and Uganda. In other countries, for example Ethiopia, it was the change in political regime that prompted the reforms in the coffee subsector (Akiyama, 2001). In most of the coffee cases given in table 2, domestic and export markets were fully liberalized. Structural adjustment lending played a role in several of the countries. For example, the World Bank extended some measure of support in Côte d'Ivoire Madagascar, Tanzania and Uganda. Resistance to reforms was strong in many countries because the sub-sector was an important source of government and foreign exchange revenues. Furthermore, reforms were difficult politically because the sub-sector employed a large number of staff in parastatals and liberalization often meant abandoning cooperatives that had long received special support by governments for both political and economic reasons.

Cotton: By the 1980s, the marketing and trade of cotton in most African countries were handled in its entirety by state parastatals. During the 1990s, a number of countries initiated reforms, including Chad, Uganda, Tanzania, and Zimbabwe. In these cases, reforms occurred when parastatals became financially insolvent or found it difficult to carry out the trade and producer financing responsibilities that, in turn, severely limited their capacity to maintain ginning operations. In West and Central Africa, the pace of reform has been slower for several reasons. First, production-related problems were less severe than in East Africa. Second, the state companies played a larger role in all aspects of production and private ownership and related markets for inputs and credit were less developed complicating the task of privatization. Finally, there was less agreement among donors and policymakers concerning the extent and pace of reform. Nonetheless, core problems related to the financial insolvency of the parastatals and the low share of export price received by farmers together with larger agreement among policymakers have prompted phased reforms in Burkina Faso, Côte d'Ivoire, and Benin while others (e.g., Mali) will initiate reforms soon (Badiane et. al, 2002)⁹.

Sugar: In the 1990s, many sugar-producing countries began domestic reforms that often include privatization of state-owned sugar estates and sugar mills. The main factor contributing to reforms in sugar markets was the poor performance by the publicly owned mills and estates (for example, Benin and Côte d'Ivoire). For some countries, privatization was also a way to revive an industry that declined during periods of armed conflict (Mozambique, Rwanda, and Uganda). Sugar reforms received some encouragement by donor agencies. For example, World Bank lending supported reforms in Burundi, Chad, Côte d'Ivoire, Kenya and Uganda. Still, sugar trade policy remains largely unreformed in Africa and most countries protect their domestic industry. Often, local communities have grown dependent on policy-dependent sugar industries, making the political cost of reform high (e.g. in Kenya). Moreover, because sugar programs are often self-financed through an indirect tax on consumers, these programs have not faced the budgetary pressure generated by most policy interventions. Consequently, governments frequently chose to increase protection rates rather than

⁹ Edwards (2000) provides some insights into the debate in the donor community.

solve problems associated with money losing sugar industries¹⁰. This option to transfer resources from consumers removes the budgetary urgency that prompted reforms among other parastatals. For example, reforms associated with a World Bank loan to Senegal that would have eliminated production, trade and marketing monopolies failed to take place and, instead, transfers from consumers to the state-owned sugar company were increased.

The sugar-related policies of several large producer-consumers, especially the EU and the US also contribute in direct and indirect ways toward a resistance to reform. In general, the presence of protectionist policies among donor countries dampens the call for reforms in developing countries and provides political justification for continued domestic interventions¹¹. More directly, developed country policies also influence the policies of countries that enjoy special access to protected US and EU markets (for example, Côte d'Ivoire, Mauritius and Zimbabwe), since the need to distribute the gains from these preferential arrangement encourages central management of the industry.

4. CONSEQUENCES OF MARKET REFORMS ?

As a prelude to discussing the consequences of reform, it is useful to address the question of what was expected from reform. It is not an easy question to answer. First, as already noted, the impetus for change came from many sources. Many reforms were born of crises and the goals of reform were not always clearly articulated. Second, in instances where the objectives were more clearly defined – for example, in documents related to the World Bank's structural adjustment lending – the goals were broad to the point where measurement became difficult. Moreover, external factors unrelated to policy and implementation decisions sometimes heavily influenced outcomes, especially the timing of reforms relative to favorable or adverse market conditions. Lastly, the pace and persistence of reform efforts varied greatly among countries.

¹⁰ This is not uniquely, or even primarily an African problem. See Larson and Borrell (2001) for examples from other regions.

¹¹ For example, the South African sugar industry had the following to say about considered reforms to lower trade protection: "The industry is committed to the review of the Sugar Act but believes that while the international sugar environment remains distorted, any changes to competition policy must take place within the framework of an equitable sharing of proceeds among growers, millers and refiners." page 4, South African Sugar Association Annual report 2001/2002.

To complicate matters, separate from cause-and-effect, the direct statistical measures on how reforms affected households are difficult to come by since monitoring procedures were rarely included in most reform programs. Analysts have therefore relied on alternative and indirect measures. This has resulted in a divided and controversial literature. It is also a literature that, for Africa, focuses on grain markets, which have their own special features¹².

Before turning to a more focused look at the consequences of reform in Africa for our four commodities of interest, we selectively report on general studies related to agricultural market reforms for the region. From this literature, a dominant view emerges that interventions common in the 1980s worked in a way that taxed the agricultural sector. Beyond this generalization were sometimes compensating policies – especially related to input markets and food crops. Several studies point to evidence that reforms in Africa improved the domestic terms of trade for rural producers – a group that includes many of Africa’s poor. Evidence linking this improvement in the terms of trade to poverty reduction is more debated – due in part to the problems discussed above. The studies are broadly based on three approaches and provide a basis for our later discussion of export market reforms.

Findings from related studies of market reforms

Evaluations based on sector data

A priori, general structural adjustment loans were not intended to necessarily spur growth in agriculture, but rather to improve overall economic performance. In its own evaluation process, the Bank rarely considered sector growth as a measure of success for structural adjustment loans. However, in some specific cases, adjustment loans were expected to lead to increased agricultural output by removing constraints. Meerman reviews specific agricultural adjustment lending that was expected to improve conditions for smallholder producers and result in expanded production. Preparation documents for early loans in Argentina, Ecuador, Kenya, Madagascar, Tanzania, and

¹² See World Bank, 1994; Engberg-Pedersen et al., 1996 and Mosley et al., 1991 for early reviews. Jayne and Jones (1997) and Kherallah et al. (2002) review studies of grain market reforms in Africa.

Zambia predicted increased production from agriculture generally or specific crops. The agricultural sector did expand rapidly in Kenya, averaging more than 4 percent annually for the four years following the 1986 loan; and the 1986 loan in Madagascar, which liberalized rice production, also led to an increase in rice production that exceeded expectations. However, growth did not follow loans to Argentina, Ecuador Tanzania and Zambia, where key reforms were not fully carried out. More recently, Jayne et al. (2002) report on reforms related to food markets in Ethiopia, Kenya, Malawi, Zambia and Zimbabwe. They also attributed a lack of success to partial and incomplete implementation of market reforms. An IFPRI study of grain market reforms in five West African countries (IFPRI, 1996) finds reforms incomplete as well. Mukhopadhyay (1999) examined the relationship between trade reform and growth in nine African countries. He concluded that trade reforms were counter-productive because of unfavorable international economic conditions.

In an early evaluation study of structural adjustment lending, Jayarajah, Baird and Branson (1994) noted that, in some instances, reforms that reduced subsidies on fertilizer markets had occurred while policies that kept output prices low remained in place, thereby penalizing farmers. In addition, when currency devaluations in some countries boosted prices for both inputs and exported crops, farmers that produce non-traded food crops saw their production costs rise without compensating increases in output prices. Relying primarily on sectoral data and modeling techniques, Sahn, Dorosh and Younger (1997) found that many policies in Africa prior to reform were most costly for rural agriculture. Consequently, they concluded that reforms in Cameroon, Ghana, Madagascar, Malawi, Niger and Tanzania that reversed the over-valuation of exchange rates and the taxation of export crops benefited the rural poor.

Basu and Stewart (1995) used sector data to analyze the consequences of structural adjustment on rural poverty. They found that, though the terms of trade improved for agriculture in twelve of the nineteen Sub-Saharan African countries in their study, incomes and per capita food consumption fell in both adjusting and non-adjusting countries. They concluded that while adjusting countries were not worse off, they did not fare noticeably better than non-adjusting countries.

Spatial studies

Marketing boards were sometimes given the task of buying and selling agricultural produce in areas that are geographically remote. Consequently, liberalization can be expected to affect the spatial distribution of prices. In Ethiopia, Dercon (1995) found evidence that market liberalization lowered transaction margins among regional grain markets. Also in Ethiopia, Jayne, Negassa and Myers (1998) found that, because of improved marketing, liberalization of domestic grain markets was generally associated with a rise in prices for exporting areas in Ethiopia and a decline in deficit regions.

In a study of grain markets in Ghana, Badiane and Shively (1998) attributed a general lowering of food prices to market reforms, but noted significant regional disparity. Bassolet and Lutz (1999) used market integration tests to examine the effects of liberalization of Burkina Faso's grain market. They found that the markets are integrated in the long run, but note remaining limits to market efficiency, including perceptions that market reforms are incomplete or will be readily reversed under some conditions. Lutz, van Tilburg and van der Kamp (1995) report similar findings for Benin maize reforms.

Evaluations based on household data

While difficulties remain with attributing cause and effect, household surveys provide greater opportunity to document welfare gains and losses following reforms and to consider distributional effects. In an early study, Demery and Squire (1996) used household surveys to examine the view that macroeconomic adjustment disproportionately hurts the poor in Africa. They point to evidence from household surveys in six African countries to demonstrate that poverty was more likely to decline in those that improved their macroeconomic balances than in those that did not. Like Basu and Stewart, they found that changes in the real exchange rate improved rural terms of trade, but also found that the changes immediately and favorably affected rural incomes, benefiting the poor both directly and indirectly. However, they found that the general gains did not always benefit the most poor. Moreover, they also warned the prospects for the poor are not rosy unless there is more investment in human capital and better targeting of social spending.

Structural adjustment loans rely on changing price signals to bring about allocative and efficiency gains that can benefit poor households. At the same time, it is now well recognized that the same reforms can harm others. Abdulai and Huffman (2000) rely on survey data from rice-producing households in Ghana to test the notion that changes in relative prices could lead to efficiency gains at the household level. They found that prices play an important role in household production decisions regarding production and the use of inputs – including family labor. Their econometric results indicate that programs that improve education and improve access to credit are likely to greatly improve on-farm productivity. This would benefit producers, but not necessarily landless rural households, unless the multiplier effects on employment are significant.

More recently, Appleton (2001) uses survey evidence from Uganda to show that poverty levels dropped significantly following reforms¹³. Moreover, among rural households poverty fell most sharply among smallholder producers of export crops – primarily coffee – following the liberalization of the subsector. Appleton notes that while the household data were consistent with sector data, the result differed from perceptions registered in participatory surveys¹⁴. Appleton confirmed his findings under alternative definitions of poverty. Using the same survey, Deininger and Okidi (2001) found that changing price signals did bring about changes in household production and input use. Nonetheless, they also note regional disparities in the benefits of market reforms with little advantage gained in northern communities, where coffee production is less dominant. Dercon and Krishnan (1996) found significant location-related effects from reform. Using household data from Ethiopia and Tanzania, they found that differences in ability, location and credit could have overwhelming effects on household choices, precluding significant allocative gains. Similarly, using survey data in Zambia, Alwang, Siegel and Jorgensen (1996) argue that remoteness and

¹³ In a related paper, Henstridge and Kasekende (2001) provide an example of the potential for distributional effects from policy interventions motivated by macroeconomic goals. As coffee prices rose internationally, inflationary fears prompted a coffee stabilization tax. As the authors note, the collections under the tax were modest thereby allowing the benefits to farmers measured by Appleton.

¹⁴ Differences between commonly used measures and perceptions of poverty are not uncommon. See Kanbur (2001) for a discussion.

weak input markets precluded potential gains from market liberalization for many rural poor.

Lessons from commodity market reforms

Studies that assess reforms of commodity subsectors face many of the same challenges mentioned earlier; however, there are also simplifying elements related to commodity markets. The first is that, in the case of crops primarily exported, and in contrast to grain market studies, consequences for domestic consumers can largely be ignored. Second, policymakers frequently held out more specific expectations about what should happen following commodity market reforms – most commonly a reversal of direct and indirect transfers from producers. Lastly, aspects peculiar to commodity markets can lessen some measurement problems. For example, the standardization that comes with commodity markets facilitates comparisons of prices before and after market reforms and the same constriction in marketing that facilitated government controls can help with data collection¹⁵.

As might be expected, a commodity-specific approach comes with drawbacks as well. First, the perspective is partial while the benefits of reform are expected to include intrasectoral effects. Second, reforms are expected to bring about long-run changes to physical and human capital formation, so the full impact and consequences occur over time. Finally, more so than with other types of reform, commodity market reforms are closely tied with events in specific international markets. More often than not, luck and timing, as much as policy and analysis, have shaped both perceptions and measures of market reform outcomes.

Producer prices

In general, interventions in markets for coffee, cocoa and cotton were thought to divert revenues from producers to other beneficiaries. In such cases, producer prices were

¹⁵ Coffee, which is easily stored and transported, presents its own data problems however. Cross-border trade activities designed to avoid taxation, custom delays or currency restrictions can distort statistics. For example, in 1996/97 Uganda exported 4.65 million bags of coffee while it produced 3.72 million bags; the difference appears to have come from the Democratic Republic of Congo. Also, see Henstridge (1999) for a discussion of coffee as a substitute for money.

expected to increase relative to border prices following effective reforms because of increased competition among traders as well as lower implicit and explicit taxation.

This prediction appears to have held true in many cases of market reform. For example, prices received by cocoa producers in Nigeria and Cameroon increased to well over 70 percent of the fob price, up from 20 and 40 percent respectively, prior to reforms (Varangis and Schreiber 2001). Ugandan coffee producer prices increased from 40 percent prior to reforms to over 70 percent after the reforms (Akiyama, 2001). Cotton producers in Tanzania received, on average, 41 percent of the export value of their crop in the six seasons prior to reform and 51 percent for the six seasons following reform (Baffes, 2002). Larsen (2002) reports that cotton producer price shares in Zimbabwe also rose (from 42 percent to 53 percent) following industry reforms. Results based on Townsend (1999) and Delgado and Minot (2000), reported in Kherallah et al. (2002), also suggest that producers' share of export prices were higher in countries where commodity market reforms have been completed when compared to countries where reforms have been slow or have not taken place.

Nonetheless, when describing the consequences of reform, it is important to distinguish between the effects on revenue share and price levels. This point is illustrated by average coffee prices for 1987-89 and 1997-99 in table 3. Between the periods, world averages fell significantly for robusta coffee. In Ghana, Madagascar and Uganda, where producers were heavily taxed, producer shares grew dramatically following reforms. In Uganda, reforms were in place prior to a small price boom and producers benefited in absolute terms as well. In other countries, where interventions were less heavy-handed, the benefits of increased price share are masked by falling international prices. In a few instances, reforms remained incomplete through 1999 or where reversed. In Tanzania, coffee must pass through a central auction and policies to encourage competition in internal markets have been reversed¹⁶. In neighboring Kenya, arabica coffees must also pass through a central auction. In the case of Kenya, the auctioning system appears to have helped control quality while improved competition on either side of the auction allowed quality premiums to reach producers. In Burundi

¹⁶ See Temu et al., 2001, for a detailed discussion of the Tanzanian coffee auction.

and Rwanda, continued limited competition, taxes and falling prices created an especially harsh situation for producers.

Reform also ended pan-territorial pricing for commodities in several countries, so that, following reforms, producers received prices reflecting transport and other costs. In places where infrastructure was poor, farmers in farther away areas received a much lower price compared to farmers in more accessible areas. With liberalization, traders and exporters tended to concentrate their purchases in more accessible areas. In least accessible areas, competition for purchasing the crop was low, and price differentials were sometimes much greater than the difference in transport costs. For example, coffee farmers in remote areas in Madagascar receive around 40-50 percent of the fob price, while farmers in more accessible areas receive between 60 and 70 percent of the fob price (Akiyama, 2001). Following reforms in Tanzania, cotton farmers in the eastern part of the country found themselves with no buyers, prompting the Cotton Board to intervene as the buyer of last resort (Baffes, 2002).

The characterization of export commodity interventions as anti-producer does not hold for all commodities in Africa. For sugar, true trade reform would have brought a lowering of prices for highly protected producers. Instead, producers were frequently given added protection in order to facilitate the privatization of state-owned estates. A good example comes from Côte d'Ivoire where consumer prices rose 25 percent following the privatization of SODESUCRE. Consequently a significant portion of the revenue raised by the sale of SODESUCRE constituted an indirect transfer from consumers (World Bank, 1999). These average effects can disproportionately affect the poor, since budget shares on sugar are higher among the poor. For example, in the already-mentioned case of Senegal, poor households expenditures on sugar comprise about 12-13 percent of household budgets, compared to 7-8 percent among the non-poor. In Tanzania, a series of reforms from 1986 to 1992 removed internal trade barriers and ended pan-territorial pricing, but also resulted in a six-fold increase in consumer prices as consumer subsidies gave way to guaranteed cost recovery for the sugar company, SODECO (Netherlands Development Cooperation 1992).

The prevalent approach of taxing consumers for the benefit of the sugar industry, whether private or state-owned, is illustrated by the averages reported in table 4. In all

reported cases, domestic wholesale prices differ substantially from world prices, as given by the ISO indicator price. With the exception of Zimbabwe, where prices were kept artificially low, interventions that boost domestic prices remain in place.

Price volatility

As discussed, price stabilization was a common stated objective of policy in many African countries and some multilateral institutions until the 1990s. The international programs are gone as are many domestic institutions and a debate continues as to whether such changes have brought increased price volatility to domestic markets in reforming countries.

For commodities that were taxed, the welfare consequences of reform may be offsetting – that is, that reforms that boost producers share of export prices may well compensate for increased price volatility. See Larson (1993), Gilbert (1987 and 1997), McIntire and Varangis (1999) and Hazell (1994) for discussions. Nonetheless, the elimination of effective stabilization schemes can bring about specific types of losses. Groups that are vulnerable may have limited ways to protect themselves from increased price volatility. Moreover, the formal and informal ways to self-insure may fail when price declines are systemic or enduring (Alderman and Paxson, 1992). Where safety nets are incomplete, governments may have limited options to deal with price variability.

In some instance, governments can take steps to facilitate the development of risk-sharing arrangements such as contract farming or access to formal options and futures markets (Morgan, Rayner and Vaillant, 1999; Anderson, Larson and Varangis, 2002) However, seldom do commodity risk markets effectively span multiple years (Gardner, 1989). Consequently, the empirical question of whether domestic commodity prices are more volatile following reform is an important one.

In terms of eventual outcomes, commodity market liberalization was expected to result in a more direct transmission of both price levels and variability. How this would affect incomes in the short-run was less clear, since reforms might well be followed by periods of high prices and low volatility or the reverse. Additionally, from an historic perspective, the period since reform is brief, relative to past commodity price cycles

(Cashin, McDermott and Scott, 2002). As a result, evidence regarding reform and changes in time-volatility may be circumstantial. Moreover, in contrast to studies concerning changes in spatial prices, studies of price volatility changes following reform are rare. In one country-and-commodity specific study, Karanja (2001) did find that price volatility in domestic coffee prices did increase following reforms in Kenya. Looking at aggregate data, and distinguishing between volatility and uncertainty, Dehn (2000) provides evidence that after 1973 commodity price uncertainty for Sub-Saharan African countries increased, although he found no evidence that uncertainty increased during 1986-97 compared to 1973-85.

FAO collects and reports data on domestic producer prices and we used this data to calculate variability for two periods, 1986-90 and 1991-95 for 35 African countries for cocoa, coffee, cotton and sugar¹⁷. Not all countries produce all products, but country-commodity combinations did not change from year to year for any of the countries. Producer prices, which FAO reports in local currencies, were converted to US dollars, using exchange rates from the IMF (2002). Our measure of volatility T_i is simply the expression $(p_{ij}(t) - p_{i.}(t))^2$ summed over i and t where i represents commodity, j represents country, t represents year and where the subscripted dot (\cdot) represents the mean over the appropriate index. The aggregated measure, T sums over i as well. This total sum-of-squares can be further decomposed into between-commodity sum-of-squares, $B(i) = n \sum_i (p_{i.} - p_{..})^2$, and the within-commodity sum-of-squares, $W(i) = \sum_i \sum_j (p_{ij} - p_{i.})^2$, so that $T = W(i) + B(i)$ (Scheffe, 1959.)

Under the conditions that international price volatility translated to local prices were constant and price stabilization schemes effective, market reforms should bring about an increase in T . Further, if policies aimed at stabilizing prices are abandoned, then producer prices in all countries should reflect international prices and only differ by transportation cost and quality differences. To the extent these are fairly constant

¹⁷ 1995 is the last year reported by FAO (2002).

with time, then policy reforms should be associated with smaller deviations among countries following market reforms— that is, $W(i)$ should fall¹⁸.

As shown in table 5, individually and collectively, the variance of the dollar-denominated domestic prices, T and $T(i)$, fell for the four commodities covered in this paper. Moreover, the variation among countries, $W(i)$, increased between the two periods. The overall decline in T can probably be attributed to an overall trend in international commodity markets. The increase in $W(i)$ is a bit more puzzling since it holds for each of the four commodities. As discussed below, the scale and pace of reform varied greatly among commodities, but was widespread for coffee. Moreover, the absolute measure of variation among countries did fall; however by proportionately less than the between-measure. We are left to speculate whether this is because earlier interventions that affected price levels did little to smooth annual price variability, or whether the latent effects of trade reform were masked by events in international markets. What is clear however is that there is, for whatever reason, no evidence from FAO's data that volatility increased between the two periods.

Supply response

The evidence regarding the effects of reforms on supply response has been mixed in both direction and magnitude. In the cases of coffee, cocoa, and cotton subsectors that were taxed heavily before market reforms, supply was expected to respond positively. In some instances, this has been the case. In both Uganda and Zimbabwe, cotton reforms (which resulted in higher producer prices) have induced considerable supply response (Baffes, 2001). Uganda's coffee production also increased sharply after liberalization (Akiyama, 2001). However, cotton production has also increased in West Africa where prices received by producers have been very low. Cocoa production in Côte d'Ivoire and Ghana, two countries with relatively low progress in cocoa market reforms and with low producer price shares, has increased substantially in the last fifteen years (Varangis and Schreiber 2001).

¹⁸ To see this, consider the price of coffee in country j , p_{ij} , equals the world price p_i^* , plus a quality and location adjustment, x_j , plus a stabilization payment s_j , that is $p_{ij} = p_i^* + x_j + s_j$. The within measure is based on $(p_{ij} - p_i)^2 = (x_j - x_i + s_j - s_i)^2$, so that if stabilization payments disappear then the term $(s_j - s_i)$ disappears and $W(i)$ falls.

Further, supply response often occurs with significant lags. For example, it took four seasons before supply response took place in cotton in Uganda. In some cases, a supply response never takes place because of lack of investment due to uncertainty regarding economic and other government policies. An important factor that affects the supply response is stakeholders' price expectations. If farmers believe that producer price increases resulting from reforms could be reversed, they are unlikely to invest and there will not be much inter-sectoral factor movement (Jaeger, 1992; Akiyama, 1992). Supply response of tree crops, by their physical nature, is slow. In addition, aggregate supply response tends to be much lower than individual commodity because in the former case factors such as land and labor need to be transferred between sectors. In several countries, more than one commodity subsector was reformed at the same time.

Another reason for the lack of supply response is weak marketing institutions and poor physical infrastructure, which implies that market reforms can eliminate one of the key binding factors but so long as other binding factors exist, supply response to prices is low (Krueger, Schiff and Valdès, 1992; Poulton et al., 1999). This is consistent with Timmer's (1991) argument that getting prices right in the agricultural and marketing sectors will not by itself induce the necessary private investment of competitive market structure, and that removing inappropriate policies might be necessary but not sufficient, in the absence of other institutional and legal reforms, to guarantee greater private investment (p. 14). Such seems to have been the case with Nigeria (cocoa) and Madagascar (coffee).

A better indicator, related to supply, is changing productivity, but strong evidence is missing on this measure as well. In one of the few studies of reform on export crop productivity, Amin (1999) considered how Cameroon's reform program affected major export crops while controlling for prices and other factors. He found evidence that the programs improved productivity for all of Cameroon's major exports (cotton, cocoa, robusta coffee and arabica coffee); however, only for robusta coffee were the results statistically significant.

Private sector activities and institutional changes

As discussed, policies are the instruments of change in market reform. Included are the institutions, the services provided by the state and the taxing authority of the state. Private initiative is a dominant mechanism by which effective policy changes were expected to bring improvements in efficiency and growth. In Africa, state trading continues, yet considerably fewer statutory monopolies or state-supported market players remain. Have then incentives changed sufficiently to elicit private response?

In cases of successful reform, policy changes have been the catalyst for attracting private entrepreneurs into the liberalized sectors. In several countries, private investment (both domestic and foreign) increased considerably following market reform, especially in the areas of processing facilities. For example, in the case of cotton in Uganda, a South African company invested in rehabilitation of two ginneries. In Zimbabwe, a multi-national company entered to purchase almost one quarter of the 1997/98 cotton output. In Côte d'Ivoire, a number of ginneries were sold to a foreign company while one third of domestic processing of cocoa was handled by a joint venture. A number of firms and individuals have invested in processing facilities and coffee plantations in Uganda and local entrepreneurs have started nurseries to provide seedlings of high-yielding varieties.

In most cases, effective private markets for commodity sales emerged quickly when monopolies were lifted. Nevertheless, where interventions were long-standing, specific experience in marketing was limited and associated with former parastatal staff. New participants enter the market with varying levels of capital and knowledge emerged. Consequently, in some cases, the search for a reliable partner by offshore buyers was difficult and risky. For example, after the reforms in coffee subsectors of Uganda nearly 200 entrepreneurs entered the new export sector. Within two years, three-quarters were gone and 80 percent of exports were handled by ten firms. While farmers benefited early on from increased competition, the high search costs and counter-party risks that characterized the early markets presented their own problems. Subsequently, Uganda introduced registration criteria and required bank guarantees for exporters in order to safeguard the reputation of the system and lower transaction costs.

Trader names, traded volumes and contact information were then published by the UCDA. Côte d'Ivoire acted in a similar manner following coffee market reforms.

Most marketing parastatals were given responsibility for raising trading capital and in some cases the inability to continue this task prompted reform. At the same time, dismantling parastatals did not guarantee the private provision of working capital for traders. However, in most cases, systems of pre-export financing arose. In such systems, offshore buyers deposit working capital in the accounts of domestic traders as loans. The loans are offset when the domestic traders make physical deliveries to the exporters. In some cases, third-party entities verification of shipment quality and volume triggers payments against trader loans. Currency transactions are one-way and, because international exporters can access less expensive credit, financing costs are reduced.

Inventory financing is potentially another way in which financing costs can be lowered and price volatility managed (Larson, Varangis and Yabuki, 1998). Though common in developing countries in Latin America, the necessary regulatory framework is often lacking in Africa (Coulter and Shepard, 1995). There have been initiatives to develop inventory-financing systems (e.g. in Ghana, Cameroon and Uganda), but progress has been slowed by delays in drafting supporting legislation and by delays associated with privatizing former-parastatal storage facilities

The provision of credit for inputs to smallholders has been more problematic. For coffee and cocoa, production credit was rare prior to or following reform. However, monopolies on processing sometimes facilitated the provision of in-kind credit for seeds, pesticides and fertilizer for cotton and sugar. Under such schemes farmers sometimes had little choice about the amount or cost of the inputs supplied; however there is evidence to suggest that in-kind credit generated positive direct and indirect benefits (Govereh, Jayne and Nyoro, 1999). In some countries, competition among cotton ginners following reform has allowed growers to avoid repaying in-kind loans. Finding alternative workable contractual arrangements has been difficult in some countries. See Baffes (2002) for an example from Tanzania, Lundbaek (2000) for Uganda and FSRP(2000) for Zambia. Larsen (2002) provides a counter-example from Zimbabwe.

Changing policies redefined the role of government in the commodity markets. In successful reforms, policymakers recognized the multiple tasks taken on by commodity parastatals and reorganized parastatal staff accordingly. For example, in Cameroon and Uganda, marketing activities were hived off and the regulatory and information services reorganized into institutions with regulatory responsibilities (e.g., ONCC in Cameroon, UCDA in Uganda). To date, governments have been less successful in attempts to develop new institutions to respond to the needs of the private sector. One example is the already discussed efforts related to inventory financing. Another relates to efforts at increasing the transparency of domestic trade by establishing market information systems. Sheperd (1997) notes that such systems once introduced under UN and donor auspices often fail to receive adequate recurrent funding. In some countries (e.g. Uganda and Côte d'Ivoire), cooperatives were expected to assume a greater role in markets for inputs, credit and sales after the reforms, but cooperatives have generally not been successful in taking on greater roles

Some governments have proven more successful in granting private entities a role in policy making and more common now is the inclusion of representatives of the private sector stakeholders – farmers, processors, traders and exporters – in policy formulating and implementing bodies. Private sector representatives play a key role in UCDA in Uganda and the Coordination Committee in Togo. The more inclusive approach is also evident in the provision of services to the subsector. In Uganda, UCDA's technical and financial assistance to nursery establishment by the private sector and its collaboration with a private industry organization in training, quality control personnel, promotion of Ugandan coffee abroad and dissemination of market information to the industry are some examples. In Togo, a private firm is providing various services to the subsector including research, extension and farm inputs under a technical agreement with the government. However, smallholders remain loosely organized in Africa, which limits their participation in policy-making, even reforms encouraged their participation. For example, following reforms in Uganda, seats set aside for farmers on UCDA were occupied by legislators from coffee-intensive districts, since representative association, which existing for traders and millers, did not exist for growers.

In some countries, policymakers have not always been careful about how key public goods will be provided for following reforms. This seems to be most typical of countries in which pressing financial crises prompted abrupt changes in policies and contemporaneously made it difficult to fund public goods. As noted, marketing boards, in addition to performing marketing activities, were often charged with provided certain important public services. In some cases, the abolition of government marketing agencies also threatened the provision of research, extension, infrastructure maintenance, quality control services, data collection and information services. Examples include the termination of rural road maintenance in Cameroon, and the demise of extension and research for coffee and cocoa in Togo¹⁹.

For commodity research, the funding problems that often prompted reforms have been perhaps a greater problem than the reform process itself²⁰. In some cases, donors have stepped in to fund research; however, Rukuni, Blackie and Eicher (1998) argue that donor funding removed incentives for researchers to respond to smallholder needs. Alston, Pardey and Roseboom (1998) suggest commodity levies to fund research specific to export crops. This approach was taken in Uganda was to consolidate commodity-specific research programs into a central research organization. In Uganda, the National Agricultural Research Organization conducts basic research for several major commodities, funded by general revenues. However, in the case of coffee, UCDA provides additional money for target research topics funded by a small cess on exports.

5. KEY FACTORSS FOR SUCCESSFUL MARKET REFORMS

Experiences discussed here suggest that there is no single recipe for market reforms. The design and process of reform depend critically on conditions policymakers face as they initiate and implement reform. These initial conditions often determine obstacles and resistance to reforms and also dictate feasible instruments of reform.

Understanding some common elements that have emerged during commodity market

¹⁹ See, for example, criticisms of the reform process by Dorward, Kydd and Poulton, 1999.

²⁰ See Byerlee (1998) for a description of alternative agricultural research organizational structures.

reforms – some general and some commodity specific – can contribute to the success of reform. In what follows, we discuss key factors for successful reforms.

Commitment of government. Because policy reforms often result in redistribution of income, they have been subject to opposition by those benefiting from the status quo. Sometimes reforms involve governments reneging on long-standing political commitments, or an implicit social contract with important sections of the population. Rodrik (1997) argues that this problem is especially acute for trade reform in Africa because the beneficiaries of trade reform are unorganized rural producers while better-organized urban consumers and direct beneficiaries of trade restrictions lose under proposed reforms. As a result, reforming governments must pay an upfront political price for improved prospects for growth. Therefore, governments embarking on reform need to be committed, and be willing to stand by its new vision to the public (World Bank, 1998). Commitment should leaders who represent broad national interests because government officials directly involved in the subsector often have vested interest in the old system (Bates, 1981; Barhan, 1989). Governments' commitment was a key factor in advancing reform in Uganda's cotton and coffee subsectors. Policymakers in Mali and Togo have also addressed and established a consensus-building mechanism during the reform process in order to avoid backtracking (Akiyama, 2001).

Proper institutional structure. As mentioned, commodity market reforms during the 1990s relied heavily on private markets and private decisions. This sometimes required governments and the private sector to take up tasks that were not needed prior to reform. Moreover, to the extent that these tasks relied on collective actions, either by governments or by associations, policies prior to reform precluded the development of market-supporting institutions. In some cases, private initiative can quickly bring about new approaches that are not fully anticipated; however, redirecting the role of government requires organization and structure.

Often during the reform process, there is a need to modify legislation and rule setting. In Togo, an important element was formalizing of decisions taken into legal texts that became the regulatory framework for the activity. Legal and regulatory provisions covered the criteria and requirements for exporting and marketing, the level

of bank guarantees, provisions for quality controls, and the modalities of a price information system. In Uganda, regulations on the coffee sector were modified and were monitored during the process of reform by a working committee of permanent secretaries. On the other hand, the lack of an appropriate regulatory framework following liberalization was one of the main problems in the case of Nigeria. In Cameroon, enforcement of regulations was weak creating uncertainty in the new system.

Inclusion and coordination among stakeholders. Involving the private sector stakeholders in the reform process often contributes significantly to successful outcomes. Finding an effective and transparent mechanism to tap expertise within the private sector without fostering rent-seeking is a difficult art. Consultation and participation of the private sector in the reform process was institutionalized in the case of Uganda's coffee through their representation as board members of UCDA, and in the case of Togo's coffee and cocoa through participating in the Coordination Committee. In Mali, cotton producers, seeking a greater voice in how their crop was marketed, initiated a series of limited reforms to transfer some responsibilities from the powerful government parastatal Compagnie Malienne pour le Développement des Textiles (CMDT) to local communities (Bingen 1998).

Proper sequencing and pace. The pace of reform is a critical part of the reform strategy. Indeed, Spooner and Smith (1991) argue that a series of poor sequencing decisions limited post-structural adjustment performance in many African countries. Choices to be made include whether to liberalize exchange and capital markets prior to sector markets, external in advance of domestic, export commodity prior to food markets and input markets prior to output markets²¹. Some important factors that determine it include continuing dialogue among key actors, clear understanding of asset ownership, food security considerations, and the state of input markets.

Proper sequencing from an economist's perspective may differ from the perspective of political leaders. Markets that are important to a country's economy may also be important to systems of political support and stabilizing patronage systems.

²¹ See Kherallah and Govidan (1999) for a recent review of the sequencing literature.

Finding a sequencing path that allows for sufficient political support and speeds economic growth can be challenging.

In the end, the metrics of importance is usually a political perception. Consequently, reforms are often slow where perceived risks are associated with reform are high. To some degree, the experiences of neighboring countries can be important in shaping perceptions. For example, in cocoa, some of the opposition to reforms in Côte d'Ivoire and Ghana was attributed to problems associated with marketing reforms in Nigeria and Cameroon. Reforms are easiest politically when the commodity sector is in disarray and high economic costs have been paid. Reforms to cotton markets came sooner to East Africa, where, in several countries, the industry had been in decline than to West Africa, where parastatal operations were larger, more functional and more comprehensive²².

For many reasons, the perceived risks and benefits associated with reform will differ among commodity subsectors. Consequently, governments reform their commodity markets sequentially. This is the case in Côte d'Ivoire and Ghana where coffee was liberalized first but cocoa's market reforms in Côte d'Ivoire came one year later and Ghana's cocoa export trade has not yet been liberalized. Similarly, arabica coffee was the first to be liberalized in Cameroon, before the robusta coffee and cocoa sub-sectors. In Mozambique, IMF reforms that brought about agricultural price liberalization in 1996 exempted cotton.

Reforming one set of markets before others changes relative prices and relative incentives in a temporary way. To some extent, the resource adjustments that are made in response are short-term and may later be reversed. However, where there is little scope for substitution in production, a sequential approach to reform is workable. However, where there is scope for substitution, the consequences can be costly. For example, in Malawi, government concerns about food security led to policy between 1984 to 1987 that brought prices for export crops like cotton to world parity levels while controlling food crop prices; the policy resulted in the unintended consequence of lowering maize and groundnut supplies (Kherallah and Govindan, 1999).

Frequently, governments choose to hold off on trade reform, while liberalizing domestic markets. When governments reform domestic markets, they often set the pace of reform by controlling entry. The case of coffee reforms in Uganda, where private traders were licensed in a phased manner, illustrates this approach. On the other hand, in some cocoa and coffee producing countries, such as Côte d'Ivoire, Cameroon and Ghana, reforms started with the gradual liberalization in the internal market, while some price controls were retained at the border. In Cameroon, and Côte d'Ivoire liberalization of the export market came at a later stage, while Ghana has yet to abolish its export monopoly in cocoa. Gradual market reforms sometimes have merits as hasty liberalization often leaves producers deprived of key services that are provided by a government agency. A prime example is already discussed case of cocoa reform in Nigeria where research, extension and quality control functions services vanished following market reform.

Nevertheless, delaying reforms can be costly as well and the costs come in many forms. In the case of Uganda, the state-owned coffee processing plant at Bugolobi declined in value as privatization plans were delayed. In the already-mentioned cases of sugar markets, governments often begin the privatization by setting high tariff protection; however, few countries have moved to reduce the protection subsequently. Indeed, the policy becomes incorporated into the value of the enterprises and the firms require continued support in order to finance their leveraged purchase. In some instances, delays in adopting sector reforms following macroeconomic reforms works to boost the effective tax on producers. Dioné and Teff (1996) document how government price controls reduced producers' share of cotton revenue from roughly 50 percent to 28 percent or less immediately following currency devaluations in Mali, Niger, Senegal and Chad.

Monitoring and evaluation of the process. Monitoring, evaluation and analysis of the subsector before and during reform is often critical for a successful outcome. Joint evaluations by the Government of Uganda and the World Bank were conducted twice for Uganda's coffee subsector during the reform process. A number of

22 Some writers see the costs of dismantling government monopolies in cotton as exceedingly high. See, for example, Araujo -Bonjean and Brun (2001).

detailed studies were conducted before and during Togo's reform of coffee and cocoa subsectors and this had the effect of gaining supporters for the reform especially in the private sector. Similarly, there was an evaluation of the 1994/95 reforms in Côte d'Ivoire for coffee and cocoa.

6. CONCLUDING REMARKS

During most of the 20th century, countries established development policy frameworks characterized by intervention in primary commodity markets. While the instruments of intervention varied among countries and among crops, a dominant architecture arose based on a marketing-board single channel for exports and imports; state ownership of processing centers such as cotton gins and sugar mills; administered domestic prices, normally spatially invariant and often invariant within a crop season. At the same time, international institutions took up the task of finding collective instruments to stabilize prices and reverse declining terms of trade. The interventions were encouraged by the prevailing policy recommendations of development economists and development institutions. Gradually, as the prescribed policies generated their own problems and produced limited success, economists and policymakers turned increasingly toward market-based approaches. This advice took on institutional form as the World Bank and other organizations began a series of structural adjustment loans and credits. At the same time, steady productivity gains in agriculture, transport and communications eroded the efficacy of intervention instruments. International commodity agreements failed and most parastatal agencies were financially strained. A series of political and economic events triggered a rapid series of reforms.

The consequences and pace of reform varied among commodities and among countries. For the most part, existing policies taxed commodity exports and reform brought producers – primarily smallholders – a greater share of traded value of their crop. In other instances, removing export obstacles simply revealed additional constraints that limited gains, including institutional weaknesses related to earlier regimes. In a few cases associated with sugar market reforms, tariffs rose rather than fell in order to promote privatization, benefiting domestic producers at the expense of domestic consumers.

Country experiences indicate that the pace and sequencing of reforms is dependent on both the natures of the intervention and the expected consequences – economic and political – of reform. As a result, policymakers need to understand key initial conditions in markets and in public and private institutions as well as their potential contribution.

Experiences examined in this paper suggest that the factors impeding and prompting market reform are as likely to be political as economic. Hence, one main consequence of the reforms has been a shift of financial and political power from the government to the private sector. This creates a new dependence on private sector participants. It also requires public organizations to abandon some tasks, but also to take others on board.

Even where market reforms have been successful, there are continuing issues facing the agricultural commodity subsectors as well as new ones that emerge related to reform, but also arising from evolving market conditions. Market reform is an important first step because it allows markets to respond dynamically to a wide range of changing conditions, but reforms do not guarantee growth nor address related social needs. Addressing these continuing and emerging issues is a challenge for the developing community at large. These issues include those related to continued commitment of decision-makers, weak or missing factor markets – especially for credit and insurance, research and extension, price information and volatility, producers' organizations, distortions in international markets, and weak social and physical infrastructure.

REFERENCES

- Abdulai, A. and W. Huffman, 2000, Structural adjustment and economic efficiency of rice farmers in northern Ghana, *Economic Development and Cultural Change* 48(3), 503-520.
- Akiyama, T., 1992, Is there a case for an optimal tax on perennial crops? Policy Research Working Paper 854 (World Bank, Washington).
- Akiyama, T., 2001, Coffee market liberalization since 1990, in: Akiyama, Baffes, Larson and Varangis, eds., *Commodity market reforms: lessons of two decades* (World Bank, Washington).
- Akiyama, T., J. Baffes, D. Larson and P. Varangis, 2001, Market reforms: lessons from country and commodity experiences in: Akiyama, Baffes, Larson and Varangis, eds., *Commodity market reforms: lessons of two decades* (World Bank, Washington).
- Alderman, H. and C. Paxson, 1992, Do the poor insure?: A synthesis of the literature on risk and consumption in developing countries, World Bank Policy Research Working Paper 1008 (World Bank, Washington).
- Alston, J.; P. Pardey, and J. Roseboom, 1998, "Financing agricultural research: international investment patterns and policy perspectives," *World Development* 26(6), 1057-1071.
- Alwang, J., P. Siegel and S. Jorgensen, 1996, Seeking guidelines for poverty reduction in rural Zambia, *World Development* 24(11), 1711-1723.
- Amin, A., 1999, Cameroon's export crops and the structural adjustment programme, *Scandinavian Journal of Development Alternatives and Area Studies* 18(2 & 3), 177-186.
- Anderson, J., D. Larson and P. Varangis, 2002, Agricultural markets and risk: management of the latter, not the former, in: R. Garnaut, ed., *Resource management in Asia Pacific developing countries* (Canberra, East Asia Press).
- Appleton, S., 2001, Changes in poverty and inequality, in: R. Reinnika and P. Collier, eds., *Uganda's recovery: The role of farms, firms, and government* (World Bank, Washington) 83-121.
- Araujo-Bonjean, C., Brun, J., 2001, Les politiques de stabilisation des prix du coton en Afrique de la zone franc sont-elles condamnées? *Economie Rurale*, 266: 80-90.
- Badiane, O. and G. Shively, 1998, Spatial integration, transport costs, and the response of local prices to policy changes in Ghana, *Journal of Development Economics* 56(2), 411-431.
- Badiane, O., D. Ghura, L. Goreux, and P. Mason, 2002, "Cotton sector strategies in West and Central Africa," World Bank Policy Research Working Paper 2867 (World Bank, Washington.)

- Baffes, J., 2002, Tanzania's cotton sector: Constraints and challenges in a global environment, mimeo, Development Prospects Group and Africa Region (World Bank, Washington.)
- Baffes, J., 2001, Policy reform experiences in cotton markets, in: Akiyama, Baffes, Larson and Varangis, eds., Commodity market reforms: lessons of two decades (World Bank, Washington).
- Bardhan, P., 1989, The new institutional economics and development, *World Development* 17(9), 1389-1395.
- Bardsley, P., 1994, Collapse of the Australian wool reserve price scheme, *Economic Journal* 104, 1087-1105.
- Bassolet, B. and C. Lutz, 1999, Information service and integration of cereal markets in Burkina Faso, *Journal of African Economies* 8(1), 31-51.
- Basu, A. and F. Stewart, 1996, Structural adjustment policies and the poor in Africa: an analysis of the 1980s, in: F. Stewart, ed., *Adjustment and poverty: Options and choices* (Routledge, London).
- Bates, R., 1981, *Markets and states in tropical Africa: the political basis of agricultural policies* (University of California Press, Berkeley).
- Bates, R., 1989, *Structural adjustment and agriculture in: S. Commander, ed., Structural adjustment and agriculture: theory and practice in Africa and Latin America* (Overseas Development Institute, London).
- Bauer, P. T., 1976, *Dissent on development*, revised edition (Harvard University Press, Boston).
- Bevan, D., P. Collier, J. Gunning, 1992, Anatomy of a temporary trade shock: the Kenyan coffee boom of 1976-9, *Journal of African Economies* 1(2), 271-305.
- Bhagwati, J., 1958, Immiserizing growth: A geometrical note, *Review of Economic Studies* 25(3), 201-205.
- Bingen, J., 1998, Cotton, democracy and development in Mali, *The Journal of Modern African Studies* 36(2), 265-285.
- Byerlee, D., 1998, "The search for a new paradigm for the development of national agricultural research systems," *World Development* 26(6), 1049-1055.
- Cashin, P., C. McDermott and A. Scott, 2002, Booms and slumps in world commodity prices, *Journal of Development Economics* 69(1), 277-296.
- Clarence-Smith, W., 1995, Cocoa plantations in the Third World, 1879-1914, in: J. Harris, J. Hunter and C. Lewis, eds., *The new institutional economics and Third World development* (Routledge, London).
- Cleaver, K., 1987, The impact of price and exchange rate policies on agriculture in Sub-Saharan Africa, *Staff Working Paper 723* (World Bank, Washington).
- Cline, R., 1982, Can the East Asian model of development be generalized? *World Development* 10(1), 81-90.

- Corden, W., 1984, Booming sector and Dutch disease economics: Survey and consolidation, *Oxford Economic Papers* 36(3), 359-381.
- Coulter J. and A. Shepherd, 1995, Inventory credit : an approach to developing agricultural markets (Food and Agriculture Organization of the United Nations, Rome).
- Dehn, J., 2000, Commodity price uncertainty in developing countries, World Bank Policy Research Working Paper 2426 (World Bank, Washington).
- Deininger, K. and J. Okidi, 2001, Rural households: incomes, productivity and nonfarm enterprises, in: R. Reinikka and P. Collier, eds., *Uganda's recovery: the role of farms, firms, and government* (World Bank, Washington).
- Delgado, C. and N. Minot, 2000, Agriculture in Tanzania since 1986: follower or leader of growth? (World Bank, Washington).
- Demery, L. and L. Squire, 1996, Macroeconomic adjustment and poverty in Africa: an emerging picture, *World Bank Research Observer* 11(1), 39-59.
- Dercon, S., 1995, On market integration and liberalisation: method and application to Ethiopia, *Journal of Development Studies* 32(1), 112-143.
- Dercon, S. and P. Krishnan, 1996, Income portfolios in rural Ethiopia and Tanzania: choices and constraints, *Journal of Development Studies* 32(6), 850-75.
- Dioné J. and J. Teff, 1996, PRISAS/INSAH-MSU-USAID Sahel regional food security project: Results and impact, Economic Growth Center, Office of Agriculture and Food Security and Department of Agricultural Economics (Michigan State University, East Lansing)
- Dorward, A., J. Kydd and C. Poulton, 1999, The baby and the bathwater: agricultural parastatals revisited. Paper presented at the Annual Conference of the Agricultural Economics Society, Stranmillis University College, Queen's University of Belfast, 28 March 1999.
- Edwards, M., 2000, Cotton in the Franc zone, *Cotton Outlook*, special issue, December.
- Engberg-Pedersen, P., P. Gibbon, P. Raikes and L. Udsholt, 1996, eds. *Limits of adjustment in Africa* (Center for Development Research in association with James Curry, Oxford, Heinemann, Portsmouth, N.H.)
- Friedman, M., 1954, The reduction of fluctuations in the incomes of primary producers: a critical comment, *Economic Journal* 64, 698-703.
- Food and Agriculture Organization of the United Nations, 2002, FAOSTAT, available on the internet at www.fao.org.
- Food Security Research Project, 2000. "Improving smallholder and agribusiness opportunities in Zambia's cotton Sector: key challenges and options," available on the internet at www.acc.msu.edu/agecon/fs2/zambia/index.htm.
- Gardner, B., 1989, Rollover hedging and missing long-term futures markets, *American Journal of Agricultural Economics* 71(2), 311-318.

- Gelb, A., et al., 1988, Oil windfalls: blessing or curse? (Oxford University Press for the World Bank, New York, London; Toronto and Tokyo.)
- Gersovitz, M., 1989, Transportation, state marketing and the taxation of the agricultural hinterland, *Journal of Political Economy* 97(5), 1113-37.
- Gersovitz, M., 1992, Transportation policy and panterritorial pricing in Africa, *The World Bank Economic Review*, 6(2), 213-231.
- Gilbert, C., 1987, International commodity agreements: design and performance, *World Development*, 15(5), 591-616.
- Gilbert, C., 1996, International commodity agreements: an obituary notice, *World Development*, 24(1), 1-19.
- Gilbert, C., 1997, Cocoa market liberalization: its effects on quality, futures trading and prices (The Cocoa Association of London, London).
- Govere, J., T. Jayne and J. Nyoro, 1999, Smallholder commercialization, interlinked markets and food crop productivity: cross-country evidence in Eastern and Southern Africa (Department of Agricultural Economics and Department of Economics, Michigan State University, Lansing).
- Harriss-White, B., 1995, Maps and landscapes of grain markets in South Asia, in: J. Harris, J. Hunter and C. Lewis, eds., *the new institutional economics and Third World development* (Routledge, London).
- Hazell, P., 1994, Potential benefits to farmers of using futures markets for managing coffee price risks in Costa Rica (International Food Policy Research Institute, Washington).
- Henstridge, M., 1999, De-monetisation, inflation and coffee: the demand for money in Uganda, *Journal of African Economies* 8(3), 345-385.
- Henstridge, M. and L. Kasekende, 2001, Exchange reforms, stabilization and fiscal management, in: R. Reinikka and P. Collier, eds., *Uganda's recovery: the role of farms, firms, and government* (World Bank, Washington).
- Hirschman, A., 1958, *The strategy of economic development* (Yale University Press, New Haven).
- International Monetary Fund, 2002, *International financial statistics* (International Monetary Fund, Washington).
- IFPRI, 1996, Africa Five Project, available on the Internet at <http://www.ifpri.cgiar.org/themes/crossmp/africa5/af.htm>
- Jaeger, W., 1992, The effects of economic policies on African agriculture, *World Bank Discussion Papers, Africa Technical Department Series, No. 147* (World Bank, Washington).
- Jayarajah C., M. Baird and W. Branson, 1994, *Structural and sectoral adjustment: World Bank experience, 1980-92* (World Bank, Washington).

- Jayne, T., J. Govereh, A. Mwanaumo, J. Nyoro and A. Chapoto, 2002, False promise or false premise? The experience of food and input market reform in Eastern and Southern Africa, *World Development* 30(11), 1967-1985.
- Jayne, T. and S. Jones, 1997, Food marketing and pricing policy in Eastern and Southern Africa: A survey, *World Development* 25(9), 1505-1527.
- Jayne, T., A. Negassa and R. Myers, 1998, The effect of liberalization on grain prices and marketing margins in Ethiopia, Michigan State University International Development Working Paper No. 68 (Michigan State University, East Lansing).
- Johnson, D. G., 1947, *Forward prices for agriculture* (University of Chicago Press, Chicago).
- Johnson, H., 1953, Equilibrium growth in an expanding economy, *The Canadian Journal of Economics and Political Science*, 19(4), 478-500.
- Johnston, B. and J. Mellor, 1961, The role of agriculture in economic development, *American Economic Review* 51(4), 566-593.
- Kanbur, R., 2001, Economic policy, distribution and poverty: the nature of disagreements, *World Development* 29(6), 1083-94
- Karanja, A., 2002, Liberalisation and smallholder agricultural development: a case study of coffee farms in Central Kenya. Dissertation, Wageningen University.
- Keynes, J., 1943, The international regulation of primary products, reprinted in: D. Moggridge, eds., *Collected writing of John Maynard Keynes* (MacMillan and Cambridge University Press, 1980, London.)
- Kherallah, M. and K. Govindan, 1999, The sequencing of agricultural market reforms in Malawi, *Journal of African Economies* 8(2), 125-151.
- Kherallah, M., C. Delgado, E. Gabre-Madhin, N. Minot and M. Johnson, 2002, *Reforming agricultural markets in Africa* (Johns Hopkins University Press, Baltimore).
- Krueger, A. O., M. Schiff and A. Valdès, 1992, eds., *The political economy of agricultural pricing policy* (Johns Hopkins University Press, Baltimore).
- Lal, D., 1985, *The Poverty of development Economics* (Harvard University Press, Boston).
- Larsen, M., 2002, Is oligopoly a condition of successful privatization? The case of cotton in Zimbabwe, *Journal of Agrarian Change* 2(2), 185-205.
- Larson, D., 1993, Policies for coping with price uncertainty for Mexican maize, *World Bank Policy Research Working Paper 1120* (World Bank, Washington.)
- Larson, D. and B. Borrell, 2001, Sugar policy and reform in: Akiyama, Baffes, Larson and Varangis, eds., *Commodity market reforms: lessons of two decades* (World Bank, Washington).
- Larson, D., P. Varangis and N. Yabuki, 1998, Commodity risk management and development, *World Bank Policy Research Working Paper 1963* (World Bank, Washington).

- Lewis, W. A., 1954, Economic development with unlimited supply of labor, *Manchester School of Economic and Social Studies* 22(2), 139-91.
- Lindauer, D. and M. Roemer, 1994, *Asia and Africa; legacies and opportunities in development* (The International Center for Economic Research and the Harvard Institute for International Development, Boston).
- Lipton, M., 1977, *Why poor people stay poor: urban bias in world development* (Australian National University Press, Canberra)
- Lundbaek, J., 2002. Privatization of cotton sub-sector in Uganda: Market mechanisms and institutional mechanisms to overcome these. MS Thesis, The Royal Veterinary and Agricultural University, Department of Economics and Natural Resources (Department of Economics and Natural Resources, Copenhagen)
- Lutz, C., A. van Tilburg and B. van der Kamp, 1995, The process of short- and long-term integration in the Benin maize market, *European Review of Agricultural Economics* 22(2), 191-212.
- McIntire, J. and P. Varangis, 1999, *Reforming Côte d'Ivoire's cocoa marketing and pricing systems*, World Bank Policy Research Working Paper 2081 (World Bank, Washington).
- Meerman, J., 1997, *Reforming Agriculture: The World Bank Goes to Market* (World Bank, Washington).
- Morgan, C., Rayner, A. and C. Vaillant, 1999, Agricultural futures markets in LDCs: a policy response to price volatility, *Journal of International Development* 11(6), 893-910.
- Mosley, P., 1987, Conditionality as bargaining process: structural adjustment lending 1980 – 1986, *Princeton Essays in International Finance* 168 (Princeton University, Princeton).
- Mosley, P., J. Harrigan and J. Toys, 1991, *Aid and power; the World Bank and policy-based lending* (Routledge, London).
- Mukhopadhyay, H., 1999, Trade liberalization in Sub-Saharan Africa: stagnation or growth, *Journal of International Development* 11(6), 825-835.
- Netherlands Development Cooperation, 1992, *Sector aid and structural adjustment : the case of sugar in Tanzania* (Ministry of Foreign Affairs, Directorate General International Cooperation, Operations Review Unit, The Hague)
- Poulton, C., A. Dorward, J. Kydd, N. Poole and L. Smith, 1998, A new institutional economics perspective on current policy debates, in: D. Doward, J. Kydd and C. Poulton, eds., *Smallholder cash crop production under market liberalisation: a new institutional economics perspective* (CAB International, Wallingford).
- Prebisch, R., 1949, The spread of technical progress and the terms of trade, in: *Economic Bulletin for Latin America* 7, 1962: 1-22. (First published by ECLA in 1949.)
- Reinhart, C. M. and P. Wickham, 1994, *Commodity prices: cyclical weakness or secular decline?* Staff Papers 41 (International Monetary Fund, Washington).

- Rodrik, D., 1998, Why is trade reform so difficult in Africa? *Journal of African Economies* 7 (Supplement 1), 43-69.
- Rukuni, M., M Blackie and C. Eicher, 1998, "Crafting smallholder-driven agricultural research systems in southern Africa," *World Development* 26(6), 1073-1087.
- Sahn, D., P. Dorosh, and S. Younger, 1997, *Structural adjustment reconsidered: economic policy and poverty in Africa* (Cambridge University Press, Cambridge).
- Shepherd, A. S., 1997, *Market information services: theory and practice* (FAO, Rome).
- Singer, H., 1950, The distribution of gains between investing and borrowing countries, *American Economic Review* 40, 473-85.
- Scheffe, H., 1959, *The analysis of variance* (John Wiley and Sons, New York).
- Schuknecht, L., 1999, Tying governments' hands in commodity taxation, *Journal of African Economies* 8(2), 152-81.
- Spooner, N. and L. Smith, 1991, *Structural adjustment policy sequencing in Sub-Saharan Africa*, FAO Economic and Social Development Paper 104 (Food and Agriculture Organization of the United Nations, Rome).
- South African Sugar Association, 2002, Annual report 2001/2002, available on the internet at: <http://www.sasa.org.za/subscribe/sugarjournal/annualreport.asp>.
- Temu, A., A. Winter-Nelson, and P. Garcia, 2001, Market liberalization, vertical integration and price behavior in Tanzania's coffee auction, *Development Policy Review*, 19(2), 205-222.
- Townsend, R., 1999, *Agricultural incentives in Sub-Saharan Africa: policy challenges*, World Bank Technical Paper No. 444 (World Bank, Washington).
- Timmer, C. P., 1991, *Agriculture and the state: growth, employment and poverty in developing countries* (Cornell University Press, Ithaca).
- Varangis, P. and G. Schreiber, 2000, *Cocoa market reforms in West Africa in: Akiyama, Baffes, Larson and Varangis, eds., Commodity market reforms: lessons of two decades* (World Bank, Washington).
- Wallace, L. ed., 1997, *Deepening structural reform in Africa; lessons from East Asia* (International Monetary Fund and Ministry of Finance of Japan, Washington).
- World Bank, 1983, *The world development report; management in development* (Oxford University Press, New York).
- World Bank, 1985, *The world development report; international capital and economic development* (Oxford University Press, New York).
- World Bank, 1993, *The East Asian miracle: economic growth and public policy* (Oxford University Press, New York).
- World Bank, 1994, *Adjustment in Africa* (Oxford University Press, New York).
- World Bank, 1997, *The world development report: the state in a changing world* (Oxford University Press, New York).

World Bank, 1998, *Assessing aid; what works, what doesn't and why* (Oxford University Press, New York).

World Bank, 1999, *Implementation completion report, Republic of Côte d'Ivoire Agricultural Sector Adjustment Credit (Credit number 27790-IVC)* (World Bank, Washington).

Table 1: Conditions under World Bank agricultural structural adjustment loans in Sub-Saharan Africa, 1980-1995

Country	FY	Change prices			Price reform			Liberalize markets	
		Producer	Consumer	Export	Producer	Consumer	Export	Domestic	Trade
Sudan	1980	1		1					
Tanzania	1981	1		1					
Malawi	1983	2							
Nigeria	1984	1							
Sierra Leone	1984								
Zambia	1985	2			1				
Madagascar	1986	1		1	1		2		
Somalia	1986	1	2						
Kenya	1986	3							
Tunisia	1987	2	1				2		
Central African Republic	1988	3							
Burundi	1989						1		
Somalia	1989	1			1		1		
Tunisia	1989	4							
Côte d'Ivoire	1990	1			3		2		
Mauritania	1990	1	1				3		
Tanzania	1990	3			1		6		
Malawi	1990	2					1		
Mali	1990	1			1	1	1		
Uganda	1991			2					1
Kenya	1991	1					2		
Ghana	1992	2			3				
Burkina Faso	1992				3		1		
Senegal	1995	3	3	3	1		1		1

Source: Meerman, 1997.

Table 2: Trade reforms for cocoa, coffee cotton, and sugar in selected countries

	Production and trade controls		Domestic market controls	
	<i>before reforms</i>	<i>1999</i>	<i>before reforms</i>	<i>1999</i>
Cocoa				
Cameroon	restricted export licensing	liberalized; private	prices and margins set by government	liberalized
Congo	state export monopoly	liberalized; private	state purchasing monopoly	liberalized
Côte d'Ivoire	restricted export licensing	liberalized; private	prices and margins set by government	liberalized
Ghana	state export monopoly	state export monopoly	state purchasing monopoly	partial privatization
Nigeria	state export monopoly	liberalized; private	state purchasing monopoly	liberalized
Togo	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Coffee				
Cameroon	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Central African Republic	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Congo	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Côte d'Ivoire	restricted export licensing	liberalized; private	prices and margins set by government	liberalized
Ethiopia	restricted export licensing; semi state monopoly	limited private exporting	mandatory auction and state control	mandatory auction; traders cannot be exporters
Gabon	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Guinea	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Kenya	restricted export licensing	restricted export licensing	prices set, but linked to world prices	mandatory auction
Madagascar	restricted export licensing	liberalized; private	prices and margins set by government	liberalized
Nigeria	state export monopoly	liberalized; private	purchasing monopoly by cooperatives	liberalized
Rwanda	state export monopoly	liberalized; private	controlled by parastatal	liberalized
Sierra Leone	state export monopoly		prices and margins set by government	liberalized
Tanzania	state export monopoly	mandatory auctions	mandatory auction	mandatory auction
Togo	state export monopoly	liberalized; private	prices and margins set by government	liberalized
Uganda	state export monopoly	liberalized; private	purchasing monopoly by cooperatives	liberalized
Cotton				
Benin	state export monopoly	state export monopoly	state purchasing monopoly	state purchasing monopoly
Burkina Faso	state export monopoly	state export monopoly	state purchasing monopoly	state purchasing monopoly
Côte d'Ivoire	state export monopoly	partial liberalization	state purchasing monopoly	partial liberalization
Central African Republic	state export monopoly	state export monopoly	state purchasing monopoly	state purchasing monopoly
Chad	state export monopoly	state export monopoly	state purchasing monopoly	state purchasing monopoly
Mali	state export monopoly	state export monopoly	state purchasing monopoly	state purchasing monopoly
Tanzania	state export monopoly	no restrictions; private	state purchasing monopoly	no controls, private
Togo	state export monopoly	state export monopoly	state purchasing monopoly	state purchasing monopoly
Uganda	state export monopoly	no restrictions; private	state purchasing monopoly	no controls, private
Zimbabwe	state export monopoly	no restrictions; private	state purchasing monopoly	no controls, private

(continued)

Table 2: Trade reforms for cocoa, coffee cotton, and sugar in selected countries (continued)

	Production and trade controls		Domestic market controls	
	<i>before reforms</i>	<i>1999</i>	<i>before reforms</i>	<i>1999</i>
<i>Sugar</i>				
Benin	state sugar company	mixed private-public company; medium tariffs	state monopoly	liberalized
Burundi	state sugar company	export and currency restrictions	state monopoly	state monopoly
Chad	state sugar company	state sugar company	state monopoly	state monopoly
Côte d'Ivoire	state sugar company	private companies; high tariffs	state monopoly	liberalized
Ethiopia	state sugar company	liberalized; low tariffs	state monopoly	liberalized
Gabon	state sugar company	private monopoly; high tariffs	state monopoly	liberalized
Gambia	state trade monopoly	liberalized; low tariffs	state monopoly	liberalized
Kenya	state trade monopoly	partly privatized management; high tariffs; ad hoc interventions	state monopoly	liberalized
Malawi	private trade monopoly	liberalized; moderate tariffs	private monopoly	liberalized
Mauritius	government managed	government managed	government managed	government managed
Mozambique	state trade monopoly; high tariffs	partial government ownership; high variable tariffs	state/private monopoly	liberalized
Niger	state sugar company	privatized; moderate tariffs	state monopoly	regulated prices
Nigeria	state sugar company	state owned mills	state monopoly	liberalized
Rwanda	state sugar company	privatized, liberalized; moderate tariffs	state monopoly	liberalized
Senegal	private monopoly	renegotiated land and water rights; high tariffs	private monopoly	liberalized
Uganda	state trade monopoly	liberalized; moderate tariffs	state monopoly	liberalized
Zimbabwe	private/public monopoly	private/public monopoly	regulated prices	ad hoc interventions

Note: Information on pre-reform status taken from World Bank (1994) and additional documents. Post-reform description taken from World Bank documents and discussion with World Bank staff. State monopoly includes mandated sales through cooperatives.

Table 3: Producer prices for coffee and their share of international prices, for selected countries, 1987-89 and 1997-99 averages.

	Price, US cents per pound		Share of indicator price	
	1987-89	1997-99	1987-89	1997-99
Arabicas				
<i>Brazil milds indicator</i>	108.99	125.82		
Ethiopia	52.98	86.13	0.49	0.68
<i>Colombian milds indicator</i>	115.30	152.73		
Kenya	87.91	156.66	0.76	1.03
Tanzania	65.07	90.98	0.74	0.58
<i>Other milds indicator</i>	94.20	142.73		
Burundi	66.63	51.93	0.71	0.36
Cameroon	67.25	66.19	0.71	0.46
Rwanda	90.20	51.83	0.96	0.36
Uganda	63.24	129.59	0.67	0.91
Robustas				
<i>Robusta indicator</i>	90.47	76.32		
Angola	92.83	43.93	1.03	0.58
Cameroon	62.16	35.49	0.69	0.47
Central African Republic	54.53	35.24	0.60	0.46
Côte d'Ivoire	57.01	39.34	0.63	0.52
Gabon	74.12	48.98	0.82	0.64
Ghana	35.30	40.16	0.39	0.53
Madagascar	30.06	45.58	0.33	0.60
Tanzania	35.22	54.30	0.39	0.71
Togo	54.33	38.67	0.60	0.51
Uganda	38.69	81.13	0.43	1.06

Note: The ICO indicator price is a weighted average of markets in Europe and the US. The ICO uses separate indicator prices for the three groups of arabica producers included in the table.

Source: International Coffee Organization

Table 4: Wholesale refined sugar prices in selected countries relative to world prices, 1988-90 and 1997-98.

	1988-1990	1997-98
	US cents/pound	
ISO indicator price	11.86	12.44
	Ratio of domestic to indicator price	
Madagascar	1.96	1.64
Mauritius	0.80	1.82
South Africa	1.80	1.48
Swaziland	1.34	1.71
Zimbabwe	1.14	0.71

Source: International Sugar Organization Year Book.

Table 5: Analysis of producer price variance, 1986-90 and 1991-95.

	share of T		
	T	W(i)	B(i)
All commodities			
1986-1990	1.00	0.52	0.48
1991-1995	0.54	0.61	0.39
Cocoa			
1986-1990	0.13	0.47	0.53
1991-1995	0.05	0.61	0.39
Coffee			
1986-1990	0.50	0.73	0.27
1991-1995	0.25	0.90	0.10
Cotton			
1986-1990	0.23	0.12	0.88
1991-1995	0.18	0.18	0.82
Sugar			
1986-1990	0.14	0.49	0.51
1991-1995	0.06	0.65	0.35

Note: The total sum-of-squares have been scaled to that $T_{(1986-90)} = 1.00$.
Source: FAO, IMF and authors' calculations.