Downturn and Economic Recovery in Ghana:

Impacts on the Poor

Harold Alderman

CORNELL FOOD AND NUTRITION POLICY PROGRAM

MONOGRAPH 10 • MARCH 1991

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Abbreviations

CMB	Cocoa Marketing Board
CRS	Catholic Relief Services
GFDC	Ghana Food Distribution Company
GLSS	Ghana Living Standards Survey
IMF	International Monetary Fund
NGO	Non-governmental Organization
NLC	National Liberation Council
NRC	National Redemption Council
PAMSCAD	Programme of Actions to Mitigate the Social Costs of Adjustment
PNDC	Provisional National Defense Council

Preface

The experience of Ghana in responding to the economic decline between 1970 and 1983 is perhaps among the most discussed and most interesting efforts at macroeconomic adjustment in sub-Saharan Africa. Indeed, the economic recovery policies in Ghana have involved many of the same prescriptions that have been suggested for much of sub-Saharan Africa. But unlike the experiences elsewhere where the economic crisis has been either followed by a period of contractionary policies or a general reluctance to take strong reform-minded measures, Ghana's example provides some interesting insights into the conditions under which adjustment can succeed in terms of restoring economic growth. In particular, GNP has shown sustained growth in excess of the rate of population increase, the provision of services in the social sectors appears to have risen, infrastructure is being rehabilitated, and many institutional reforms required to promote further growth, such as permitting consumers and producers to make decisions based on market signals, have been adopted.

While Ghana's recent past is perhaps the most heralded example of a successful adjustment program in Africa, the potential for sustained growth and poverty alleviation remains an important question. Therefore, this monograph not only examines the performance to date of Ghana under adjustment but also explores the prospects for policy reform efforts to contribute to poverty alleviation in the years ahead. Because Ghana, unlike most other sub-Saharan African countries, is not encumbered with hugh debts from the crisis years, and because the government has successfully mobilized resources for future growth, there is considerable scope for optimism. Other factors, such as the slowness with which private foreign investment has materialized, represent a cause for some concern. Nonetheless, there is little question that the continued discipline and commitment of the government to reform is the fundamental ingredient to success.

In providing considerable insight into the process and impacts of policy reform, this monograph represents and initial output in a longer-term study of Ghana that will explore the pattern, nature, and determinants of economic growth in the years since adjustment. Particular emphasis in the work that lies ahead will be given to understanding the characteristics and behavior of households and gaining insight into the functioning of key markets, including labor, credit, and agricultural commodities. In addition, the role of government decisions, especially in regards to fiscal policy, will be explored more fully in the months ahead, and reported on in future CFNPP publications.

This monograph, along with other similar background studies on Malawi (Monograph 7), The Gambia (Monograph 8), and Madagascar (Monograph 9), is being prepared as part of a Cooperative Agreement between the Cornell Food and Nutrition Policy Program and the Africa Bureau of the US Agency for International Development. The overall objective is to examine the impact of policy reform on economic performance in general and on low-income households in particular. Emphasis in these case studies is on understanding the links between government policies in the context of structural adjustment and household-level outcomes.

Washington, DC
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David E. Sahn
Deputy Director

1. Introduction

The first sub-Saharan colony to gain its independence, Ghana has often tested the validity of economic development theory. For example, Killick (1978) illustrates how Ghana consulted some of the most noted economists of the period and received tacit endorsement for its ambitious development plan in the early 1960s. He also indicates how unrealistic the plan was in the face of political constraints and poor implementation. In other contexts as well, Ghana's mainly misguided efforts at economic planning have given rise to general conclusions about institutions and the development process. An example of this is Bates' (1981) essay on the tendency of interest groups to capture programs and policies.

Ghana's recent economic performance is also presented – not always in a favorable light – as a case study of the impact of economic policies. Ghana's inability to sustain positive economic growth in the 1970s or early 1980s is well known. GNP declined at a rate of one percent per annum between 1975 and 1983 (Table 1). In contrast, the growth in GNP and GNP per capita was positive every year between 1983 and 1989, with the former measure averaging 5.4 percent per year between 1963 and 1988. It is natural, then, to ask which policies contributed to this turnaround.

In addition to the policies to correct structural imbalances, the government has initiated the Programme of Actions to Mitigate the Social Costs of Adjustment (PAMSCAD), with bilateral and multilateral donor support. It is,

Table 1 – Ghana: Real Value Added to GNP, by Sector, 1974-1988

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
	Millions of 1975 Cedis														
Gross National Product	**5,996**	**5,241**	**5,046**	**5,185**	**5,633**	**5,479**	**5,495**	**5,320**	**4,999**	**4,857**	**5,233**	**5,445**	**5,708**	**5,957**	**6,347**
Agriculture	3,145	2,518	2,477	2,343	2,789	2,894	2,957	2,881	2,787	2,629	2,897	2,798	2,890	2,891	2,995
Agriculture and livestock	—	1,567	—	—	—	—	2,017	2,001	1,316	1,763	2,035	1,997	2,001	1,994	2,114
Cocoa	—	577	—	—	—	—	545	521	432	370	339	384	454	469	439
Forestry	—	293	—	—	—	—	304	266	287	309	313	313	317	322	333
Fishing	—	81	—	—	—	—	92	93	89	92	93	104	118	106	109
Industry	1,119	1,109	1,080	1,124	1,040	892	895	752	624	546	586	705	758	844	931
Mining	111	105	100	90	84	73	71	66	60	54	56	63	61	66	89
Construction	299	236	239	270	222	198	206	174	151	115	120	135	132	152	158
Manufacturing	675	736	704	727	701	583	575	464	369	350	385	460	511	562	613
Electricity and water	35	33	37	37	32	38	43	48	44	27	25	47	55	65	70
Services	1,657	1,557	1,495	1,705	1,839	1,806	1,765	1,824	1,757	1,844	1,906	2,061	2,195	2,401	2,589
Transportation and communication	203	206	168	191	181	191	166	177	179	192	198	235	248	275	303
Trade	776	642	595	607	588	608	556	545	489	514	543	580	632	743	797
Finance	325	276	294	330	360	358	372	389	400	374	386	465	500	528	563
Government and community	353	433	439	578	710	649	671	713	689	764	779	782	815	856	925

Sources: *World Bank (1989a and 1989c); Government of Ghana (1989b).*

[a] *Provisional.*

therefore, also natural to inquire what those social costs were as well as how effective compensatory programs have been.

Indeed, such questions are so alluring to researchers that the number of studies of the economic recovery program may be sufficiently high to drive the marginal value of an additional study toward zero.[1] The present study, then, hopes to justify itself less as a study of the short-term impacts of stabilization policies than as a discussion of the poverty alleviation potential of medium-term development strategies. A significant breakthrough in development economics in the early 1980s was the discovery that Africa is not Asia and, hence, the seed and fertilizer revolution in the latter continent is only partially instructive for Africa. Similarly, in the second half of the decade, researchers began to discover that Africa is not Latin America either.[2] Thus, the stabilization policies of Latin America and the criticisms thereof, even where valid, cannot be automatically applied to most sub-Saharan countries.

Scobie (1989) is essentially correct in arguing that there is no clear distinction between "stabilization" and "structural adjustment": the same set of policy instruments and adjustments are typically applied whether an economy is restructuring or whether it is stabilizing. Nevertheless, the impact on the general public or subgroups of the population may depend on the trajectory of the economy prior to the policy reform. Figure 1 provides a graphic illustration of the overall trend in Ghana's economy before and after the current phase of economic reforms initiated in 1983 and contrasts this picture with selected African and Latin American economies. Unlike the typical (and simplified) adjustment programs in Latin America in the early 1980s as well as Ghana in 1971, the shock precipitating the crisis in 1983 did not hit an overheated economy. Rather than living beyond its means, Ghana had already contracted most services and investments before entering the adjustment program. This point will be developed in this paper in order to assess the impacts. This essentially historical perspective is also important for assessing the potential strengths and weaknesses of the policies that have been implemented.

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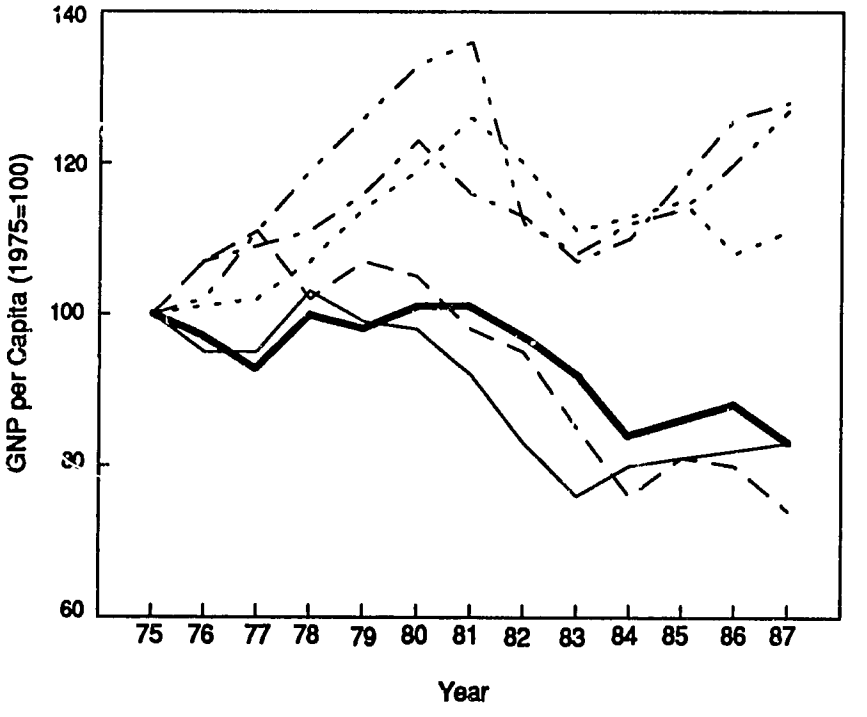
1 See, for example, Asiedu-Saforo (1989), Chand and Til (1988), Commander, Howell, and Sieni (1989), Green (1987), Horton (1985), Roe (1987), Rimmer (forthcoming), Stryker (1988), Tabatabai (1988), Vordzorgbe (1986), and Younger (1989). The reader is presumed to have some familiarity with a subset of this literature and, therefore, does not need a geographic or ecological description. It is also presumed that the salient features of recent Ghanaian history—for example, the succession of governments—are known.

2 Like most rhetorical statements, this is a bit of an oversimplification. For example, Helleiner (1989) finds a number of potential relevant lessons from Latin American experience. These are, however, rather general and often pertain to the experience of Latin America in the 1950s.

Figure 1 — GNP per Capita, Selected Adjusting Countries, Constant Local Currency, 1975-1987



Source: World Bank Updates (various years).

To amplify, one can conceive of examples of policies that were suited to prevailing conditions and yet left the economy vulnerable to changing conditions – say, a change in terms of trade or interest rates. Ex post, of course, one may argue that the policies were destabilizing or at least short-sighted, hence could not have been correct, but adaptation to one set of circumstances does not guarantee flexibility (as the fossil record aptly illustrates). Ghana's policies prior to the 1983 drought, however, were no more suited to prevailing conditions than they were to the crisis year. This implies a cumulative decay of infrastructure, few remaining services upon which individuals relied, and a measure of success by which full recovery still only implies recovery into poverty. Such poverty is not a product of current policies, but is, nevertheless, its challenge.

The subsequent chapters in this report discuss various policies in terms of their antecedents, the reforms that have been implemented in the last five years, and the overall economic impacts of those policies. Particular attention is paid to the marginal impacts of these reforms on existing poverty, and, where applicable, on the newly poor. Before doing so, however, a few additional comments on the overall economy are useful.

The regularity and level of growth in Ghana from 1984 to 1989 were unprecedented in its recent history. Moreover, as indicated in Table 2, the recovery has apparently affected all sectors of the economy, particularly industry. Initial doubts about the sustainability of the recovery (see, for example, Green, 1987) seem unwarranted. There is, however, a related concern about the risk of fatigue and of growing political pressures for tangible personal gains to keep pace with the overall economic indicators, possibly to the detriment of long-run growth. One illustration of the medium-term task can be derived by noting that GNP per capita declined at an average annual rate of 1.6 percent between 1965 and 1987 (World Bank, 1989a). Assuming a population growth rate of 3 percent, which is somewhat lower than the average for 1980-1987, an average GNP growth rate of 5.8 percent would restore GNP per capita to its 1965 level by the end of the century. There is no magic in the year 2000, of course, nor is this illustration robust to alternative starting points. It does, however, indicate the scope of the real task of recovery and put short-term measures of success in perspective.

Similarly, it is useful to avoid exaggerating the short-term impacts of policy reforms, not to denigrate them but to better explain them. Clearly, the recovery of agriculture (54 percent of GNP in 1984) was largely weather-induced. In a like manner, production of electricity and aluminum increased due to external factors as the Volta Lake refilled, although the value obtained was affected by exchange rate reforms. A portion of the increase in exports in 1984 also reflects

Table 2 – Ghana: Value Added to GNP, by Sector, 1974-1988

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
	Annual Change in Percent														
Gross National Product	—	-12.6	-3.7	2.7	8.6	-2.7	0.3	-3.2	-6.0	-2.8	7.7	4.1	4.8	4.4	6.2
Agriculture	—	-19.9	-1.6	-5.4	19.1	3.8	2.2	-2.6	-3.3	-5.7	10.2	-3.4	3.3	0.0	3.6
Agriculture and livestock	—	—	—	—	—	—	—	-0.8	-4.2	-8.0	15.4	-1.9	0.2	-0.3	6.0
Cocoa	—	—	—	—	—	—	—	-4.4	-17.1	-14.4	-8.4	13.3	18.2	3.3	-6.4
Forestry	—	—	—	—	—	—	—	-12.5	7.9	7.7	1.3	0.0	1.3	1.6	3.4
Fishing	—	—	—	—	—	—	—	1.1	-4.3	3.4	1.1	11.8	13.5	-10.2	2.2
Industry	—	-1.0	-2.6	4.1	-7.5	-14.2	0.3	-16.0	-17.0	-12.5	7.3	20.3	7.5	11.3	10.3
Mining	—	-5.8	-4.2	-9.9	-6.9	-13.1	-2.7	-7.0	-9.1	-10.0	3.7	12.5	-3.2	8.2	35.8
Construction	—	-21.3	1.6	12.9	-17.8	-10.9	4.0	-15.5	-13.2	-23.8	4.3	12.5	-2.2	15.2	9.2
Manufacturing	—	9.1	-4.4	3.3	-3.5	-16.8	-1.4	-19.3	-20.5	-5.1	10.0	19.5	11.1	10.0	4.5
Electricity and water	—	-5.5	13.2	-0.5	-11.7	17.3	13.2	11.6	-8.3	-38.6	-7.4	88.0	17.0	18.2	6.7
Services	—	-6.0	-4.0	14.0	7.8	-1.3	-2.3	3.3	-3.7	5.0	3.4	8.1	6.5	9.4	7.8
Transportation and communication	—	1.3	-18.5	13.6	-5.4	5.8	-13.1	6.6	1.1	7.3	3.1	18.7	5.5	10.9	10.2
Trade	—	-17.2	-7.4	2.0	-3.1	3.5	-8.6	-2.0	-10.3	5.1	5.6	6.8	9.0	17.6	7.4
Finance	—	-15.2	6.6	12.2	9.3	-0.7	3.9	4.6	2.8	-6.5	3.2	20.5	7.5	5.6	6.7
Government	—	22.7	1.3	31.8	22.9	-8.6	3.4	6.3	-3.4	10.9	2.0	0.4	4.2	5.0	8.1

Sources: *World Bank (1989a and 1989c); Government of Ghana (1989b).*

the reopening of the railroad to Sekondi and Takoradi, the fruition of a World Bank-financed project that was initiated well before any major policy initiatives.

Furthermore, Tabatabai (1988) makes a convincing argument that the forced repatriation of Ghanaian workers from Nigeria, which contributed to the country's problems in 1983, also contributed to the recovery of agriculture in the following year. This reflects both statistical and structural concerns. To the degree that the population was overestimated due to underestimation of migration in the early part of the decade, Tabatabai argues, production per capita and food availability per capita were underestimated. Moreover, as the workers who returned from Nigeria largely went to rural areas, they provided a reservoir of labor that contributed to a real increase of agricultural output.

Commander et al. (1989) make a complementary argument concerning the recovery of export crops. While their research documents an increase of replanting of cocoa in the Ashanti region, they question the magnitude of short-term price responsiveness for cocoa. Some apparent increases in production may reflect greater applications of pesticides and labor. A portion, however, may merely be a shift of trade which had previously gone through Togo and Côte d'Ivoire. May's (1985) detailed econometric exercise indicates that up to 10 percent of cocoa production may have been smuggled to Côte d'Ivoire. He also estimates the total size of the parallel economy as constituting up to 32 percent of GNP.[3] The accuracy of these estimates, however, is questionable. May (1985) likely overestimates the size of the parallel economy as his results imply moderate growth for the entire economy throughout the late 1970s and early 1980s, in contrast to virtually all other evidence. However, the recovery program probably encouraged a shift of some smuggling of cocoa and other commodities into official channels. This would enhance government revenues, but would not have the same impact on real GNP or even on the real capacity to import as it would have on official statistics.

This touches upon a general issue that influences any analysis of the Ghanaian economy or of general welfare. The economic crisis of the late 1970s and early 1980s was of sufficient magnitude and duration to have reoriented most economic relations. Many observers write of the *kalabule*, or underground, economy (Chazan, 1983). While this often carries a negative connotation similar to the English word "profiteering," it is also indicative of an economy reverting to barter as well as smuggling. Such barter transactions are more reflective of the scarcity value of goods and labor than cash transactions at official (controlled) wages and prices.

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3 Similarly, Franco (1981) puts smuggling as high as 17 percent of all cocoa production in the late 1970s.

The type of rent seeking that characterized Ghana in recent years carries an economic cost: resources spent subverting controls are a dead-weight loss to society (Azam and Besley, 1989). Moreover, as difficult as it is to gain a picture of the overall production and trade level during this economic disassociation, it is even more difficult to explore the distribution of economic rents. To some degree the policies of deregulation that have been instituted in recent years have had as great an impact on this distribution of rents as on the overall level of the economy. Only tentative conclusions about such impacts can be ventured.

Yet, it is ultimately these impacts that we are seeking. To be sure, we are also concerned with the efficiency issues by which economic policies are judged. Nevertheless, one major objective of this inquiry is to elucidate the implications of current policies on poverty. The particular concern is with absolute poverty—to the degree that one can separate social norms from a measure of poverty- and the correlates of such poverty—for example, malnutrition and early mortality. In addition, then, to the discussions of specific policy measures, the report includes a section that provides a snapshot of nutrition and its correlates.

Finally, in lieu of an executive summary, the report concludes with a section summarizing the basic observations of the main text.

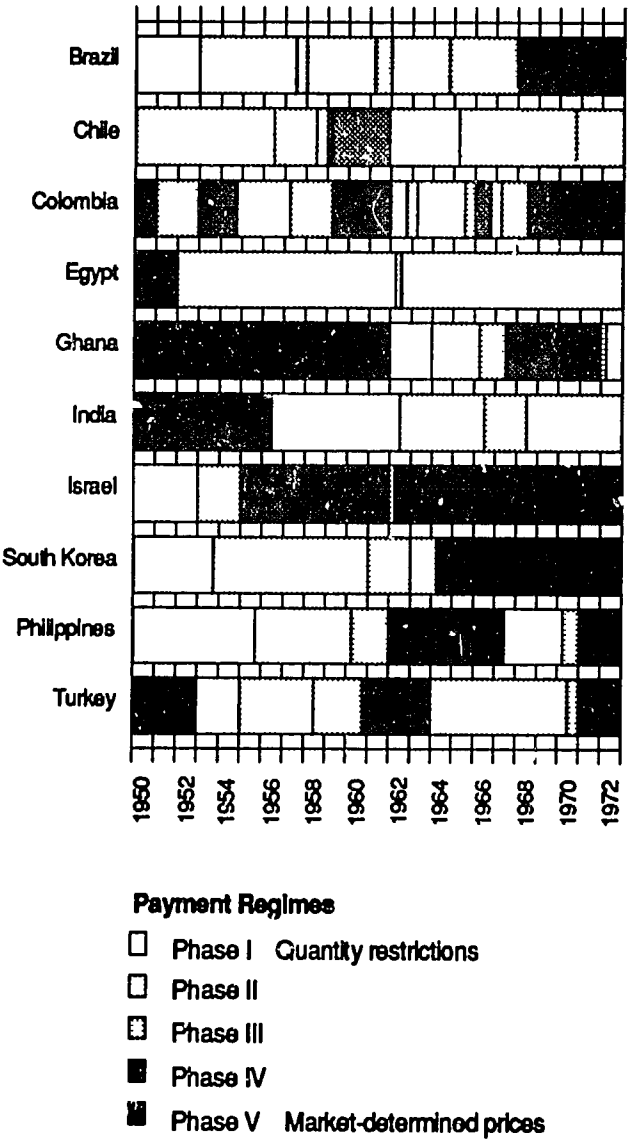
2. Trade and Exchange Policy

HISTORICAL PERSPECTIVE

Exchange controls and quantity restrictions have long-run impacts on the growth and distribution of an economy (Bhagwati, 1978). The path from quantity controls to price signals in trade policy, however, often is itself costly. The pressures of short-term frictions following external shocks, in addition to political pressures arising from the redistribution of economic rents, often cause policy makers to retreat into quantity restrictions (Krueger, 1978; Michaely et al., 1989). This is particularly true for Ghana (Leith, 1974). Figure 2 illustrates the historic pattern of movements to and from complete quantity restrictions (phase I) to exclusive use of price signals (phase V) for ten countries over more than two decades. As illustrated, transitions to open trade are often false transitions, and episodes of reliance on price signals are often followed by across-the-board controls on exchange and trade.

Independent Ghana's first phase of trade liberalization was partly supported by extensive sterling reserves acquired during the postwar cocoa boom. Increased demand for tradable goods and a fixed exchange rate led to the depletion of those reserves and, subsequently, to a major trade deficit. Initially, taxes were used to influence the effective exchange rate with a bias toward import substitution; the effective exchange rate for imports was nearly twice the effective rate for exports (Leith, 1974). In addition, from 1961 extensive quantity restrictions were in place. Leith illustrates how this system broke down under corruption and inflexibility. In 1967, after the ouster of Nkrumah, the cedi was devalued. In addition, while government expenditures were reduced and foreign borrowing increased, over half the goods that required licenses to import were deregulated (Roemer, 1984). This phase of liberalization was ironically undermined by an export boom that encouraged an unsustainable import

Figure 2 — Phases of Exchange Control Regimes, Ten Countries, 1950-1972



Source: *Adapted from A. Krueger (1978).*

splurge. A stabilization program that included a devaluation in late 1971 (from C1.02 to C1.82 per dollar)[4] was followed by a coup in early 1972. Whether these were linked causally or not,[5] the experience largely eliminated devaluation from consideration for much of the remainder of the decade.[6]

Although this is not illustrated in Figure 2, much of the period between 1972 and 1978 could be classified as phases 1 and 2 under the Krueger framework. Shortly after gaining political control, the National Redemption Council (NRC) rolled back the price of the cedi to C1.28 per dollar. The following year the cedi was revaluated further to C1.15 per dollar. In addition, a few foreign debts were repudiated by the NRC (Chazan, 1983), while others were refinanced at low interest with a 10-year grace period. As in the previous period of quantity restrictions, a complicated system of licensing and price controls fostered various rent-seeking activities and a growing alienation of policy measures from the real economy. While the devaluation to C2.75 per dollar in 1978 can be viewed as a nascent step toward liberalization (phase 3), the move was insufficient to bring the cedi in line with its scarcity value. Moreover, price controls remained in force. Thus, the devaluation reduced and shifted economic rents but was unable to achieve a lasting impact on the trade regime.

Hilla Limann's government attempted to relax import licensing. Devaluation, however, seemed politically unpalatable (Chazan, 1983). With falling terms of trade and lack of fiscal restraint, the government followed the path trod by previous governments toward centralized control, setting the stage for Flight Lieutenant Rawlings' return.

Initially, the Provisional National Defense Council (PNDC)[7] government followed a strong regulatory attitude toward trade. Despite the decade of dissociation of foreign investors from the Ghanaian economy, in the early years of the PNDC administration neocolonialism was blamed for many of Ghana's economic ills (Rimmer, forthcoming). This paralleled the measures taken to control domestic trade. As with the earlier (1979) razing of the Accra central market, the PNDC initially undertook measures to intimidate traders (Kraus, 1988). All evidence indicates that the PNDC did not initially envision its role as promoting free trade through the removal of government interference. Al-

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4 The dollar had also been devalued in late 1971 so the devaluation was even more pronounced in terms of the currencies of Ghana's principal trading partners.

5 Rimmer (forthcoming) argues they were not.

6 Cooper (1971) documents the negative consequences of devaluations for the political careers of ministers who implement them, using examples that precede the period discussed here.

7 The PNDC replaced Hilla Limann on December 31, 1981. The council is headed by Rawlings.

though governments as well as individuals can learn from economic experience, the contrast between early PNDC rhetoric and their subsequent policies may be indicative of countercurrents and diversity among ideological perspectives still extant in Ghana.

Before the economic consequences of various policies are discussed, it is useful to put these policies in the context of the process by which they are made. Michaely et al. (1989) argue that trade liberalization requires political stability. As briefly indicated above, however, a change of regimes can both initiate as well as reverse a trend toward trade liberalization. Michaely et al. also do not indicate whether liberalization challenges the stability they believe is a prerequisite. Liberalization has contributed to political instability in the past, but so has lack of stable prices brought about, in part, by misaligned trade policies. Moreover, not only does trade liberalization not occur in a political vacuum, it is unlikely to be meaningful in isolation from macroeconomic policies (Edwards, 1989); inflation rapidly eroded the real devaluation in 1978, less rapidly in 1967 (Table 3).

POLICY REFORMS, 1983 -1989

The current era of trade policy reforms was initiated by a massive devaluation in April 1983 (Table 3). More significant than this or the eight other devaluations between October 1983 and September 1986, however, is the change in the means by which foreign exchange is priced. The foreign exchange auction, inaugurated in September 1986, not only introduced flexibility in the exchange rate determination but it also depoliticized the process. This shift was enhanced with the legalization of private trade in currency through licensed foreign exchange bureaux in April 1988.

During the first phase of the auction, certain transactions, such as exports receipts for cocoa and the import of petroleum and pharmaceuticals as well as debt service, continued at the official fixed rate of exchange. From February 19, 1987, however, both rates were unified at the exchange rate determined by the weekly auction. An additional parallel, or unofficial rate, however, existed throughout this period. The additional demand for currency that determined this rate was officially recognized with the legalization of exchange bureaux.

The auction never fully closed the gap between the official rates and the parallel rates. As indicated in Table 4, during the first year of the auction the parallel rate remained roughly 50 percent above the auction rate. Moreover, there was no particular trend toward reducing the relative positions. Similarly, the foreign exchange bureaux initially traded at rates 30-40 percent above the auction rate. This gap closed somewhat in the subsequent two years. It re-

mained at 15-25 percent above the auction rate in the 4th quarter of 1989, although the gap continued to narrow through the first half of 1990.[8]

The slow narrowing of the gap between the auction rate and parallel rates is not unique to Ghana. The legal private sale of foreign exchange in Somalia remained above the auction rate through the duration of the erstwhile auction (Sahn and Alderman, 1987). A similar premium has persisted during Uganda's experience with an exchange auction.[9]

The relationship between the magnitude of the premium in Ghana and the unmet demand at the auction does not seem obvious; the premium was 60 percent in July and early August 1987 when virtually every bidder was successful, and less than 50 percent the following month when the majority of the bids were unsuccessful.[10] Note, however, that the quantity of exchange in the auction has increased from US $3.9 million per week in 1987, $4.9 million in 1988, and $6.2 million in 1989. This likely explains the long-run relationship between the auction and the parallel rate (Younger, 1990).

While there have been some developments in the regulations and eligibility in the auction, movement in demand for auction funds is complex and not obviously related to such regulations. For example, bids in September 1987 totaled $48 million, but they dropped to below $25 million by February 1988. They did not exceed $35 million until July 1988 when they reached $51 million, after which they declined for the remainder of the year. Although the time series is too short to prove any seasonality of demand, it probably contributes to these spikes.

Users of the auction appear to have minimized the surplus gained by the Bank of Ghana. Except for the initial auction, the auction has been a Dutch auction: each successful bidder pays his price. The wider the range of successful bids, the more surplus retained by the government. As indicated in Table 4, the gap between high and low bids narrowed after the first few weeks of the auction; the gap between the high bid and the lowest *successful* bid is, of course, even less. There was also an 11-week period beginning the last week in August 1988 in which the gap again widened to as much as 26 cedis. This period overlapped a period of acceleration in the rate of exchange rate depreciation, although the acceleration began a few weeks prior to the widening of the gap and leveled off

8 For example, the auction rate for the dollar was 286 on October 20 and 301 on December 1, 1989, while the bureaux exchange rate hovered around 350. By July 1990 the auction rate had risen another 10 percent, while the bureaux rate remained unchanged.

9 J. Lewis, personal communication.

10 There is some evidence, however, that the auction rate is determined by the unmet demand in the previous auction (World Bank 1989a).

Table 3 – Ghana: Nominal and Real Exchange Rates, 1964-1989

Year	Official Exchange Rates[a]			Parallel Exchange Rates[a, b]			Ratio[a]
	Official Nominal Rate	Index of Official Rate	Index of Real Official	Parallel Nominal Rate	Index of Parallel Rate	Index of Real Parallel	Parallel to Nominal Rate
	C/$	1984=100		C/$	1984=100		Percent
1964	0.714	1.96	246.70	1.18	1.22	153.86	165
1965	0.714	1.96	202.06	1.41	1.46	150.59	197
1966	0.714	1.96	183.15	1.38	1.43	133.59	193
1967.1	0.714	1.96	201.60	1.77	1.83	188.60	248
1967.2	0.714	1.96	194.87	1.77	1.83	182.31	248
1967.3	1.020	2.80	288.24	1.77	1.83	188.76	174
1967.4	1.020	2.80	284.61	1.77	1.83	186.38	174
1968	1.020	2.80	253.84	1.86	1.92	174.69	182
1970	1.020	2.80	244.91	1.69	1.75	153.14	166
1971	1.020	2.80	247.09	1.52	1.57	138.96	149
1972.1	1.820	4.99	460.89	1.68	1.74	160.55	92
1972.2	1.280	3.51	300.58	1.68	1.74	148.88	131
1972.3	1.280	3.51	310.97	1.68	1.74	154.03	131
1972.4	1.280	3.51	312.44	1.68	1.74	154.76	131
1973.1	1.210	3.32	301.52	1.50	1.55	141.06	124
1973.2	1.150	3.15	278.11	1.50	1.55	136.90	130
1973.3	1.150	3.15	271.16	1.50	1.55	133.47	130
1973.4	1.150	3.15	291.53	1.50	1.55	143.50	130
1974	1.150	3.15	279.03	1.73	1.79	158.41	150
1975	1.150	3.15	240.34	1.99	2.06	156.95	173
1976	1.150	3.15	154.12	2.91	3.01	141.91	253
1977	1.150	3.15	83.61	9.20	9.52	250.18	800
1978.1	1.150	3.15	65.78	6.98	7.22	150.67	607
1978.2	1.175	3.22	56.91	8.84	9.14	161.59	752
1978.3	1.979	5.42	93.07	10.00	10.34	177.48	505
1978.4	2.750	7.54	106.33	10.00	10.34	145.91	364
1979	2.750	7.54	96.14	15.56	16.10	209.89	566
1980	2.750	7.54	75.76	15.87	16.41	165.20	577
1981	2.750	7.54	33.78	26.25	27.15	120.23	955
1982	2.750	7.54	25.67	61.67	63.79	209.61	2,242
1983.1	2.750	7.54	16.93	76.67	79.31	178.17	2,788
1983.2	24.690	67.68	96.32	60.67	62.76	89.32	246
1983.3	24.690	67.68	90.17	78.33	81.03	107.96	317
1983.4	30.000	82.24	97.08	90.67	93.80	110.73	302
1984.1	30.300	83.06	85.44	93.00	96.21	98.96	307
1984.2	35.000	95.94	92.70	97.00	100.34	96.96	277
1984.3	38.500	105.54	107.31	97.00	100.34	102.03	252
1984.4	42.120	115.46	115.36	99.67	103.11	103.02	237

Year	Official Exchange Rates[a]			Parallel Exchange Rates[a, b]			Ratio[a]
	Official Nominal Rate	Index of Official Rate	Index of Real Official	Parallel Nominal Rate	Index of Parallel Rate	Index of Real Parallel	Parallel to Nominal Rate
	C/$	1984=100		C/$	1984=100		Percent
1985.1	50.000	137.06	117.90	128.33	132.75	114.20	257
1985.2	53.000	145.28	127.65	129.00	133.45	117.25	243
1985.3	57.000	156.25	145.60	131.67	136.21	126.93	231
1985.4	60.000	164.47	159.90	136.00	140.69	136.78	227
1986.1	90.000	246.71	225.92	—	—	—	—
1986.2	90.000	246.71	218.53	—	—	—	—
1986.3	90.000	246.71	222.38	200.00	206.89	186.50	222
1986.4	149.417	409.58	335.54	192.50	199.14	163.14	129
1987.1	152.636	418.40	321.92	201.82	208.78	160.63	132
1987.2	158.364	434.10	308.08	226.36	234.17	166.18	143
1987.3	165.077	452.50	307.61	251.54	260.21	176.89	152
1987.4	174.333	477.88	342.37	260.00	268.96	192.70	149
1988.1	180.667	495.24	326.63	—	—	—	—
1988.2	185.833	509.40	302.14	—	—	—	—
1988.3	217.231	595.47	327.65	—	—	—	—
1988.4	230.083	630.70	365.27	—	—	—	—
1989.1	245.350	672.55	351.99	—	—	—	—

Sources: *IMF (various years). International Currency Analysis, Inc. (various years).*

[a] *Nominal official Ghanaian exchange rate through 1986.3, as well as trade statistics, the Ghanaian CPI, and price indices and official nominal exchange rates of trading partners, are from IMF.*

[b] *Parallel exchange rate through 1986.3 from International Currency Analysis, Inc.*

Notes: *All annual rates are arithmetic averages of reported quarterly figures. Beginning with 1986.4, quarterly official nominal exchange rate is calculated as the arithmetic average of the relevant weekly rates established in the official foreign exchange auction. Similarly, the nominal parallel rate after 1986.3 is the average of the weekly rates established in the (legal) private foreign exchange bureau. Real exchange rates calculated as the product of the nominal rate and the ratio of a trade-weighted world wholesale price index to the Ghanaian CPI. Weights are constructed using Ghana's six largest trading partners, exclusive of Nigeria, during the 1980-1984 period (see Edwards, chapter 4, for a discussion of an alternative definition).*

Table 4 – Ghana: Foreign Exchange Auction, Selected Dates

Date	Nominal Exchange Rate			Hi Bid	Lo Bid	Demand	Supply	No. Bids	No. Wins
	Auction	Parallel[a]	Ratio						
	Cedi/$US					US$ Millions			
09/19/86	128	200	1.56	152	90	7.8	2.5	68	29
09/26/86	136	200	1.47	160	92	12.0	4.0	140	62
10/03/86	145	190	1.31	155	100	13.0	6.0	136	88
10/10/86	145	190	1.31	160	141	2.5	2.4	58	45
10/17/86	151	190	1.26	163	142	4.9	3.5	43	29
10/24/86	147	190	1.29	165	130	3.1	2.5	52	45
10/31/86	149	190	1.28	157	143	2.0	1.3	32	22
11/07/86	148	190	1.28	158	146	2.9	2.6	45	41
11/14/86	149	190	1.28	155	146	1.3	1.1	37	27
11/21/86	150	190	1.27	160	146	2.1	1.7	37	31
11/28/86	151	190	1.26	158	146	3.1	1.6	61	31
12/05/86	152	200	1.32	157	145	5.8	3.7	79	51
12/12/86	154	200	1.30	160	150	4.2	1.9	74	39
12/19/86	152	200	1.32	160	152	2.6	2.6	47	46
01/09/87	150	200	1.33	158	150	1.4	1.4	36	33
01/16/87	152	200	1.32	158	150	3.3	2.5	55	35
01/23/87	153	200	1.31	155	152	3.1	2.3	54	42
01/30/87	154	200	1.30	157	152	3.2	2.8	60	51
02/06/87	148	200	1.35	157	148	2.5	2.5	59	55
02/13/87	152	200	1.32	158	148	6.3	2.4	78	43
02/20/87	150	200	1.33	157	149	6.8	6.5	91	82
02/27/87	153	200	1.31	156	151	4.5	2.4	74	34
03/13/87	155	200	1.29	158	150	7.3	4.3	133	78
03/20/87	156	210	1.35	158	152	5.9	4.5	92	66
03/27/87	156	210	1.35	160	152	6.2	4.3	83	67
04/04/87	156	210	1.35	160	155	2.8	2.6	50	43
04/11/87	157	210	1.34	160	152	6.0	3.6	82	52
04/25/87	158	210	1.33	160	156	4.9	2.8	82	50
05/08/87	159	220	1.38	162	156	7.9	7.1	141	85
05/15/87	159	220	1.38	165	159	5.7	5.7	85	85
05/22/87	160	220	1.38	163	159	3.9	3.8	74	68
05/29/87	157	230	1.46	165	157	2.5	2.5	59	59
06/05/87	157	240	1.53	162	157	2.9	2.9	51	51
06/12/87	159	240	1.51	162	157	5.2	3.8	78	57
06/19/87	159	240	1.51	164	158	5.1	4.1	86	85
06/26/87	161	250	1.55	164	159	6.7	2.8	83	43
07/03/87	162	250	1.54	164	159	6.0	3.0	83	62
07/10/87	163	250	1.53	165	162	7.4	5.2	107	76

Date	Nominal Exchange Rate			Hi Bid	Lo Bid	Demand	Supply	No. Bids	No. Wins
	Auction	Parallel[a]	Ratio						
	Cedi/$US					US$ Millions			
07/17/87	162	250	1.54	170	162	7.2	7.2	108	108
07/24/87	162	250	1.54	166	159	7.6	7.3	78	75
07/31/87	162	260	1.60	165	162	4.2	4.2	75	75
08/07/87	162	260	1.60	165	162	3.7	3.7	76	76
08/14/87	163	260	1.60	165	163	5.1	5.1	68	68
08/21/87	164	250	1.52	165	163	4.6	3.6	78	54
08/28/87	165	240	1.45	167	163	7.5	4.7	99	74
09/04/87	166	240	1.45	168	163	9.6	6.8	100	79
09/11/87	168	250	1.49	169	165	6.9	3.0	108	54
09/18/87	171	250	1.46	172	168	14.6	2.7	154	25
09/25/87	176	260	1.48	179	170	17.6	8.8	243	78
10/02/87	175	260	1.49	191	175	7.4	7.4	180	180
10/09/87	174	260	1.49	183	172	5.1	5.0	98	96

Sources: *World Bank (1989a).*

[a] *Parallel rate is from J. Manarolla and S. Vordzargbe (1987) and is the average rate quoted by (legal) private foreign exchange bureaus for the week.*

Notes: *Auction rate is the lowest successful bid in the weekly official foreign exchange auction. Number of bids includes all eligible bids received, while wins refers to successful bids.*

prior to the narrowing of the gap. This is in keeping with a view that the increased dispersion of bids reflects lags in acquiring and processing information during periods of price movements.

Ghana has also removed most quotas and import restrictions in the last few years. Successful auction bids are granted licenses generally within six to eight weeks of the date of the auction. Moreover, restrictions on the use of auction funds have been phased out; service and transfer payments were eligible from March 13, 1987, and consumer goods previously available under special import licenses were phased into the auction between March 1987 and February 1988. The system of SIL—a means of importing using funds retained from exporting—was phased out by the beginning of 1989. With minor exceptions, the few items that remain prohibited are for nontrade reasons.

While the author has found no documentation of restrictions on the use of auction funds to import grains, all major import companies that were visited in February 1989 claimed that bids for food items would not be accepted.[11] Since food imports—including those by government agencies—were less than one percent of all auctioned financed imports up until third quarter 1988, this view is credible. Moreover, as discussed below, rice prices in Accra reflect the marginal higher cost of foreign exchange bureaux, not the auction rates.

The extent of such restrictions may become a moot point in 1991 as the government plans to unify the exchange rates.[12] Any predictions of the implications of such a move on prices and on the loss of specific rents to auction users (including the government and its agencies) depends, however, on an understanding of how, and how much, the exchange market is segmented. Despite the few possible remaining restrictions and the scale economies that may channel some trade to the bureaux, the gap between the auction and nonauction exchange rates remains difficult to explain. A portion of the demand at the bureaux may reflect portfolio choice; holding foreign exchange is a major means of saving even in countries without Ghana's recent economic history. Other factors surely also play a role as the bureaux are used primarily for trade. This is often small-scale trade with neighboring countries for whom the auction is cumbersome or infeasible. This helps explain why the demand for CFA is only slightly less than the demand for US dollars. It is a subject for further study to determine why the demand at the bureaux did not shift to the auction in the initial years, bidding up the rate there to a level closer to that at the bureaux.

As mentioned, Ghana relaxed quantity restrictions and other licensing procedures as it realigned its exchange rate. For example, before private sales and the purchasing of foreign exchange were licensed, nontraditional exporters were permitted to retain 35 percent of receipts from October 1986 (other exporters retained 20 percent). License requirements for imports were phased out by January 1989. Import taxes were reduced and rationalized with anomalies such as the waiver on duties for cars removed. Taken together, such changes in tariffs and quotas will have mitigated the movement in effective exchange rates compared with the real exchange rates reported in Table 3. Such changes are commodity specific and differ between import and exports and are, therefore,

11 In November 1989, at the author's request, the import manager of a major trading company approached the Bank of Ghana for clarification on auction restrictions. He was informed that rice and sugar in particular could not be funded from the auction. No mechanism for such exclusion, however, is apparent.

12 This process is behind schedule, partly because of concerns that capital flight could not be controlled. It is not, however, immediately apparent that the bureaux present a barrier to capital flight.

best indicated by data on wholesale prices presented in the discussion of price policy below.

GENERAL ECONOMIC CONSEQUENCES OF TRADE POLICY REFORMS

The movement in the real value of the official exchange rate confirms a universal truth: not to decide is to make a decision. Prior to the institution of the auction, the government had either to continually devalue or see an unplanned revaluation in real terms. Devaluations may fuel inflation and thereby undermine their own effectiveness. It is equally likely, however, that the erosion reflects the persistence of the economic forces that originally led to the devaluation.

To obtain some perspective on the effectiveness of a devaluation, an index of the change of real exchange rates can be divided by the nominal devaluation. Edwards (1989) indicates that this index may be negative if the real exchange rate is lower after the devaluation than it was before. The lower the index the more nominal devaluation has been eroded over time.

One notes from Table 5 that the 1978 devaluation was virtually instantly eroded as little was done to control inflation. On the other hand, the 1967 and 1972 devaluations were not apparently eroded by inflation. Why, then, did the former fail? The explanation lies in the instability of export earnings and the government's inability to save out of the transitory increase in cocoa earnings in 1970.

At first glance, the postrecovery devaluations do not appear to have been more effective than those of 1978. Table 3, however, shows a major difference: the more recent devaluations have been followed by rising real exchange rates while the rate continued to fall in 1979-1982. In this respect, the postrecovery devaluations are similar to the crawling peg experiences analyzed by Edwards (1989). The rising real exchange rate is achieved by "fighting off" the subsequent inflation with further devaluation. While this could be unstable or explosive,[13] Ghana's monetary policy, which seeks to avoid accommodating the inflationary potential of devaluation, likely averts such ill effects.

The ratio of the parallel to the official rate also can be used to measure trade distortion. It proxies for various factors, including the level of confidence of domestic investors (capital flight) and the economy's reliance on quotas and duties to balance trade. One notes, then, a steady trend toward convergence of the parallel rates since the beginning of the recovery program. This restores the

13 Chhibber and Shafik's (1990) econometric model does not indicate "cost-push" inflation.

Table 5 – Ghana: Effectiveness Index of Ghanaian Devaluations, 1967-1988

Devaluation Episode	Index			
	Year of Devaluation	One Year After Devaluation	Two Years After Devaluation	Three Years After Devaluation
1967	1.43	0.88	0.80	0.93
1972	1.06	1.38	1.56	0.58
1978	0.34	0.29	-0.10	-0.45
1983	0.34	0.29	0.30	0.27
1984	0.47	0.65	0.62	0.53
1985	0.91	0.75	0.63	0.49
1986	0.74	0.60	0.45	—
1987	0.12	0.16	—	—
1988	0.21	—	—	—

Sources: *IMF (various years); International Currency Analysis, Inc. (various years).*

Notes: *Index measures degree of erosion in the real exchange rate following a (nominal) devaluation, and is calculated as the elasticity of the real exchange rate with respect to a nominal devaluation (see Edwards, Chapter 7, for a description). Like an elasticity, a value of one means that the nominal adjustment is exactly matched by a proportional devaluation in the real rate. Positive values less than one indicate partial erosion of the real adjustment, while negative values occur if the real rate has fallen below where it was one year prior to the devaluation. From 1983 onward, a period characterized by a crawling peg regime, the index is calculated by arbitrarily choosing the fourth quarter as the base, comparing proportional changes from the fourth quarter of the previous year. Prior to 1983, when rates were generally fixed, the index is calculated using the quarter of the devaluation as a base, compared to the same quarter in the previous year. The exception is 1972, when a first quarter devaluation was partially rolled back after two weeks, so the second quarter is taken as the base.*

position achieved in the halcyon days in the first few years under the NRC. Though not indicated in Table 3, if one uses the difference between the auction and the bureau rate in lieu of the parallel to official rate, the ratio has remained in the 150 to 110 range between 1988 and 1990 with a generally downward trend.

Although much of the discussion of the exchange rate has been framed in terms of the trade balance, in actuality, the issue for Ghana has been less the trade balance than the level of imports. Before adjustment, Ghana had neither international reserves nor sufficient credit to finance a sizable current account imbalance. Table 6 shows no appreciable trend in the current account balances between 1983 and 1988. Imports and exports, however, both nearly doubled in nominal dollar terms in that short period. The economy clearly had excess capacity to rapidly increase exports. Moreover, there seems to be no obvious contraction of demand as price movements replaced quotas for the clearing of import demand.

Before discussing the composition and unit value of trade, it is useful to further discuss Ghana's capital position. While grants have increased moderately in recent years, the most significant change in the net capital account has been the volume of available long-term loans. These have allowed for the retirement of short-term loans. Ghana also made substantial IMF repurchases in 1987. Relatively little private investment is indicated in Table 6, although some significant projects have been initiated and are discussed below. Many of these projects are financed through the IFC or bilateral agreements and are listed under loans rather than private investments.

An interesting, but largely unanswerable question, regards the economy's response to the increased availability of foreign exchange versus the economic policies per se. The availability of the exchange is largely a consequence of the policy reforms, but this does not necessarily follow from economic causality so much as the signaling of credit worthiness.[14]

Another open question, although somewhat easier to address, is the degree to which exchange rate and other trade policies achieved a rationalization of signals in order to influence production and consumption. Rimmer (forthcoming), for example, contends that the devaluations in 1967 and 1978 had a larger impact on the distribution of rents for holders of import license, or those empowered to grant them, than on domestic prices. A similar argument can be made regarding the devaluations in the early 1980s. If the real rate of exchange is endogenous—as it likely is when a country has no foreign reserves to draw down—then a nominal devaluation mainly makes explicit what various rationing

14 Spense (1973) makes a similar distinction in regards to education. Even if schooling does not impart any skills, it may serve to screen potential employees.

Table 6 – Ghana: Balance of Payments, 1980-1988

		1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
		Millions of US$									
A	Exports (f.o.b.)	1066.0[b]	1103.6[a]	710.7[a]	607.0[a]	439.1[a]	565.9[a]	632.4[a]	773.4[a]	826.8[a]	881.5[d]
	Cocoa (beans and derivatives)	—	706.2[c]	398.8[c]	383.0[c]	252.1[b]	351.6[b]	376.0[b]	474.7[b]	431.0[b]	409.3[b]
	Gold	—	201.0[c]	158.4[c]	116.3[c]	102.0[b]	103.2[b]	90.5[b]	106.3[b]	142.3[b]	167.6[b]
	Wood (logs and timber)	—	33.6[c]	36.9[c]	16.0[c]	14.6[b]	21.2[b]	27.9[b]	43.9[b]	90.5[b]	107.1[b]
B	Imports (c.i.f.)	-882.0[b]	-970.9[a]	-1020.1[a]	-629.3[a]	-534.1[a]	-569.7[a]	-714.8[a]	-712.5[a]	-1017.1[a]	-1091.4[d]
	Petroleum[b]	-131.0	-227.0	-344.0	-217.0	-204.0	-161.0	-200.0	-125.0	-144.6	148.3[d]
C	**Merchandise Trade Balance [A+B]**	**184.0**	**132.7**	**-309.4**	**-22.3**	**-95.0**	**-3.8**	**-82.4**	**60.9**	**-190.3**	**-209.9[d]**
D	Nonfactor Services[b]	-95.0	-104.0	-113.0	-85.0	-65.0	-91.0	-90.0	-115.0	-94.9	-97.1[d]
E	**Resource Balance [C+D]**	**89.0**	**28.7**	**-422.4**	**-107.3**	**-160.0**	**-94.8**	**-172.4**	**-54.1**	**-285.2**	**-307.0[d]**
F	Net Factor Income[b]	-46.0	-80.0	-81.0	-82.0	-82.0	-81.0	-110.0	-106.0	-132.0	-131.0[d]
G	Private Transfers (net)[b]	-3.0	-3.0	-4.0	-1.0	17.0	73.0	33.0	73.0	202.0	172.4[d]
H	**Balance on Current Account [E+F+G]**	**40.0**	**-54.3**	**-507.4**	**-190.3**	**-225.0**	**-102.8**	**-249.4**	**-87.1**	**-215.2**	**-265.6[d]**
	Financed by:[b]										
	Grants (official transfers)	82.0	83.0	87.0	84.0	72.0	103.0	82.0	118.0	122.0	173.7[d]
	Official long-term loans (net)	108.0	96.0	49.0	16.0	15.0	84.0	110.0	211.0	254.0	272.9[d]
	Official medium-term loans (net)	-14.0	-13.0	42.0	97.0	13.0	89.0	-70.0	-72.0	-23.0	-72.7[d]
	Trust fund	34.0	0.0	0.0	0.0	0.0	-1.0	-7.0	-11.0	-12.0	-13.1[d]
	Direct foreign investment	-3.0	16.0	16.0	16.0	2.0	2.0	6.0	4.0	5.0	5.0[d]

	Private capital (net)	-5.0	0.0	-13 0	-5.0	12.0	4.0	0.0	2.7	-3.0	-1.0[d]
	SDR allocation	14.0	14.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0[d]
	Capital (n.e.s)	-26.0	12.0	0.0	13.0	61.0	-85.0	15.0	-69.0	33.0	26.6[d]
	Net errors and omissions	-105.0	-141.0	63.0	-36.0	-187.0	55.0	11.0	-38.0	-12.0	-1.2[d]
I	Net Capital Account	85.0	67.0	258.0	185.0	-12.0	251.0	147.0	146.0	364.0	390.2[d]
J	**Balance of Payments [H+I]**	**125.0**	**12.7**	**-249.4**	**-5.3**	**-237.0**	**148.2**	**-102.4**	**58.9**	**148.8**	**124.5[d]**
K	Monetary Movements[b]	-125.0	-12.0	250.0	-27.0	243.0	-37.0	118.0	57.0	-139.0	-124.5[d]
	IMF (net)	28.0	31.0	-12.0	-5.0	259.0	214.0	122.0	16.0	-25.0	-45.4[d]
	Purchases	—	—	—	—	259.0	218.0	122.0	38.0	149.0	218.9[d]
	Repurchases	—	—	-12.0	-5.0	0.0	-4.0	0.0	-22.0	-174.0	264.3[d]
	Changes in SDR holdings	-5.0	15.0	-6 0	-10.0	17.0	2.0	0.0	16.0	-12.0	13.2[d]
	Foreign exchange	-68.0	27.0	110.0	-44 0	0.0	-35.0	11.0	15.0	-31.0	-57.5[d]
	Payments arrears	-75.0	-79.0	141.0	35.0	-34.0	-208.0	-57.0	-4.0	-71.0	-34.8[d]

Sources: *IMF (various years); World Bank (1989c); Government of Ghana (1989b).*

[a] *IMF.*

[b] *World Bank.*

[c] *Government of Ghana.*

[d] *Provisional, World Bank and Government of Ghana.*

and licenses were doing, albeit expensively in terms of allocative efficiency and dead-weight loss. This issue of marginal prices is discussed in greater detail in the section on pricing policy.

The devaluation has had a clearer impact on exporters. Krueger, Schiff, and Valdes (1988) observe that the main source of disincentives to agricultural export production in most developing countries is through exchange rate distortions as opposed to direct interventions. The disincentives to cocoa production in Ghana due to exchange rate overvaluation were so strong that Ghana actually compensated producers a portion of their lost earning by means of other interventions. The net impact, however, was still a major indirect taxation and the well-known production disincentives.

Although the government retains a monopoly on the legal cocoa trade, it has allowed real producer prices to rise as the exchange rate distortions have been reduced (see the discussion under agricultural policy). This has led to increased exports through government channels as well as to increased earning for producers.

Cocoa's share in exports has declined somewhat in recent years—from overwhelming to merely dominant (Table 7). This partly reflects a slump in world prices. As significant, however, is the growth in other exports. Gold production has responded to deregulation of the industry in regards to small-scale operations as well as to a more favorable investment climate. As with cocoa, it is likely that the exchange rate realignment and deregulation of currency markets has encouraged producers to sell locally a portion of what formerly found its way to Togo and Côte d'Ivoire. Timber exports have also increased faster than cocoa, raising concerns about the sustainability of current harvest rates. Recently, sales of logs of certain species have been banned in an effort to increase the local value-added component of forestry products.

In addition, the growth in nontraditional exports, such as fish and horticultural products, is an encouraging trend. While this growth has been from a small base and, hence, not yet of macroeconomic significance, the trend is an indicator of the effectiveness of current trade policies.

TRADE POLICY REFORMS AND POVERTY

Under a complex system of quotas and parallel markets, the impact of a devaluation on the price of importables may differ from its impact on exportables (Edwards, 1989). In an economy with black markets, the marginal exchange rate for imports will generally be the black market rate, while the rate for most exports depends on institutional arrangements. Commodities exported directly by the government (cocoa, coffee, shea butter, etc.) received the official rate. When

exporters were able to retain a proportion of their receipts, the marginal rate would be a weighted average of the two rates. As such, the devaluations in the 1980s should have had little direct effect on most consumers,[15] although producer prices for exports and importer rents were directly affected. Moreover, the two-tier pricing system – an unknown quantity of civil servants obtaining commodities at government-owned shops – meant an increase in *average* costs of food and other basic commodities for some consumers following devaluation.

As expected, the devaluation of the cedi has had a significant impact on cocoa producers. Net payments to farmers increased from just under 5 billion cedis in 1983/84 to over 13 billion cedis in 1987/88 (in 1985 constant prices).[16] Ecology dictates that such gains will be distributed unevenly across regions with over half of all payments going to farmers in the Western and Ashanti regions. In general, the regions that have benefited from the rising cocoa prices have also benefited from the higher prices for timber and gold. In the latter case, however, backward linkages are likely relatively low.

Rice producers have been protected in Ghana over the last decade, even when the indirect impact of exchange rate misalignment are considered (Krueger et al., 1988). Liberalization of trade may erode the domestic price, but there is little evidence to date that either food aid or rice imported by private trade has influenced the price of domestically produced rice at the farm gate. Moreover, relatively few rice producers – mostly on mechanized farms in the Northern region – are net sellers.

The full impact of trade liberalization in the manufacturing sector is less easily indicated. The effect on producer incomes is influenced by such factors as economies of scale and the competitiveness of the domestic market before liberalization. Such impacts are best modeled with general equilibrium or similar models (Devarajan and Rodrik, 1989). In the short run, it is likely that some domestic producers previously protected by quantity restriction will fail to compete with more readily available imports. While some anecdotal reports indicate that this has been the case in Ghana, the prevalence of such situations is hard to assess.[17] Quantity restrictions can increase domestic prices above those that prevail following a devaluation and trade liberalization, although, in general, a devaluation should encourage import substitution. The magnitude

15 An official devaluation will have an indirect effect on the black market premium and hence the marginal import rate. The direction of this impact, however, is theoretically indeterminate (Edwards, 1989).

16 Calculated from World Bank (1989a).

17 Moreover, it is hard to make a sound economic case that producers should be compensated for lost rents.

Table 7 – Ghana: Merchandise Exports, 1975-1988

Commodity	1980	1981	1982	1983	1984	1985	1986	1987	1988
	Volume: 1,000 Unit				Value: Millions of US$				
Cocoa (beans)									
Volume (tons)	210.8[b]	192.5[b]	239.9[b]	159.3[a]	149.6[a]	171.7[e]	195.0[a]	205.2[a]	183.8[a]
Value	706.2[b]	398.8[b]	383.0[b]	252.1[a]	351.6[a]	376.0[a]	474.7[a]	431.0[a]	409.3[a]
Cocoa (products)									
Volume (tons)	23.2[b]	6.2[b]	15.7[b]	15.0[a]	15.3[a]	16.0[a]	15.9[a]	13.7[a]	20.2[a]
Value	83.9[b]	17.7[b]	23.7[b]	23.6[a]	37.6[a]	36.1[a]	34.0[a]	29.0[a]	45.0[a]
Gold									
Volume (troy oz.)	347.9[b]	346.1[b]	301.8[b]	278.0[a]	286.0[a]	285.0[a]	292.0[a]	323.5[a]	380.0[a]
Value	201.0[b]	158.4[b]	116.3[b]	102.0[a]	103.2[a]	90.6[a]	106.3[a]	142.3[a]	167.6[a]
Diamonds									
Volume (carats)	930.0[b]	944.0[b]	688.0[b]	439.0[a]	425.0[a]	640.0[a]	565.0[a]	397.0[a]	329.0[a]
Value	10.0[b]	8.2[b]	5.1[b]	2.8[a]	2.8[a]	5.5[a]	4.5[a]	4.0[a]	3.9[a]
Manganese									
Volume (tons)	162.8[b]	142.0[b]	97.0[b]	127.0[a]	248.0[e]	263.4[a]	246.0[a]	235.1[a]	284.0[a]
Value	9.1[b]	8.1[b]	3.1[b]	5.0[a]	8.4[a]	9.0[a]	8.1[a]	7.5[a]	8.0[a]
Bauxite									
Volume (tons)	223.0[b]	151.0[b]	36.0[b]	82.0[b]	45.0[a]	124.0[a]	226.0[a]	226.0[a]	275.0[a]
Value	3.1[b]	2.6[b]	0.7[b]	1.5[b]	0.9[a]	2.7[a]	5.0[a]	5.2[a]	6.1[a]
Timber									
Volume (cubic m)	185.0[b]	204.0[b]	110.0[b]	103.0[a]	148.0[a]	247.0[a]	291.0[a]	497.0[a]	538.0[a]
Value	33.6[b]	36.9[b]	16.0[b]	14.6[a]	21.2[a]	27.9[a]	43.9[a]	90.5[a]	107.1[a]

Electricity									
Volume ((kwh)	—	—	—	—	624.0[a]	1700.0[a]	2500.0[a]	2847.0[a]	2898.0[a]
Value	—	—	—	12.0[a]	20.8[a]	34.3[a]	45.9[a]	48.4[a]	75.3[a]
Total Value[c]	**1103.6**	**710.7**	**607.0**	**439.1**	**565.9**	**632.4**	**773.4**	**826.8**	**886.9[d]**

Sources: *World Bank (1989a); Government of Ghana (1989b); IMF (various years).*

[a] *World Bank (1989a).*

[b] *Government of Ghana (1989b).*

[c] *IMF and IFS (various years).*

[d] *Estimated using the average proportion of exports from the first and third sources.*

Notes: *For 1980-1982, dollar values were obtained from the second source. Period average official nominal exchange rates were used to convert from cedis. The 1988 figures are preliminary estimates by the World Bank.*

and even the direction of the real price movement, however, is largely specific to each commodity.

For the same reason, the impact of trade liberalization and devaluation on the cost of living cannot be determined by the movement of the exchange rate alone. While it is plausible that the real incomes of consumers declined following the devaluations in proportion to the share of tradable goods in each household's budget, commodity-specific quantity restrictions, as well as the availability of commodities smuggled in from neighboring countries, make such a proposition only a tentative first approximation. Note that the parallel exchange rate fell substantially in 1983 and remained below its previous real level for three years. Commodities imported at the margin under parallel rates would then have become *cheaper* during the adjustment, despite the higher official exchange rate.

DEVALUATION AND FOOD PRICES

In order to distinguish the relationship of food prices and movements in the exchange rate, a technique was used which studies the relationship of a driving variable (in this case the exchange rate) and a dependent variable (the food component of the consumer price index) through an autoregressive moving average procedure (Box and Tiao, 1975).[18] The dependent variable is actually the error term from a regression of the change of the logarithm of the national CPI for food on season dummies and a dummy variable for the 1983-84 drought. This detrends the seasonality in the price series.

In the second step this variable is regressed on its lagged value and the exchange rate (ER) lagged one and two periods. The estimating equation (standard errors in parenthesis) is:

$$dln(CPI_{food})_t = \underset{(0.15)}{(-0.46)} * dLN(CPI_{food})_{t-1} + \underset{(0.012)}{(0.05)} * dLN(ER)_{t-1}$$

$$+ \underset{(0.014)}{(0.06)} * dLN(ER)_{t-2}$$

Integrating this function allows one to indicate the magnitude and speed of the response; the impact of a 100 percent devaluation is only an 8 percent increase in food prices, all of which comes after the first two months. This is clearly a small (but statistically significant) response. The fact that few food

18 The results reported here are part of an ongoing study on exchange policy currently under way at Cornell.

commodities are actually traded on international markets, as well as the possibility that scarcity costs (shadow prices of foreign exchange) rather than official prices determined the market prices of those foods which were imported, may explain the comparatively small magnitude of this relationship. The former issue remains valid even in the 1990s, while the latter pertains more to the earlier period when import quotas and a distorted currency prevailed.

3. Fiscal and Monetary Policies

HISTORICAL PERSPECTIVE

Deficits and revenues are, of course, linked, but not rigidly. While the years 1981-83 were the nadir of Ghana's ability to raise revenues, the deficit was larger (in terms of GNP) during the middle of the previous decade (Table 8). While one cannot ignore the monetary implications of the deficits of the late seventies, the fiscal implications of the government's inability to mobilize resources in the early 1980s can be directly linked to the breakdown of services reported from that period. One notes from Table 9, for example, that taxes as a share of GNP in 1981 were a third of what they were only six years earlier. Given the real GNP decline of the 1970s, this declining share represents an even more rapidly declining control over resources. A major, but not exclusive, contribution to this decline was the loss of cocoa duties; exchange rate distortions and the decline of world prices from their extraordinary levels in 1977 and 1978 left the Cocoa Marketing Board in a deficit after paying producers.

Noting the downward trends in both revenues and GNP, as well as the declining deficit in the period under discussion, one would expect declining real government expenditures. This is, in fact, what is derived if one multiplies the *share* of government expenditures to GNP from Table 9 times real GNP. Note, however, that estimated government consumption in constant terms in 1983 was actually greater than that of the mid-1970s (Tables 10A and 10B). Before one concludes that the decline in government expenditures predicted above can be reconciled with the apparent upward trend in consumption by looking at changes in government investment, one should first note that government consumption also *declined* as a share of GNP when expressed in current cedis.

The explanation for these vastly different pictures lies in the choice of deflators. Government consumption is mainly services. Hence, costs follow trends in wages. Between 1975 and 1983, wages rose far slower than the price of goods, hence nominal government consumption is deflated by a smaller

Table 8 – Ghana: Deficit Finance, 1974-1987

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
	Millions of Cedis													
Gross National Product	**4,629**	**5,241**	**6,478**	**11,123**	**20,938**	**28,123**	**42,670**	**72,404**	**86,226**	**182,398**	**266,918**	**337,280**	**498,796**	**725,541**
Deficit (surplus)	196	401	736	1,057	1,897	1,800	1,808	4,707	4,848	4,933	4,843	7,579	(299)	(4,059)
Foreign Grants	—	—	—	1	—	—	45	48	52	57	914	1,620	3,868	6,037
Revenue Gap	196	401	736	1,058	1,897	1,800	1,853	4,755	4,900	4,990	5,757	9,199	3,569	1,978
Deficit/GNP	4.2	7.7	11.4	9.5	9.1	6.4	4.2	6.5	5.6	2.7	1.8	2.2	-0.1	-0.6
Revenue Gap/GNP	4.2	7.7	11.4	9.5	9.1	6.4	4.3	6.6	5.7	2.7	2.2	2.7	0.7	0.3
Total Financing	196	401	736	1,057	1,897	1,800	1,808	4,707	4,848	4,933	4,843	7,579	(299)	(4,059)
Domestic	198	400	734	1,044	1,720	1,800	1,518	4,340	4,421	3,825	3,028	4,043	5,315	(2,879)
Foreign	(2)	1	2	13	67	0	290	367	389	970	1,815	3,522	(5,614)	(1,180)
Other	0	0	0	0	110	0	0	0	38	138	0	14	0	0
Internal Financing														
As a percent of total	101.0	99.8	99.7	98.8	90.7	100.0	84.0	92.2	91.2	77.5	62.5	53.3	—	—

Sources: *IMF (various years); World Bank (1989c).*

Note: *Revenue gap is the difference between revenue and expenditure, the deficit when grants are not considered.*

number than GNP or private consumption. For example, the CPI deflator for 1983 (1980 = 100) is 560, which is roughly the same as the GNP deflator, and the deflator for private consumption. Comparing the reported current and constant government consumption in that year, however, one derives an estimate for the government consumption deflator as 114. To put it differently, the deflated consumption figures indicate that low wages enabled the government to purchase more services in 1983 with revenues of 5 percent of GNP than it could in 1975 with revenues of over 12 percent of GNP. This, of course, is likely misleading. A distortion of the magnitude implied in the relative prices makes the government wage series a poor indicator of the productivity obtained for a unit expenditure.

No such index problem exists with interpreting the deficit. The large deficits in 1975-1979 are a fair portion of the explanation for the inflation and, subsequently, the growing exchange rate distortion in the later part of the decade and the early 1980s. To be sure, the problem was compounded by price controls and other rigidities, but the essential point of the link between macropolicies and overall market performance remains valid.

The revenue collapse also rippled through the rest of the economy. Falling real wages for skilled and unskilled government workers alike (see below) caused an exodus from the civil service. Younger (1989) indicates that the education ministry lost up to 10,000 teachers and administers by 1984. Similarly, the Ghana Water and Sewerage Corporation had no accountants, and only 23 percent of its engineers that year. This attrition partly compensated for a policy of overstaffing that had led to a 14 percent annual growth in government employment between 1972 and 1985 and was therefore simply a self-adjustment. The size, and likely selectivity, of the staff hemorrhage, however, converted the revenue drought into a major decline of government output.

POLICY REFORMS, 1983-1989

A major objective of the recovery program was to restore the government's capacity to mobilize national resources and to fund its operations without resorting to inflationary financing. As indicated in Table 8, the government was able to rapidly reduce the deficit and even generate a small surplus by 1986. Foreign grants apparently played a small role in this recovery. While such grants increased rapidly from the negligible base in 1983, the revenue gap presented in Table 8—that is, the deficit when grants are not included—is still small in proportion to GNP in the years considered. Similarly, while foreign capital played a significant role in financing the deficit between 1983 to 1985, capital flowed outward in 1986 and 1987. There was a net inflow of foreign funds again

Table 9 – Ghana: Government Revenue, 1975-1987

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
	Millions of Current Cedis												
Gross National Product[a]	**5,241**	**6,478**	**11,123**	**20,938**	**28,124**	**42,672**	**72,294**	**86,225**	**182,798**	**266,918**	**337,280**	**498,797**	**725,541**
Total revenue	809	870	1,141	1,392	2,600	2,951	3,234	4,804	10,185	21,728	38,691	69,758	105,009
Tax revenue	727	765	1,041	1,251	2,411	2,747	2,970	4,182	8,459	17,931	31,918	61,923	93,917
Individual income	69	84	94	171	210	308	388	694	999	1,654	3,058	5,242	8,191
Cocoa duties	180	269	278	835	920	535	--	—	2,800	4,509	8,861	13,901	26,996
Import duties	139	131	177	241	355	361	472	570	1,792	3,159	6,591	14,236	17,784
Sales and excise	136	242	351	409	422	832	1,263	1,884	1,727	5,620	8,592	19,778	26,545
Nontax revenue	82	105	100	141	189	204	264	622	1,726	3,797	6,773	7,835	11,092
Foreign Grants	—	—	1	—	—	45	48	52	57	914	1,620	3,868	6,037
Govt. Expenditures	997[c]	1,308[c]	2,137	3,165	4,296	4,668	7,719	9,530	14,755	26,694	45,763	70,660	106,987[d]
Tax/GNP	14	12	9	6	9	6	4	5	5	7	9	12	13
Tax/tot. rev.	90	88	91	90	93	93	92	87	83	83	82	89	89
Income tax/tot. rev.	9	10	8	12	8	10	12	14	10	8	8	8	8
Cocoa duties/tot. rev.[b]	22	31	24	60	35	18	0	0	27	21	23	20	26
Import duties/tot.rev.	17	15	16	17	14	12	15	12	13	15	17	20	17
Sales & exc./tot. rev.	17	28	31	29	16	28	39	39	17	26	22	28	25
Nontax/tot. rev.	10	12	9	10	7	7	8	13	17	17	18	11	11
Grants/tot. rev.	0	0	0	0	0	2	1	1	1	4	4	6	6
Govt. expend./GNP	19	20	19	15	15	11	11	11	8	10	14	14	15[d]

	Indices (1979=100)												
Tax/GNP	162	138	109	70	100	75	48	57	54	78	110	145	151
Tax/tot. rev.	97	95	98	97	100	100	99	94	90	89	89	96	96
Income tax/tot. rev.	106	120	102	152	100	129	149	179	121	94	98	93	97
Cocoa duties/tot. rev.[b]	63	87	69	170	100	52	0	0	78	59	65	56	73
Import duties/tot. rev.	126	110	114	127	100	90	107	87	129	106	125	149	124
Sales & exc./tot. rev.	104	171	190	181	100	174	241	242	104	159	137	175	156
Nontax/tot. rev.	139	166	121	139	100	95	112	178	233	240	241	155	145
Govt. expend./GNP	125	132	126	99	100	72	70	72	53	65	89	93	99[d]

Sources: *IMF (various years); World Bank (1989a); Government of Ghana (1989b).*

[a] *IMF.*

[b] *Cocoa Duties from World Bank (1989a), except 1980 from Government of Ghana (1989).*

[c] *Government expenditures in 1975 and 1976 are from World Bank.*

[d] *Provisional.*

Note: *All non-notated data are derived from IMF and GFS.*

Table 10A – Ghana: Real Consumption and Savings, 1974-1987

Item	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
	Millions of 1980 Cedis													
Gross National Product	46,205	40,011	38,627	39,391	43,261	42,536	42,670	41,452	38,761	37,063	40,215	41,955	43,994	45,910
Government consumption	3,331	3,354	3,432	4,417	5,193	4,268	4,784	5,534	4,920	4,823	4,199	4,068	4,141	5,359
Private consumption	38,693	32,363	31,078	31,357	35,571	35,094	35,953	33,941	30,564	30,461	33,973	35,755	37,055	37,919
	Ratios													
Government consumption/GNP	7.2	8.4	8.9	11.2	12.0	10.0	11.2	13.4	12.7	13.0	10.4	9.7	9.4	11.7
Private consumption/GNP	83.7	80.9	80.5	79.6	82.2	82.5	84.3	81.9	78.9	82.2	84.5	85.2	84.2	82.6

Table 10B – Ghana: Nominal Consumption and Savings, 1974-1987

Item	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
	Millions of Current Cedis													
Gross national product	4,613	5,241	6,478	11,123	20,938	28,124	42,672	72,294	86,225	182,798	266,918	337,280	498,797	725,541
Government consumption	569	688	799	1,409	2,371	2,903	4,784	6,384	5,603	15,780	19,641	31,400	46,100	64,100
Private consumption	3,645	3,873	5,170	8,637	17,766	23,454	35,953	63,333	77,620	167,147	239,613	288,748	435,672	650,199
	Ratios													
Government consumption/ GNP	12.3	13.1	12.3	12.7	11.3	10.3	11.2	8.8	6.5	8.6	7.4	9.3	9.2	8.8
Private consumption/ GNP	79.0	73.9	79.8	77.6	84.9	83.4	84.3	87.6	90.0	91.4	89.8	85.6	87.3	89.6
Public savings/GDP	—	—	—	—	—	—	—	—	-3.3	-1.8	-0.6	0.1	1.7	3.3
Private savings/GDP	—	—	—	—	—	—	—	—	—	—	4.6	5.4	3.7	2.7

Sources: *World Bank (1989c); IMF (various years); World Bank (1989a).*

in 1988 (preliminary data not included in Table 8). However, this was not strictly to finance a deficit, but, given the overall surplus, to retire domestic debt. As discussed below, however, this characterization depends critically upon what items are listed as on and off budget.

Somewhat in contradiction to the stylized version of a structural adjustment program, the recovery program initially included increased levels of government real expenditures.[19] As indicated in Table 9, expenditures relative to a growing GNP rose between 1983 and 1987 as the government recovered from its period of underfunding.[20] Rather than reducing services, Ghana achieved its deficit reduction by the traditional – but not necessarily popular – approach of increasing revenue. To a degree, this increase reflects the improved economy and the renewed ability to collect cocoa revenues, but efforts have also been made to increase the efficiency of tax collection.

Attempts have also been made to reform the tax structure to improve economic efficiency. In general import duties have been reduced and rationalized. Similarly, sales taxes have been restructured so that domestically-produced goods and imported goods are taxed equally. The 1990 budget added an explicit distribution objective to the tax structure. That budget includes an additional sales tax on luxury goods, such as whiskey and imported fruits, of 50 percent to 500 percent. Additional sales taxes were also imposed on cars. This tax, which increases with the size of the engine, is a major shift from a policy of exempting many private vehicles from any sales tax, which was discontinued only the previous year.

A number of reforms have also been instituted in the banking sector. For example, interest rates cum savings have been freed and sectoral credit limits removed, although a *minimum* level of loans for agriculture remains. Total credit for each bank, however, remains set by the Bank of Ghana as a temporary measure to restrict the growth of the money supply.

GENERAL ECONOMIC CONSEQUENCES OF FISCAL AND MONETARY POLICY REFORMS

While the government was able to transform its deficit into a small surplus and despite the absence of an apparent foreign financing component in the government's budget, Ghana's foreign debt nearly doubled in real terms in the latter half of the 1980s, reaching 40 percent of total GNP in 1989. In percentage

19 This is also in distinction to the adjustment program that followed Nkrumah's ouster.

20 Preliminary data and projections indicate that this trend has leveled off from 1986. Expenditure growth, however, continues at a rate similar to that of GNP. Expenditures remain, then, proportionally less than in the expansionary period in the mid-1970s.

terms the fastest growing component of that debt has been that incurred with private banks as the country improved its international credit rating. In absolute terms, however, the bulk of the new debt is owed to multilateral institutes. Since two-thirds of bilateral aid is grants compared with less than 20 percent of multilateral assistance, debt through bilateral official loans did not increase in real terms over the decade.

A graph of this increase of debt or a naive attempt to draw a trend from this recent evidence would be misleading. The growth of real debt reflects extraordinary movement in two years, which is unlikely to recur. Similarly, it is hard to imagine that private lenders will allow themselves the degree of overexposure that they risked elsewhere in the 1970s. Nevertheless, debt service drained over half of export earnings in the period 1984-1989, in some ways contributing to the need for new developmental loans. This, however, is not primarily an adjustment issue; debt servicing in the late 1980s is mainly a product of interest on short- term loans contracted to import petroleum as well as the delayed impact of loans obligated in the period of unsuccessful adjustment in the late 1960s and early 1970s. Arrears have been reduced during this period as well.

The government and the World Bank project that the high debt service ratios reported in Table 11 will decline by roughly one-half during the final decade of the century. Debt service, excluding the IMF and arrears (now fairly negligible) is expected to decline to 15-18 percent of exports plus nonfactor services. This compares to 14 percent in 1982. All projections, of course, are subject to a number of assumptions. Most critical in this case is the value of exports—that is, the denominator in the ratio. The interest rate is fairly certain; many loans are concessional. Ghana remains, however, vulnerable to commodity price fluctuations, particularly cocoa and, to a lesser degree, gold. Shortfalls in export earnings, such as the expected 7.5 percent decrease for 1989 compared to 1988,[21] will not affect growth in imports as long as new capital is forthcoming. This reflects, however, a special set of circumstances, not necessarily available to countries willing to emulate Ghana nor, perhaps, to the next generation of Ghanaians.

Supporting a vulnerable economy during a temporary decline in the terms of trade is, of course, a commendable—indeed, textbook—role for foreign assis-

21 Note, however, that exports in 1988 exceeded projections.

Table 11 – Ghana: Summary of Real Government Domestic and Foreign Debt, by Source, 1975-1987

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988[a]
	Millions of Constant 1985 Cedis									
Domestic Debt[b]	83,313	75,331	55,615	63,825	50,806	39,696	37,767	35,771	24,294	20,121
Bank of Ghana	36,875	45,218	34,432	33,416	29,024	23,982	21,634	19,243	12,147	7,050
Commercial banks	6,438	10,653	7,531	11,007	8,482	5,470	5,210	3,697	3,144	2,367
Secondary banks	4,813	2,960	2,676	3,931	3,057	1,786	3,483	5,655	3,080	1,914
Social security fund	20,250	8,718	5,962	5,401	3,381	2,881	2,899	4,305	3,715	4,955
Private sector and public enterprises	14,938	7,782	5,014	10,069	6,861	5,577	4,541	2,872	2,208	3,835
	Millions of Constant 1985 US$									
Foreign Debt[c]	1,249	1,459	1,340	1,279	1,291	1,194	1,294	1,639	2,075	2,149
Multilateral devel. instit. loans	155	441	444	448	452	462	581	803	1,161	—
Bilateral offic. loans	895	841	763	707	687	603	553	605	658	—
Suppliers' credits	179	168	125	99	93	72	97	86	80	—
Private bank loans	19	9	8	24	58	58	62	145	176	—

Debt Service Ratios[d]										
Excluding the IMF	—	—	—	—	—	32.1	46.8	37.4	28.9	31.3
Including the IMF	—	—	—	—	—	36.3	53.4	46.7	53.8	64.0
Including IMF plus arrears	—	—	—	—	—	46.4	61.9	47.2	61.8	67.6

Sources: *World Bank (1989a); IMF (various years).*

[a] *Figures for 1988 are preliminary estimates by World Bank staff.*

[b] *Domestic debt is total domestic debt outstanding in millions of cedis (at the end of June through 1982, end of December thereafter), deflated by the Ghanaian GDP deflator. The 1988 GDP deflator is estimated using the 1988 CPI.*

[c] *Foreign debt is total foreign debt outstanding in millions of US$ (at the end of December), deflated by the US GNP deflator.*

[d] *Debt service ratio is the ratio of debt service (variously defined) to exports of goods and nonfactor services.*

tance. Nevertheless, the disappearance of the deficit in the face of increasing expectations of adjustment dividends by various groups, including government and state-enterprise employees, is maintained by a high level of per capita aid and credit.[22] It should be noted that while foreign assistance increased during the 1980s, such flows are only a partial explanation for the improved macroeconomy; in per capita terms, net assistance to Ghana in 1987 was 20 percent less than the average for all of sub-Saharan Africa, excluding Nigeria.

Viewing the issue from another angle, the public investment-savings gap was over six percent of GNP at the end of the decade. Long-term sectorial adjustment and infrastructure restoration, as well as a variety of other projects, occur as much off budget as on. Ghana, then, has been able to maintain government consumption during adjustment, partly because many expenditures had been cut prior to adjustment and partly because it is not required to make an either/or choice regarding consumption and investment.

The main question for any long-term adjustment program is whether the government's investments, regardless of where the accounting is, achieve a credible flow of returns. During this period, however, one is also interested in the impact the government's investments have on the private sector. One notes, for example, that the foreign funding has allowed the government to reduce its requirements for domestic credit. This has freed funds for the private sector. As indicated in Table 12, the real value of net domestic credit to the government declined appreciably in the years immediately after the recovery program. While the total amount of domestic creation has also declined, credit to the private sector has increased in real terms. Commercial lending in 1985-1987 was over three times that in the first three years of the decade. Moreover, unlike some economic indicators that quickly surpassed the levels of the nadir but remained at the end of the decade below the peak levels of the early 1970s, real private borrowing rapidly recovered to, and exceeded, levels that prevailed 15 years previously.

As with so many aspects of the Ghanaian economy, the price of credit cannot readily explain this significant reduction of the government's crowding out of private credit. Although Table 12 does not indicate real interest rates prior to 1983, they were undoubtedly negative in the earlier years of the decade. Ration-

22 Total aid commitments in 1988 were 763 million dollars, 40 percent of which were multilateral (World Bank 1989a). This amount is an increase of 151 million dollars from the previous year and 411 million dollars greater than 1986. The grant component has remained roughly a third. Given the acceleration of commitments, annual disbursement levels have been below that of new commitments.

Table 12 – Ghana: Loans by Ghanaian Banks to the Public and Private Sectors, 1975-1988

	1980	1981	1982	1983	1984	1985	1986	1987	1988
	Millions of Constant 1985 Cedis								
Net Credit to Government	55,971	51,407	41,391	37,771	19,685	27,566	20,944	11,337	—
By banking system	52,598	49,292	39,937	38,229	29,072	27,566	20,944	11,337	—
By Bank of Ghana	43,975	41,369	29,868	28,069	22,379	20,645	14,442	7,398	—
By commercial banks	8,623	7,923	10,069	10,160	6,694	6,922	6,502	3,939	—
Net use of IMF resources	3,373	2,115	1,454	-457	-9,387	0	0	0	—
Credit to Rest of Public Sector	4,697	2,773	2,583	2,438	2,680	6,121	6,227	6,074	—
By Bank of Ghana	1,588	823	751	498	1,303	2,797	2,624	2,911	—
By commercial banks	3,109	1,951	1,831	1,940	1,377	3,323	3,602	3,163	—
Cocoa Financing	12,573	13,848	20,266	907	4,318	14,520	11,918	8,357	—
By Bank of Ghana	10,715	10,153	18,019	199	4,138	12,516	11,155	7,183	—
By commercial banks	1,858	3,695	2,247	708	180	2,005	763	1,175	—
Credit to Private Sector by Commercial Banks	7,577	6,299	5,684	9,097	13,373	19,798	25,730	24,192	—
	Percent								
Interest on Savings Deposits									
Nominal rate	12.4	8.5	8.5	11.5	15.0	17.0	19.0	—	—
Real rate	—	—	—	-51.1	-17.6	6.9	-4.5	-13.1	-9.4
Maximum Lending Rate									
Nominal rate	—	—	—	—	—	—	—	—	—
Real rate	—	—	—	-49.5	-12.3	11.4	-1.3	-11.7	-1.1

Sources: *World Bank (1989a); IMF (various years).*

Notes: *Excludes secondary banks prior to 1983. Constant values for credits were calculated by deflating the nominal credits with the GDP deflator. Real interest rates calculated by subtracting the year-to-year percentage change in the CPI from the current nominal interest rate.*

ing mechanisms, rather than price, cleared the market. However, despite attempts to raise real interest rates to reflect the scarcity value of capital, the government has not been able to reach this objective except briefly in 1985. This, of course, reflects the persistent inflation. Given the apparent control on the deficit and despite the reexport of much of the foreign borrowing,[23] influx of foreign funds may be a major contributor to domestic inflation.

The monetary impact of the elimination of the government's deficit is being reinforced by policies to restrict domestic credit formation. Increased deposits, coupled with restrictions on the growth of credit, contributed to a buildup of excess reserves. In late 1988, for example, reserves were 41 percent of deposits although banks were only required to hold reserves of 30 percent. This paper cannot, however, attempt to determine how much of this excess liquidity can be attributed to credit restrictions. The large existing portfolio of nonperforming loans, however, as well as generally conservative attitudes toward lending and borrowing, may play at least as large a role in determining levels of private borrowing.[24]

As mentioned, while much of the increase of foreign exchange from official flows, as well as from private sources, is being used for imports, some of these funds contribute to the increased money supply. Even with tight credit ceilings and even though the government is a net creditor to the banking system, money supply (M2) has been growing at 40 percent a year. It is not clear, then, that either monetary policy or deficit reduction can be designed to reduce this inflationary pressure without a major contraction in services and investments.

One additional area in which Ghana's improvements and reforms have only achieved a restoration of the vulnerability of earlier years is the progress in revenue collection. As in most developing countries, income taxes remain a small share of total revenues. Conversely, cocoa duties are of the same magnitude as total sales and excise duties on all other commodities, and hence leave the exchequer as well as the economy's import capacity vulnerable to world prices of that commodity. However, Ghana is unlikely to be able to increase the share of income taxes in the foreseeable future; given the narrow base for income taxes, the government found it advisable to increase exemptions in 1989 and again in 1990, increasing its reliance on consumption taxes.

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23 This re-export, whether through arrear repayments or purchase of goods and services, reduces the pressure on domestic money supply.

24 Younger (1990) discusses these issues in greater depth.

FISCAL AND ECONOMIC POLICY REFORMS AND POVERTY

One can distinguish between the distributional impacts of either inflation or abatement of price levels and the impacts of changes in individual prices. Similarly, many effects of changes in the overall level of government revenues and expenditures are distinct from the impact of changes in particular line items in the budget. As the former changes are best modeled in a macroeconomic or general equilibrium model and the latter category of policy measures are discussed in greater detail in the sections on wages and prices and on health, this subsection is necessarily brief.

The level of foreign funding that has aided the recovery exceeded $30 per capita in 1988 in disbursements and over $50 in commitments. As discussed below, these funds have supported some specific distributive programs. Looking, however, at the level, and preempting the results of a projected formal study with basic intuition, one can presume that the additional resources available to the economy, particularly relative to the $400 per capita GNP, cannot but have a stimulatory role. The loss of a Keynesian stimulus inherent in the former deficit (dubious in the face of concurrent distorted price signals and inappropriate monetary policies) is easily offset by this resource flow. Note that the additional resources are larger, relative to GNP, than the deficit has been in any year since 1978.

While, as mentioned, much of the additional foreign lending is being used to finance imports, the overall stimulus to the economy has put pressures on nontradables and fixed factors. This leads back to inflation and the gradual but steady slippage of the exchange rate. Since all wages have not kept up with inflation (see below), some families are likely losing ground indirectly because the economy is highly stimulated. This, however, is a general inference that goes beyond any specific Ghanaian experience or any particular policy.

Levels of economic activity aside, are there apparent regressive features inherent in recent reforms in taxation? Cocoa export revenues rose through devaluation, not higher taxation of producers; real producer prices for cocoa rose after the recovery program was initiated. On the other hand, income taxation has relied on high rates applied to a low tax base. This has put a squeeze on middle income government and other formal sector employees. Although perhaps unfair, it is unlikely that such rates contributed to absolute poverty. More important, reforms introduced in 1990 raised exemptions and reduced overall rates.

Domestic levies and import duties, albeit rationalized, are the taxes faced by most of the population. Even here, the base is small as few items consumed by the rural poor are taxed. Moreover, the special excises on luxury items intro-

duced in 1990 are an indication of the concern over the equity of adjustment, even in tax policy.

Reductions in subsidies are no different conceptually than taxes. Only a few consumer subsides, somewhat disguised through exchange rate distortions, were widely available in the period prior to the recovery program. Government employees, however, did lose access to some subsidized distributions. They also, however, received appreciable real wage increases, partially or, more likely, fully compensating for the lost subsidies.

As indicated below, the government has also raised energy prices, as well as fees for water and other utilities. Moreover, user fees for secondary and university school meals and for a number of medical services have been installed or raised. While students and families of students have objected – leading in some cases to partially countervailing loan programs – this more likely represents a burden on the middle class than on the poor. User fees are discussed further below.

4. Agricultural Policy

HISTORICAL PERSPECTIVE

Cocoa, amounting to only 15-20 percent of the value produced in the agricultural sector, itself around half of GNP, is crucial to the economy far beyond its production share; despite decades of neglect, cocoa earned four times the foreign exchange of the next most important export. The erosion of Ghana's once dominant world share of cocoa and the policies that contributed to it are well known.[25] Output peaked in 1964/65, stagnated for a decade, then plunged steadily until 1984. Even the buoyant export prices that prevailed during much of the 1970s failed to reverse the downward trend.

Central to any discussion of cocoa production is the role of the Cocoa Marketing Board (CMB). Part of the story is a tale of corruption and political patronage, told effectively by Bates (1981). While neither logically nor causally distinct, failed polices also form a theme in the story of missed opportunities in export-led development. The colonial government established the CMB in response to marketing difficulties during and immediately after the war. The principal justification at the time was the volatility of cocoa prices. An additional, largely unstated, presumption was that the state was more efficient at price forecasting and at saving than the producer. In actuality, after independence surpluses that were accumulated during periods of high prices were viewed as part of the general budget and not as funds held in reserve for income stabilization. Thus, as early as 1959, when cocoa revenues were pooled in the general development budget, the CMB had no real role in the stabilization of incomes of cocoa producers (Rimmer, forthcoming). Not until 1981/82 did the board make net payments to farmers.

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25 Any review of the Ghanaian economy must discuss cocoa policy in detail. In addition to such references, see Bates (1981).

By the mid-1960s the CMB included long-run supply management in its stated objectives. Since Ghana cannot be considered a small country in respect to the world cocoa market, there is some theoretical justification for export taxation. The government did attempt to organize producing countries during the 1965 slump and participated in the 1973 International Cocoa Agreement. There is no real indication, however, that taxation of production was actually based on an attempt to exploit a monopoly position.[26]

However, the level of implicit taxation of cocoa producers over time has varied. For example, real producer prices fell by two-thirds between 1960 and 1966 but doubled from that low base by the time Busia was elected (Roemer, 1984). Input and credit subsides also fluctuated according to both economics and politics. Such subsidies may be partially justified by the externalities of disease control. They can be seen also as a means to weaken opposition to low producer prices (Bates, 1981). From this perspective, the tightening of state control of both input and output markets that occurred in the early 1960s served the political objectives of the Nkrumah government both strategically and ideologically. This ideology had its apotheosis in the establishment of state farms.

In contrast, the National Liberation Council (NLC) and Busia governments attempted to liberalize cocoa marketing. This brief interlude, however, proved ineffective as private ventures, including cooperatives, lacked the capital to function adequately (Beckman, 1981). The perception of blame, however, fell not on capital markets but on private enterprise, thus strengthening the CMB.

The Busia government also undermined its efforts to help cocoa producers by expelling foreign, mainly Nigerian, workers. Cocoa workers, many of whom provided seasonal labor for the cocoa harvest, were officially exempt from the expulsion order. In practice, however, the administration proved incapable of making such distinctions.[27]

The NRC also made some attempts to pass a portion of the rise in world cocoa prices on to producers. This effort, however, proved wholly ineffective as the government was unable to manage the macroeconomy; a sixfold increase

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26 Moreover, with no means of limiting the entry of new producers, Ghana had no real opportunity to influence supply in the long run.

27 The seasonal nature of cocoa employment makes it difficult, however, to determine how many of the expelled workers were following normal migration patterns rather than the expulsion order.

of producer prices was matched by a sixfold increase in the cost of living. Moreover, the NRC failed to see that agricultural policies were strongly influenced by trade policies and the exchange rate. Franco points out that at the official exchange rate in the late seventies, it would have required a subsidy to producers to reach an economically efficient level of production.[28]

As is well known, the CMB and its successor, the Ghana Cocoa Board, have suffered a fate common to many parastatal corporations. The board is characterized by overstaffing and inefficiency leading to high marketing costs which further drain the revenues available for either producers or the state. Nevertheless, these concerns, while serious, were less the cause of the decline of Ghana's cocoa economy than were trade policies.

Ghana's policies for the development of noncocoa agricultural development have also been dominated by a bias toward state enterprises. In accordance with a development strategy that was tried in much of Asia as well as Africa Nkrumah advocated a mixture of state farms and cooperatives, supported in part by heavily subsidized services. The government invested heavily in agriculture, but mainly in unproductive mechanized enterprises (Killick, 1978). Little support was granted for small-scale activities; research received little funding and extension services were dismantled. Busia's interlude did little to reverse this bias and even advocated a greater role for the state in marketing and distribution. The Acheampong administration proceeded further toward agricultural dualism with the crash program "Operation Feed Yourself." This program relied heavily on public investment, particularly in the North where the ecology was most suited for mechanized field cropping. While the North had historically provided labor for the forest zone, the increase of rice cultivation in the North (from 36,000 acres in 1970 to 140,000 in 1976) reflected, in part, an increased role of Southerners in savannah agriculture (Shepherd, 1981). Many of these were army officers and urban residents with easier access to credit and who were encouraged by traditional tenurial practices under which local chiefs could sell rights to surplus lands.

Throughout the postwar period, production of food crops and cash crops rose or, more often, declined in tandem. In part, this has reflected the common urban or statist bias in policies. Note, however, that the unambiguous decline in domestic terms of trade for cocoa and other cash crops is not found for food crops. Indeed, most studies indicate that food prices in Ghana rose steadily in the decade prior to adjustment (Kraus, 1986, 1988; Ghai and Smith, 1987; Micah,

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28 Krueger et al. (1988) report that there actually was a small net producer subsidy in the late 1970s and early 1980s through input prices, although this was overshadowed by the large indirect tax through exchange rate distortions.

1989). Ghai and Smith (1987), for example, indicate that the ratio of index food prices to the CPI rose by 2.51 percent per year between 1969 and 1980. This increase was twice as fast as that of Ethiopia, the country with the next most rapidly rising food prices of the 17 studied.

There are, however, ambiguities and uncertainties about the price series and the proper deflators that may be used as well as real issues in the interpretation of causality.[29] Most disconcerting is Tabatabai's (1988) observation that alternative wholesale price series—stemming from the same ministry from which Ghai and Smith's (1987) data derive—indicates a downward trend in wholesale prices. Data presented in Chapter 6 also indicate a downward trend in real wholesale prices for a number of commodities. These uncertainties, however, should not divert from the basic point that the decline in Ghanaian agriculture is not wholly or even mainly attributable to the absence of price incentives, cocoa and other cash crops excepted. The Ghanaian government seldom and ineffectively intervened in food crop pricing. Consequently, what low incentives might have arisen would stem more from general economic collapse and subsequent weak demand than direct errors in policies pertaining to foodgrains.

POLICY REFORMS, 1983-1989

The indirect burden on cocoa producers during much of the postindependence period reflects distortions in Ghana's foreign exchange market. Thus, exchange rate reforms in the 1980s allowed Ghana to alleviate a portion of that burden and to raise the producer price for cocoa, even while world prices declined. As indicated in Table 13, the real price at the farm gate increased 75 percent between 1982/83 and 1988/89 (161 percent between 1983/84 and 1987/88) despite substantial inflation. Part of the increase to producers comes in a postharvest premium, which is calculated after actual sales are determined. This calculation takes into account the effects of any devaluation since producer prices were announced. This payment, however, is somewhat delayed and would not have the same incentive effect as an increase in the producer price announced at the beginning of the season, unless producers fully anticipated the bonus.

Cocobod remains the only legal buyer of cocoa. The reluctance to reform this marketing monopoly may be, in part, a legacy of the stalled liberalization under Busia. Also, many Ghanaian officials are aware of the disruption caused by Nigeria's attempt to rapidly privatize cocoa marketing and may base their

29 It is possible, moreover, that farm gate prices declined as wholesale prices increased if marketing margins increased as a result of worsening infrastructure. This issue is discussed below.

Table 13 – Ghana: Producer Prices for Cocoa, 1975-1989

	1975/76	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89[a]	1990[a]
Cocoa purchases by GCB (1,000 metric tons)	394	258	225	178	158	175	219	228	188	230	—
Announced producer price[a] (Cedis/metric ton)	602	3,644	10,628	12,000	20,000	30,000	56,000	85,000	140,000	174,000	224,000
Real producer price[b] (1985 prices)	75,250	33,127	44,655	41,237	30,817	33,076	56,000	68,218	80,367	76,048	78,320[d]
	Percent										
Ratio of nominal producer price to world price at official exchange rate[c]	42	51	186	251	56	34	45	39	41	54	50-70[e]
Nominal producer price as percent of world price at parallel exchange rate[c]	24	9	19	11	12	13	19	21	—	—	—

Sources: *World Bank (1989a); IMF (various years); World Bank (various years).*

[a] *Price for main crop, excluding bonus or compensation payment.*

[b] *Takes into account bonus payments of 500 cedis/ton, applied to purchases in 1986/87 and 10,000 cedis/ton, applied to 1987/88 purchases, the former paid in 87/88, the latter in 88/89. Real producer price estimated using the annual average CPI of the calendar year at the start of the season (e.g., the 1975 CPI is used to deflate the 1975/76 nominal producer price).*

[c] *Ratios to world prices use calendar year average official and parallel exchange rates, respectively. Starting with 1986, auction exchange rates are used (see notes to Table 3). The world price is taken to be the ICCO average annual price (which is calculated from the daily prices from the first three positions on the New York and London terminal markets).*

[d] *Assuming 25 percent inflation.*

[e] *Estimate.*

caution on that example. More than mere bureaucratic timidness is involved, however, since the rural credit market is currently incapable of handling a fully privatized market. Since the beginning of the recovery program, however, Cocobod has been able to divest itself of some plantations, its majority ownership of its insecticide factory, and its responsibility for feeder road maintenance. Moreover, it laid off over 40,000 workers in 1985.[30] An additional 12,000 employees were retrenched in 1987.

The trend has been toward liberalization of output pricing for other agricultural commodities, but at a pace more deliberate than dramatic. For example, although the prices of other minor export crops, such as coffee, kola, and shea nut, rose between 1983 and 1989, the main increase for kola producers came in 1988 and not until 1989 for coffee producers. The latter increase came when world prices had collapsed and the 1990 price increase was less than the inflation rate.[31] In addition to these crops, the government also plays a role in setting prices for rice, cotton, tobacco, and maize through the Agricultural Comm odity Pricing Committee. Similarly, the price for palm nuts is set by an association of producers of palm oil products – that is, by a committee of buyers. This price, however, does not apply to smallholders, who produce most palm nuts.

Measures to liberalize the market for agricultural inputs have also followed a gradualist approach. Prices for fertilizer were increased in 1986 to cover the increased cost due to devaluation and inflation, but the government continued to subsidize transportation and handling. The unit value of subsidies was further reduced to 30 percent of costs in 1988 and to 15 percent in 1989 (Table 14). Moreover, agricultural inputs are still exempt from duties. A significant step towards liberalization of fertilizer trade, however, came in late 1988 with the opening of retail trade in selected areas to private dealers.

With the exception of export crops, agriculture suffered less from overgovernment than undergovernment during the downturn. With the collapse of government revenues, sectoral support evaporated. The financially constrained administration was simply unable to either service or control the majority of farmers. While a rapid recovery is predicted by models that claim it is necessary to get governments off the backs of farmers, this approach has limited application for Ghana; it may be a prerequisite but not a prescription.[32] Indeed, the need for increased government involvement is implicitly recognized in recent

30 However, most of these were ghost workers.

31 The coffee price for the 1989/90 season was C110.4/kilogram compared to C74.4 the previous season. The 1990/91 price was only 11.11 over the previous year's price.

32 The limitation of a price strategy for agricultural development has been recognized by a number of authors (see, for example, Lipton, 1989; Streeten, 1987; and Shapiro and Berg, 1988).

Table 14 – Ghana: Fertilizer Prices and Grain Price Supports, 1982-1989

Year	Fertilizer Prices[a]		Maize Price	Minimum Guaranteed Prices (MGP)				Index	Price Ratios	
	Nominal C/100 kg	Real Index[b] 85=100	September Techiman[c] C/100 kg	Maize Nominal C/100 kg	Maize Real[b] 85=100	Paddy Nominal[d] C/100 kg	Paddy Real[b] 85=100	Fertilizer to Maize MGP	Maize to Paddy MGP	Maize MGP to September Maize Price
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1982	60	23	600	500	86	512	80	27	0.97	0.83
1983	116	20	1,850	1,800	139	671	47	14	2.68	0.97
1984	880	110	775	1,800	99	1,829	92	111	0.98	2.32
1985	880	100	1,100	2,000	100	2,195	100	100	0.91	1.82
1986	1,560	142	1,975	2,600	104	2,439	89	136	1.07	1.32
1987	2,760	180	4,000	4,200	121	3,049	80	150	1.38	1.05
1988	4,600	228	3,080	4,800	105	4,878	97	218	0.98	1.56
1989[e]	6,700	293	2,570	Grade I 5,000	96	6,463	113	304	0.77	1.94
				Grade II 3,500	67	5,244	92	430	0.67	1.36

Sources: *Ministry of Agriculture (n.d.); Mink (1989); IMF (various years).*

[a] *Refers to the price of compound (15-15-15 or 20-20-0) fertilizer. The price was reported in cedis per 50 kg sack and was adjusted to a 100 kg basis for purposes of this table.*

[b] *All real price indices were generated using the average annual CPI (1985=100). For deflating 1989 prices, the first quarter 1989 CPI was used.*

[c] *The September wholesale price for maize in Techiman, Brong-Ahafo Region.*

[d] *The minimum guaranteed price for rice was reported in cedis per 82 kg sack and adjusted to a 100 kg basis for purposes of this table.*

[e] *Dual grading for maize was introduced in 1989.*

Note: *Column (8) is the ratio of column (1) to column (4); column (9) is the ratio of column (4) to column (6); and column (10) is the ratio of column (4) to column (3).*

budgets that devote appreciable resources to rehabilitation of extension services, feeder roads, and other rural infrastructure.

GENERAL ECONOMIC CONSEQUENCES OF AGRICULTURAL POLICY REFORMS

Cocoa production reached its lowest level in 1983/84. The recovery since then has been slow – in keeping with realistic expectations for a tree crop. The crop for 1986/87 was 36 percent larger than the record low crop in 1983/84.[33] The difference between production levels in the two years was 60,000 tons. In that same period world production increased by 433,000 tons, with Côte d'Ivoire and Malaysia increasing production by nearly 50 percent. In the following year, production in Ghana increased by only 3.0 percent, while world production increased another 6.5 percent. Production for 1988/89 increased further by 23.0 percent.

However, a number of constraints are facing the cocoa sector. First, many internal obstacles to increased production require time to eliminate. While replanting rates are apparently increasing in response to higher producer prices, the average age of trees in Ghana is high. Furthermore, international competitiveness is hindered by relatively high transportation and marketing costs. This problem, however, appears solvable, considering the decline in Cocobod's operating costs. These were 29 percent of the FOB price in 1985/86, but only 17 percent in the following year. This reduction has contributed to the increase in the share of revenues going to producers. Further savings in Cocobod's budget through reductions in input subsidies, however, will transfer costs to producers, thereby having an expected negative marginal output effect.

A more serious limitation of Ghanaian policy measures is external to the country. The world price began falling in 1985, just as Ghana's production began to recover (Table 15 and Figure 3). This is not a causal relationship – Ghana no longer dominates the world market – but is, nevertheless, the main constraint to expansion of the sector. Since there is still some leeway for Ghana to increase its low producer prices and also to improve marketing efficiency, Ghana may regain a competitive position even as world production contracts to adjust to demand. In this it may be aided by Ghanaian cocoa's reputation for quality and, thus, is able to obtain a small premium over the average world price.

Despite the nascent recovery of production, cocoa's share of agricultural GNP continued its decline in the 1980s. Moreover, the share of agriculture in

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33 Yield data are from the Ministry of Agriculture, Policy Planning, Ministry and Evaluation Unit.

Table 15 – World Cocoa Prices, 1950-1989

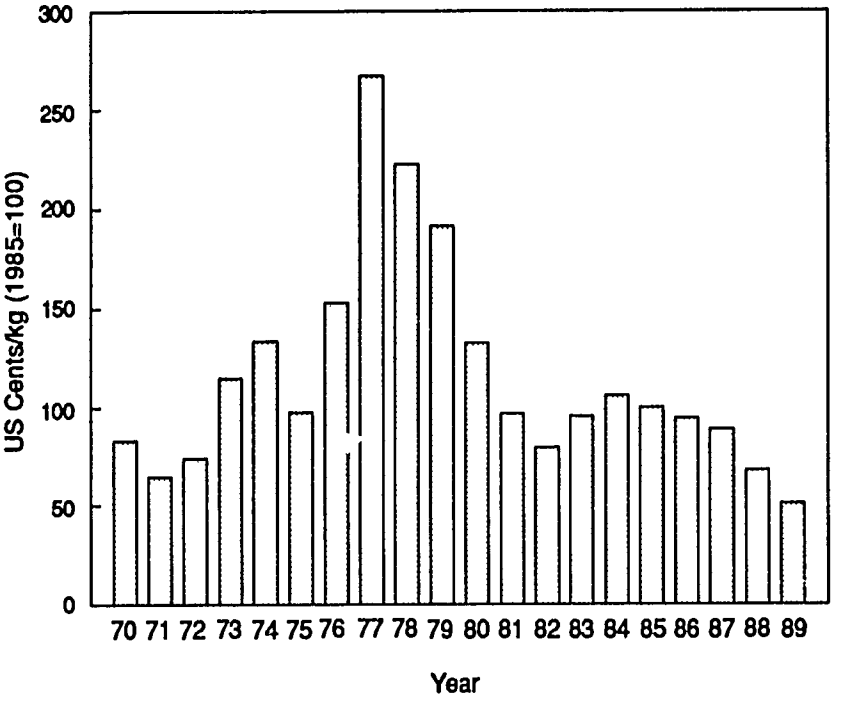
Year	ICCO (London/New York)[a]			
	Current		Constant	
	Cents/kg[b]	1985=100	Cents/kg[b]	1985=100
1950	63.1	28.0	238.1	105.6
1960	58.9	26.1	191.9	85.1
1961	48.5	21.5	158.5	70.3
1962	45.9	20.4	149.5	66.3
1963	55.3	24.5	180.7	80.1
1964	50.5	22.4	164.5	72.9
1965	36.6	16.2	116.9	51.8
1966	51.8	23.0	160.4	71.1
1967	59.7	26.5	184.3	81.7
1968	72.1	32.0	217.2	96.3
1969	90.4	40.1	262.0	116.2
1970	67.5	29.9	189.1	83.8
1971	53.8	23.9	145.8	64.6
1972	64.4	28.6	166.8	74.0
1973	113.1	50.2	259.4	115.0
1974	156.1	69.2	301.4	133.6
1975	124.6	55.3	220.1	97.6
1976	204.6	90.7	345.0	153.0
1977	379.0	168.1	602.5	267.2
1978	340.4	151.0	502.1	222.6
1979	329.3	146.0	431.6	191.4
1980	260.4	115.5	299.0	132.6
1981	207.9	92.2	218.8	97.0
1982	173.6	77.0	179.2	79.4
1983	212.0	94.0	215.9	95.7
1984	232.1	106.2	238.4	105.7
1985	225.5	100.0	225.5	100.0
1986	207.0	91.8	213.1	94.5
1987	199.4	88.4	200.1	88.8
1988	158.4	70.3	153.1	67.9
1989	124.1	55.0	114.1	50.6

Sources: *World Bank (1989c).*

[a] *Annual average, which in turn is the average of the first three positions daily on the terminal markets in New York and London. Real price and real index constructed using the US WPI.*

[b] *Current and constant 1985 US cents/kg*

Figure 3 — World Cocoa Prices, 1979-1989



Sources: *World Bank (1989c); IMF (various years).*

total GNP itself declined from 55 percent to 47 percent between 1982 and 1988, despite the sector's significant recovery. However, cocoa exports remain over half of total exports. This, of course, leaves Ghana vulnerable to balance-of-payment shocks. The precipitous decline in the world price of cocoa might have derailed the recovery but for a generous supply of loans and grants. Ghana does not, moreover, have a commendable historical record for handling peaks of the cocoa price cycle; the highest real prices indicated in Table 15 were between 1976 and 1979, a period with no significant economic growth. Even the short-lived boom in the late 1960s destabilized macroeconomic planning.[34] It is unlikely that Ghana will be able to avoid commodity price swings even in concert with other producers, international cocoa agreements notwithstanding;[35] the greater challenge is to devise domestic policies that can buffer the economy in the face of such price movement.

Other nonfood crops also indicate signs of recovery, albeit often from a low base. For example, 1988 cotton production was 7,000 tons, compared to 500 in 1986. This reflects, in part, the dismantling of the Cotton Marketing Board's monopoly in production and ginning. Inputs and input credit for cotton are, however, still subsidized. Other minor, nontraditional agricultural exports crops, such as pineapples and rubber, have also responded to new price incentives.

Cereal and root crops production is dominated by subsistence cultivation. Thus, it is inherently insensitive to policy measures; although severely affected by the adverse weather in 1983, agriculture was the refuge for many urban workers whose salaries or real income melted away during the economic disassociation of the late 1970s and early 1980s. The sector may, nevertheless, benefit from policy measures and reforms taken as part of a recovery package. For example, smallholder agriculture may benefit from improved transportation, which is being sought for reasons only partially related to agricultural policy.

By and large, the current level of government intervention in output markets for food crops is at best benign and likely ineffective. The government has abandoned attempts to set official retail prices and the existing floor price policy is largely irrelevant. For example, while most estimates put the marketed share of maize at over 50 percent,[36] the state trading company, Ghana Food Distribu-

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34 It is not uncommon for commodity price booms to have undesirable macroeconomic impacts. See, for example, Garcia and Llamas (1988).

35 Deaton (1989) indicates that cocoa prices were the second most variable out of 13 commodity prices studied. Moreover, cocoa price shocks tend to persist for relatively long periods.

36 This is a high share for a staple in a rural population. Farmers in the largest maize producing region, Brong-Ahafo, however, are not primarily maize consumers.

tion Company (GFDC), has never sold more than 20,000 tons, or 3-4 percent of total production (see, for example, Asante et al., 1989). Despite increased storage capacity, the government is not in a position to defend a price floor for maize, having insufficient liquidity for such a venture. The government recognized this in 1990, introducing a policy of purchasing and selling at market-determined prices. However, given the plans—often already under construction—to increase storage capacity to 120,000 tons, the danger is that policy will follow capacity rather than vice versa.

A major change in the food crop subsector has come through the NGO Global 2000. Through a combination of extension and credit in kind—fertilizer repaid in grain—the project has made a remarkable impact on maize and sorghum yields of its participants. Scaled up to 85,000 participants between 1986 and 1989 and projected—ambitiously, as it happened—to more than triple in 1990, the program has made much of the transition from pilot to pillar, with the attendant transformation of challenges. While Global 2000 is a NGO, much of its staffing, as well as its capital and physical flow, come from government agencies. These are not inconsequential. Up to 3,000 extension workers have been involved in Global 2000, occasionally in the potentially counterproductive role of collecting overdue loans (Yudelman, 1990).

Not only are nonperforming loans a potential problem, the volume of in-kind payment could undermine the initiative; loan repayments are currently a quarter of a million bags of grain and will come close to a million if projections are realized. Global 2000 and its affiliates, then, risk running aground for the same reason that the GFDC will have difficulty finding a niche. These issues are part of the challenge of agricultural growth, a general issue of development rather than structural adjustment. Indeed, there is nothing in the approach of Global 2000 that could not have been attempted in the policy environment of Ghana a decade previously; Global 2000 relies neither on an exchange rate reform nor the liberalization of internal markets.

To a degree, the prominent role of Global 2000 and the government agencies that are working with it undermines the nascent efforts at privatizing fertilizer trade. The risks attendant to the financing and importing of fertilizer by a donor agency are not unlike those attendant to a parastatal importer (von Braun and Puetz, 1987), and its success does not invalidate the long-term need for flexibility in fertilizer marketing.

Agricultural growth has been slower than growth in other sectors (Table 2). This is not specific to Ghana; it is in keeping with one of Kuznets's stylized facts about the development process. Nevertheless, with agriculture (including forestry and fisheries) roughly 50 percent of GNP, total income of this sector carries

a large weight in the aggregate growth rate. Unlike many countries, particularly in Asia but increasingly in Africa as well, Ghana is able to increase agriculture by putting more land under cultivation. Tabatabai (1988) argues that such an area response accounts for much of the initial recovery in agriculture. Nevertheless, productivity per area is still an indication of structural change in agriculture. Evidence regarding increased yields is mixed, partly because not enough time has elapsed to fathom a trend from the data and partly because yield data vary significantly depending on the source.[37]

Apparently, however, maize yields are somewhat higher than in the pre-drought period. Data from the Ministry of Agriculture and the Statistical Service both indicate 1.13 tons per acres in 1986-1988. The two sources indicate different yields in the earlier part of the decade, but the higher estimates for maize yields average 0.97 tons for 1982, 1984, and 1985. By 1988, yields had surpassed levels achieved in the early 1970s, increasing by nearly 20 percent over 1987. Production, however, declined in 1989 and is projected to do so again in 1990 (Table 16).

Rice yields have hovered around one ton per acre throughout the decade, drought excepted. Area cultivated, however, has increased 50 percent from predrought levels. By the end of the decade, therefore, total production also had approached previous record levels. Sorghum and millet yields also appear to be rising with area indicating no apparent trend.[38] Similar encouraging evidence is found regarding root crops; nevertheless available data do not yet indicate a watershed or otherwise hint at structural change in agriculture.

Of course, a steady upward climb in production indicators is a reversal of the earlier decline. There is no real reason to expect more in the short run. Wholesale prices for major food crops in Ghana have not historically been low; therefore, there is little scope for revitalizing agriculture by getting prices right. To be sure, farm-gate prices are far below wholesale prices; but this is due to poor infrastructure rather than price policy. In the absence of a technological change in any of the crops cultivated, agricultural growth will be the product of many small changes by many agents and producers and not likely as easily achieved as a real exchange devaluation.

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37 Even within the Ministry of Agriculture, production data for maize were revised by 25 percent 15 months after the 1988 harvest.

38 Since 1987 the Statistical Service has aggregated these two crops. Similarly, despite their importance to the poorest farmers in the country and even though each individually exceeds rice, the Ghana Living Standards Survey combined the two crops. Ministry of Agriculture data, however, separates the two.

Table 16 – Ghana: Production Estimates of Selected Major Crops, 1970-1989

Crop	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
	1,000 Metric Tons									
Maize	481.6	465.4	402.4	426.4	485.7	343.4	286.4	312.2	269.3	308.6
Rice	48.8	54.9	70.1	62.0	73.2	71.1	69.8	62.9	60.8	63.0
Millet	141.2	130.1	98.6	108.7	154.4	121.9	144.4	132.6	120.8	147.5
Sorghum	185.9	172.7	152.4	166.6	176.8	135.1	188.5	140.0	137.4	159.7
Cassava	2,387.8	2,387.8	2,840.0	2,865.4	3,696.1	2,398.0	1,818.5	2,119.0	2,334.3	2,319.9
Cocoyam	1,136.0	1,136.0	945.0	1,325.0	1,510.0	1,099.4	773.3	632.6	680.7	638.5
Yam	909.4	909.4	678.8	605.9	849.5	709.2	574.0	497.1	517.1	550.4
Plantain	1,641.0	1,641.0	1,669.5	2,070.8	2,024.1	1,245.7	1,255.6	775.8	901.9	784.3
Groundnuts	101.6	101.6	89.4	127.0	156.5	110.8	113.0	90.5	69.7	95.6
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989[a]
Maize	354.0	334.2	264.3	140.8	574.0	395.0	559.1	597.7	750.9	714.6
Rice	64.1	43.6	37.1	26.9	76.0	80.0	69.6	80.7	84.0	64.1
Millet	136.4	130.5	120.4	114.4	139.0	120.0	109.9	173.1	192.4	180.0
Sorghum	156.2	170.7	125.9	105.8	176.0	185.0	128.1	205.9	177.6	215.0
Cassava	2,896.3	2,720.6	1,985.5	1,375.2	4,065.0	3,075.0	2,876.2	2,725.8	2,287.5	3,320.8
Cocoyam	848.3	972.0	756.3	613.2	2,835.0	900.0	1,005.2	1,011.8	907.0	1,063.0
Yam	523.1	462.8	374.1	354.3	725.0	560.0	1,048.1	1,185.4	901.6	1,279.0
Plantain	931.2	835.2	762.9	754.7	1,234.0	1,350 0	1,087.5	1,077.6	1,135.0	1,036.0
Groundnuts	142.2	125.9	111.1	91.1	167.0	140.0	190.3	190.7	229.6	200.0

Sources: *Ministry of Agriculture (n.d.).*

[a] *Provisional.*

AGRICULTURAL POLICY REFORMS AND POVERTY

By the 1987-88 crop season, real net payments to cocoa producers increased by 160 percent over 1982 as a result of higher producer prices and the attendant increase in production. Using 1989 preliminary production estimates and a 75 percent real increase in the producer price over that in 1982, a similar estimate for 1989 indicates that producer receipts in that year were over three times those in 1982. This is, of course, an upper limit to the change in farmers' profits inasmuch as, to a fair degree, the receipts include sales of cocoa that would have been smuggled to neighboring countries under other price regimes. Moreover, increases in the real cost of inputs reduce profits slightly. Nevertheless, cocoa producers clearly gained in absolute terms.

How did this policy change influence relative incomes? In 1987-88 the poor, as defined by Boateng et al. (1989), earned 21 percent of their agricultural *revenue* from cocoa compared to 23.5 percent for the nonpoor. The hard core poverty group received a smaller share of their revenues from cocoa – 16.8 percent. The analysis also indicated that the nonpoor received slightly more than half of their total income from agriculture, and only a third of that agriculture income is from revenues as opposed to home consumption and other farm related activities. Thus, using the data in Boateng et al. (1989) as well as the real increase in producer payments, the estimated share of total income for the nonpoor that can be attributed to the increase in producer prices is 2.5 percent of their total income.[39] A similar estimate for the extreme poor is 2.8 percent. This slightly higher share reflects the fact that the 7.4 percent of the Ghanaian population defined as extremely poor in Boateng et al. (1989) are predominately rural and earn a higher share of their income from agriculture.

From another perspective, only 2.7 percent of all cocoa revenues go to this hard core poverty group. Nevertheless, this small share is a greater share of the poor's income than the remainder of cocoa revenue is of the rest of the population's income. Note, also, that the increase in producer prices is not a transfer and, therefore, leakage to nonpoor is not an issue of concern.

A caveat is necessary. The data presented in Boateng et al. (1989) do not present production or revenue shares by region. Over one-third of the ultrapoor are in the savannah, where cocoa is not grown. One can infer, then, that the hard core poor in the rest of the country had an increment to their income of about

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39 The share to cocoa comes from the product of the share to agriculture (0.53) to incomes times the share of revenue to the value of all of agriculture (0.31) times the share of cocoa in this revenue. Sixty-one percent of this cocoa share is incremental. Note that the base used for calculating the percentage change this represents is the revenue under the 1982 pricing policy, holding other agricultural revenues at 1987 levels.

4 percent, while the residents of the savannah benefited from this aspect of the recovery program, if at all, through increased employment for migrants.

Producers of other crops, including shea nut and coffee, have also benefited from recent increases in producer prices. These increments are probably appreciable shares of revenues but a far smaller share of incomes. Sufficient data to calculate incremental income shares from such crops are, however, currently unavailable.

Another distributional question centers around agricultural policy and cocoa; although cocoa contributes only about 15 percent of agricultural GNP, it received over 75 percent of public current expenditures on agriculture in the 1989 budget (Mink, 1989). Much of that disparity was due to the operating costs for Cocobod. Expenditures on extension for cocoa were, nevertheless, also four times those reported for the rest of agriculture. Research expenditures, however, were somewhat less imbalanced. Forty-four percent of total government research expenditures were devoted to cocoa.

Minimum support prices for maize stayed more or less even with the general price index—that is, there was no obvious trend in the index of the guaranteed support price during the 1980s (Table 14). The government has, however, raised fertilizer prices at a rate faster than that of inflation. The ratio of fertilizer to guaranteed prices indicated in Table 14 has, therefore, increased even for high quality (grade I) maize. This may have put some pressure on the profits of farmers who use chemical fertilizer, although by international standards the fertilizer-to-grain price ratio is not particularly high, since fertilizer retains a small subsidy and maize support prices are comparatively high.

The minimum support price, however, does not indicate the market clearing price. Table 14 also reports the September (harvest) wholesale price in Techiman, a major market for maize shipped to either the North and Upper Regions or shipped toward Accra and the coast. While the guaranteed price was slightly below the wholesale price before adjustment, the relative positions shifted at the end of the decade. Even the support price for grade II maize offered in 1989—the lowest real support price in the decade—was over a third higher than the wholesale price in Techiman. The relatively few farmers who are able to sell to the government, then, received a considerable bonus or economic rent. Available evidence indicates that the GFDC purchases primarily from larger farmers or approved intermediaries (Asante et al., 1989). Thus, it is not apparent at this time that the GFDC, even with increased capacity, has been able to contribute to poverty alleviation.

A similar pattern can be observed in rice support prices; the GFDC offers purchase quotas to registered large farmers.[40] With the notable exception of 1983, paddy support prices moved more or less in parallel with maize prices until 1989. Even if one compares the grade I maize price with the grade II paddy price,[41] the 1989 maize/paddy ratio was lower than any year reported except 1985.

40 They also offer a nominal transportation subsidy of 14 cedis per ton mile in 1989.

41 Initial observations indicate that the higher support price is being regularly offered to rice producers, while the lower support price is the more common of the maize purchase prices.

5. Industrial Policy

HISTORICAL PERSPECTIVE

An important feature of th ` development strategy of the Nkrumah government was its attempt to rapidly increase the capital stock with major public investments guided by a national plan. This "big push," however, eventually resulted in investment without incremental output (Killick, 1978). Although some large projects, such as the Volta Dam, proceeded more or less as planned, investment generally proceeded in virtual disregard to planning. Killick presents examples – widely quoted in subsequent articles and books – of factories being built with no consideration for the source of raw materials or with capacity far in excess of any market absorption potential.

It is noteworthy that the national savings rate – a key feature of economic growth in most economic models – was quite high during the first half of the 1960s. Investment absorbed over 20 percent of GDP between 1963 and 1965 (Rimmer, forthcoming). This misguided investment was financed in part through foreign debt. Direct foreign investment and aid combined provided only 10 percent of fixed investment, mostly for the Volta Dam and the attendant aluminum smelting project. An appreciable share, on the other and, came through retained earnings and reduced consumption. Also noteworthy is the fact that despite an ideology that favored the public sector, the relative growth in state-owned enterprises was sought at the margin – that is, through investment rather than expropriations.

The liberal market-oriented leanings of the NLC and Busia governments did not translate into a major restructuring of industrial policy. Privatization of parastatal enterprises was a failure; only three relatively small firms were sold between 1966 and 1971. Industrialization was encouraged during this period through import licensing and surcharges, which superficially and ineffectively favored capital goods.

After Busia's ouster, government policies discouraged foreign participation in the economy. Foreign debts were repudiated and majority ownership was acquired in foreign-owned timber and mining operations, including the Ashanti Goldfields. Business indigenization laws as well as exchange rate distortions and delays in repatriation of capital virtually isolated Ghana from international capital flows. While Hilla Limann attempted to encourage foreign investment, net capital continued to flow outward during his brief leadership. Domestic investment was also discouraged by the nationalizations under Acheampong as well as by the difficulty in obtaining foreign exchange for investment goods through the postindependence period.

As the economy deteriorated in the period prior to 1983, neither the private sector nor the government maintained capital stocks. Private consumption, roughly 75 percent of GDP in the early 1970s, rose to 94 percent a decade later (Rimmer, forthcoming). While calculations of relative shares of private and public consumption are somewhat sensitive to cost deflators (private consumption is mainly goods while government consumption is primarily services), government consumption can be shown to have exhausted most of the remaining resources available. The absence of stock maintenance, never mind net additional investment, was felt in virtually all sectors. For example, gold production slumped as machinery broke down without replacement; production in 1983 was 20 percent below production three years earlier and over 40 percent below that of 1977.[42]

All forms of land transportation and port facilities also suffered. This not only affected the ability to export, but also relative domestic prices. As transportation became more difficult and trucks scarcer, producers received a comparatively smaller share of the final retail price.

A recurrent theme in this report is that policies are causally linked; one failed initiative often leads to the need for compensatory, and often increasingly distortionary, additional measures. Industrial policy is quite obviously intimately tied to exchange rate and tariff structures. In the wake of the numerous reports of the failure of development planning in Ghana, it is worth noting that Ghana was initially successful in its import substitution strategy in the 1960s. For example, manufacturing output grew in the aggregate at a rate of 13 percent between 1962 and 1970. This period was also one of diversification. The strategy, however, contained the cause of its collapse. With high rates of protection, a progressively overvalued exchange rate, and a relatively small internal market, most factories were characterized by overcapacity (Killick,

42 This may, however, also reflect increased smuggling as the exchange rate became cumulatively distorted.

1978). This was compounded by the inability to import sufficient raw materials or machinery, except under cumbersome and distorted quotas and licenses during the 1970s. As is often the case, this led to a legacy of inefficient and outdated factories. Subsequently, these industries – for example, textiles – which find themselves vulnerable to foreign competition, are prone to resist liberalization measures, often in the name of job creation and economic independence.

POLICY REFORMS, 1983 -1989

Principal among the recent reforms that affect the industrial sector are those that affect the real exchange rate. These are discussed in the trade chapter. Other economy-wide measures that have an impact on industry include the decontrolling of prices, periodic adjustment of minimum wages, and change in interest rates. The latter were often appreciably negative in real terms prior to the recovery program and less so thereafter. Moreover, credit is often unavailable to small industries. It is unclear, however, whether this represents the end result of monetary policies or a general uncertainty and conservative lending policy. In addition, economic uncertainty may affect demand for loans as well. For example, with inflation at 30 percent, few investors will be willing to take out an unindexed long-term loan.

A high priority for government investment in the five years after the economic restructuring has been transportation, communications, and electrification, all of which indirectly affect industry. Direct industrial investment was minimal and aimed partly at increasing the efficiency of 14 existing state enterprises that were deemed essential.[43] For the most part, however, the government attempted to divest its industrial holdings. This, however, also required additional investment inasmuch as many state enterprises were too inefficient to attract private investors. The accounting and regulatory aspects of this privatization also require scarce administrative skills. Thus, divestiture prior to 1989 was less than initially planned. In some cases, bids for state-owned enterprises have been rejected; with no clear means of pricing assets, the government is wary of being accused of allowing its resources to be acquired by foreign investors.

Most public sector industries have generous retirement and layoff provisions for their employees. These liabilities make the industries unattractive to investors. In addition, they make liquidation expensive and cumbersome.

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43 These are utilities or firms involved in transportation and communication. In addition, the government intends to retain control of the Ghana Cocoa Board and the State Gold Mining Corporation.

In general, however, the government faces a common dilemma. The state wants to promote private production; once it has removed the major obstacles, it has limited instruments to actually promote private sector investments, particularly small-scale investments. The recovery program did, however, actively seek foreign investment after a decade and a half of discouraging and often prohibiting it. An early step was to draw up a new investment code and to adopt policies that allow easy repatriation of profits. Among the first sectors to attract investment has been mining. For example, the government and Lonhro, assisted by the IFC, put together a $160 million investment package in 1984, aimed at revitalizing gold mining. Similar packages have followed, with five of the six IFC investments in mining or oil exploration through 1989 (97 percent in value terms).

In addition to such major investment programs, the government has tried to encourage mining by legalizing small-scale mining, called "galamsey." The regulations introduced in 1989 allow individuals or groups to mine up to 5 acres for gold, depending on the size of the group, for three years. Companies or cooperative societies can obtain claims to mine up to 25 acres. The Diamond Marketing Corporation, now the Precious Minerals Marketing Corporation, was also restructured to encourage small-scale producers. Formerly the largest contributor to the diamond industry, private mining had been driven underground, as it were, by unrealistic prices. While both gold and diamonds must still be sold to licensed dealers, prices are determined by the world market.

Though officially considered part of the agriculture sector, forestry also exemplifies new industrial policies. Extraction responded rapidly to devaluation as well as to improvements in transportation and the availability of equipment. Exports of forestry products were 3 percent of total exports ($13 million) in 1983 and 11 percent ($90 million) in 1987, with the volume of export increasing 70 percent in a single year (1986 to 1987). Indeed, concern has been voiced that the extraction rate likely exceeds long-term carrying capacity. Consequently, the government banned the export of 18 species of trees in log form. This is to encourage a higher share of value added locally. It should be noted, however, that despite the growth in exports, the forestry subsector has grown at a slower rate than other subsectors.

GENERAL ECONOMIC CONSEQUENCES OF INDUSTRIAL POLICY REFORMS

As mentioned in the section on trade policy, the impact of general economic reforms is likely to be industry specific inasmuch as the net effect of devaluations along with changes in quotas and tariffs is indeterminate. Clearly, those indus-

tries with an international competitive advantage at realistic exchange rates will expand with the rate determined, to a degree, by the speed at which investments can be brought on line. Extractive industries have relatively more opportunities to respond to new price situations as there is little concern with finding markets. As mentioned, forestry and the processing of timber has responded so rapidly that increased capacity is being developed. Similarly, gold mining has attracted large investment from both the public and the private sector. Diamond mining has, however, recovered slowly and the government has placed its holding up for privatization.

For much of the industrial sector, however, the challenge has been as much to increase production under current capacity as to develop new capacity. Table 17 indicates production rates (as a percent of capacity) of some major industries. The table indicates significant production increases four years after the initiation of the recovery. This short-term increase occurred as effective demand increased and as inputs and intermediary investments became less regulated. As Table 17 also indicates, however, production in many industries remained below 50 percent of capacity four years into the recovery. This reflects decades of mismanagement. For many industries, capacity exceeds any reasonable projections of medium-term demand or ability to finance imports or supplies of domestic raw material. Moreover, much of the existing capacity is outdated and virtually useless. This will weaken the recovery over the long term.

It also raises questions concerning the nature of domestic demand and the sources of investment. As noted, private foreign capital has begun to flow into mining and a few other industries, but such investment remains modest. While public savings more than tripled from 2.5 to 8.3 percent of GNP from 1984 to 1988, private sector savings actually declined from 4.4 to 4.2 percent (World Bank, 1989b).

Past campaigns against corruption and profiteering have perhaps rendered local investors somewhat wary of revealing personal equity. They also find it difficult to obtain capital through either share investment or loans. The former means of financing is undeveloped in Ghana, and the latter is hindered by the conservative nature, if not the total level, of lending. Trade, for example, is rarely financed through loans. Moreover, banks are burdened with a backlog of nonperforming loans and are reluctant to increase exposure without extensive collateral.

Adjustment to the new price environment requires both access to capital markets and the ability to shut down or scale back unprofitable industries. Constraints to achieving the former are short term and will be relaxed as financial markets improve. The latter touches upon political issues and still contains the

Table 17 – Ghana: Estimated Production Rates in Several Manufacturing Industries, Large- and Medium-scale Factories, 1982-1987

Industry	1982	1983	1984	1985	1986	1987
	Percent of Capacity					
Textiles	10.0	16.0	17.3	19.7	17.0	24.0
Garment	20.2	25.0	20.2	25.5	27.0	25.0
Metals	42.5	55.0	20.1	16.2	—	42.0
Electronics	31.5	44.0	8.3	33.2	30.0	36.0
Plastics	20.0	25.0	30.4	28.0	30.0	39.0
Bicycle/motorcycle assembly	15.0	20.0	7.6	19.9	—	10.0
Tobacco/beverages	—	65.0	19.5	39.6	40.0	45.0
Food processing	—	25.0	22.9	31.2	36.0	42.0
Leather	18.0	26.0	11.9	21.5	—	15.0
Pharmaceuticals	20.0	35.0	—	16.6	—	26.0
Cosmetics	15.0	20.0	—	—	25.0	29.0
Paper/printing	25.0	30.0	17.3	14.5	—	30.0
Nonmetal mineral manufactures	15.0	22.0	12.0	35.0	—	37.0
Chemicals	15.0	20.0	22.3	20.2	25.0	30.0
Rubber	27.0	22.0	15.0	16.0	23.0	28.0
Wood processing	20.0	20.0	28.1	32.5	—	43.0
All Manufacturing[a]	**21.0**	**30.0**	**18.0**	**25.0**	**25.0**	**35.0**

Sources: *Government of Ghana (1989b).*

[a] *The estimate for all manufacturing is a weighted sum of the values in each column, with weights proportional to each subsector's value of gross output in 1973.*

potential for creating a visible and concentrated group of losers from the adjustment process.

INDUSTRIAL POLICY REFORMS AND POVERTY

Two industries in Ghana are commonly recognized as unable to compete under an open economy—drug manufacturing and textiles. The former, however, has not involved an appreciable labor force, while the latter was already in decline prior to the recovery. Textiles, which make up the third largest subcomponent of the manufacturing index used in Ghana, produced less than 15 percent of its 1977 level of output during 1982-1984. Similarly, production was at 10 percent of capacity at its nadir. Subsequently, between 1984 and 1989 the industry doubled its production both in absolute terms and as a percentage of capacity. This is not to deny that its prospects are dismal or that the industry will have to scrap machinery, but it is more likely to be a relative than an absolute loser.

The stagnant or declining textile industry may not add to the pool of unemployed, but it cannot be expected to absorb new workers, which the sector has done in many other countries. In actuality, however, there is little evidence of overt unemployment in Ghana. The GLSS data from 1988 indicate that under two percent of the economically active population can be classified as unemployed. This rate is in keeping with most developing countries in which unemployment is less common than low productivity employment (Lipton, 1983). The unemployment rate in the GLSS was, however, five percent for males aged 20-24. From another perspective, it can be shown also to be higher for secondary school leavers. While this does not exactly point to pockets of unemployment on the scale of, say, Seville or south Bronx, the indications point to a group of relatively educated young men seeking employment.

Added to this pool are the older experienced workers who are being retrenched as part of the recovery program. Initial redeployment of government and parastatal workers, which preceded the GLSS round cited above, principally from Cocobod and the Educational Service, came mainly from early retirement as well as purging ghost workers. In addition to further reductions of the work force at Cocobod, the government planned to reduce the civil service by 12,000-15,000 per year between 1988 and 1991.[44] These numbers are small relative to the 6.5 million member work force, and only moderate relative to the 120,000 unemployed that are calculated by an extrapolation from the GLSS.

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44 World Bank (1989b) indicates that government retrenchment in 1988 was mainly from unskilled grades.

Each case, nevertheless, represents a real hardship which the government, for various reasons, would like to minimize. The initial PAMSCAD design included a compensatory package for retrenched workers. This package included cash benefits – four months of gross salary plus two additional months for each year of uninterrupted service – as well as credit options and retraining programs. Initial implementation was delayed as foreign donors were reluctant to include it under their foreign assistance packages, and retraining did not begin until 1989. Approximately 2,000 individuals completed retraining courses averaging 10 weeks by mid-1990. In addition, 9,600 individuals who listed agriculture as their preferred alternative employment are eligible for credit package. This C95 million program is predicated on the assumption that these former civil servants might have difficulty providing collateral. Available studies indicate neither the duration of unemployment nor the subsequent earnings of those employees who eventually were included in the government's retrenchment program.

The economy has revealed a high capacity for labor absorption in the past, particularly when Nigeria expelled up to a million workers. Most of these workers found employment in agriculture. Under a number of development models, agriculture has been a reservoir for labor, generally at low earnings. Employment in agriculture, then, likely entails not only a physical relocation, but a loss of income for former government employees as well. On the other hand, if the economy offers new opportunities for entrepreneurs, especially those with capital – and in this respect many former civil servants differ from workers expelled from Nigeria – there may be little or no loss of welfare for a number of retrenched workers. The informal sector has the greatest potential for rapid response to new economic conditions, but there is little current and even less baseline data on this sector. As there will always be anecdotes indicating either opportunity or hardship for newly unemployed – variation around the mean is likely large – there is particular need for data on the impacts of this aspect of the recovery.

6. Wage and Price Policy

HISTORICAL PERSPECTIVE

Ghana, like many former colonies, replicated colonial wage policies upon independence. Typically this meant that a relatively small number of high-level officials and managers received wages that were comparable to those in similar positions in Europe while the lower echelons were paid a subsistence wage. In 1963, for example, the highest wages for government employees were 34 times that of the lowest, while the entry salary for a high school graduate was 10 times the lowest salary. By 1979, however, these differentials were 14 and 5 times the lowest wages, respectively (Abdin et al., 1983). This wage compression continued under Hilla Limann, following a trend found in many other African countries as well. This pattern partly reflects educational expansion, which reduces the premium to those with formal education (Knight and Sabot, 1990). Moreover, the compression helped fulfill two policy objectives – maximization of job creation and minimization of earning disparities, at least within the urban wage-earning sector.

Implementation of the policy was assisted by the high inflation that reduced real wages. These eroded wages were revised periodically by decree rather than by indexing. Wage levels in parastatal corporations were determined with some autonomy from direct government employment but were, nevertheless, lower and more compressed than in private industry.

Wage equity was also influenced by the establishment and review of minimum wages. Given the overwhelming role of the government in wage employment – 30.7 percent of wage employees in manufacturing and 52.5 percent in mining were hired by the government in 1973 (Abdin et al., 1983) – minimum wages were enforceable. They were also crucial for determining incomes and, thus, politically important. Minimum wages were raised, for example, with the 1967 devaluation (Leith, 1974) and at the announcement of the abortive devaluation in 1971 (Roemer, 1984).

Unions have played a major role in Ghanaian politics since the struggle for independence. Indeed, a series of worker demonstrations prompted the minimum wage legislation of 1960. Kraus (1979) argues that despite government attempts to control unions' political activities, most strikes in Ghana have been wildcat strikes expressive of populist sentiment. While strikes occurred regularly in postindependence Ghana, they were particularly concentrated in 1969 and 1970, when over 100 strikes occurred, and during the four-month period beginning August 1978, eighty strikes occurred, many of them violent. Such unrest surely reduced the government's options. Chazan (1983) contends, for example, that labor unrest effectively checked most initiatives by the Akuffo government in 1978/79. Similarly, Kraus (1988) implies that increasing labor unrest stymied the government of Hilla Limann.

Collectively, these wage and labor policies resulted in a large and underpaid government sector. By the early 1980s real wages for government workers were less than 20 percent of those in 1975 and were surely insufficient to live on. As a result, absenteeism, increases in the number of ghost workers, and a variety of other comparatively more unsavory practices became commonplace (Chazan, 1983). Moreover, both skilled and unskilled laborers migrated in search of employment. By 1983 over 1 million Ghanaians, out of an estimated 12 million, worked abroad, mainly in Nigeria. While migration has both potential benefits and costs to an economy, the distorted exchange rate was a disincentive to sending remittances—at least through official channels—while the magnitude of the migration left the economy with shortages of both unskilled and skilled labor. As later events proved, the concentration of expatriate workers in one country also left the economy vulnerable to the shock of sudden expulsion.

Real wages, of course, are determined as much by commodity prices as by the level at which nominal wages are set. Ghana seldom attempted to influence these prices by explicit food subsidies. Various governments did implement price controls, however, with as many as 700 items under control in 1970. In the late 1970s and early 1980s various administrations, including the PNDC, made abortive attempts to curtail inflation by intimidating traders and by forced extractions from farmers. Dramatic as these measures were, they were more likely to add to the costs of transactions, including the consumer's time spent finding the price at which a trader would admit goods were available, than to result in lowered consumer prices (Kraus, 1988). Despite the obvious difficulty with price controls, the initial reaction of the PNDC government under Rawlings resembled that of the interim government in 1979, also led by Rawlings; prices were controlled and a moral campaign was launched against antisocial profiteers. Most of these efforts were to little avail as inflation remained unchecked

(Table 18); the CPI increased by 50 percent in 1979, doubled in 1980, endured a mere 20 percent increase between 1981 and 1982, then doubled again.

Successive governments also retained import monopolies for such commodities as sugar, rice, wheat, maize, and vegetable oils. Thus, wholesale prices and retail prices at the government outlets were held down by the overvalued currency. The two-tier price system that resulted from the gap between limited quantities of imports at official prices and domestically produced or smuggled goods at opportunity cost resulted in scarce supplies at government outlets and selective benefits to those able to obtain such goods. While all sources agree that the disparity between official prices and the prices at which a consumer could obtain food and other basic commodities was often wide, particularly between 1977 and 1983, quantitative estimates of this price spread and the actual availability of goods at prices within this range are scarce.

POLICY REFORMS, 1983 -1989

The minimum wage, which by 1983 had eroded to only 35 percent in real terms from 1977 and 15 percent relative to 1975, was revised a number of times between 1983 and 1989. A sharp revision in 1985 restored its real value to 64 percent of that in 1977, and another revision in 1986 protected that gain from inflation. However, the government subsequently announced that further revisions of wages would be linked to productivity. Consequently, the minimum wage fell in real value between 1986 and 1987 and just kept pace with inflation from 1987 to 1990. A 50 percent increase in the minimum wage in March 1989 from C112 to C170 was just enough to bring the real value to roughly 50 percent of that in 1977. An additional 28 percent increase (to C218) in March 1990 prevented further erosion, but was more important for the reduction of exemptions than the change in the wage rate itself.[45]

To some degree the minimum wage has a greater role as a gauge which is watched by laborers than as a determinant of wage floors. The majority of wage earners in Ghana receive wages above the minimum. For example, in 1987/88 only eight percent of the 965 who reported a wage for their primary employment received less than the minimum wage at that time. As indicated in Table 19, a similar pattern was observed in April 1990 even though the sample reflects a relatively remote and undeveloped region. Also, the wage market in Ghana is

45 The minimum wage is slightly over four times the retail price of a kilo of maize. Though maize is not the cheapest energy source, this is, nevertheless, a low grain-wage ratio by international standards. On the other hand, the claim by union leaders that a family of four requires C2,000 a day for food alone (Ephson, 1990) is clearly bargaining rhetoric.

Table 18 – Ghana: Price and Wage Indices, 1975-1989

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
	1985=100										
Consumer Price Index	**0.8**	**11.0**	**23.8**	**29.1**	**64.9**	**90.7**	**100.0**	**124.6**	**174.2**	**228.8**	—
Minimum wage[a]											
Cedis per day (1985 cedis/day)	2	5	12	12	25	35	70	90	90	120	170
Nominal wage index	3	8	17	17	36	50	100	129	129	171	243
Real wage index	352	69	72	59	55	55	100	103	74	76	—
Unskilled labor costs											
Nominal cost index	3	11	18	18	25	47	100	138	162	209	—
Real cost index[b]	329	100	77	63	39	51	100	111	93	92	—
Skilled labor costs[a]											
Nominal cost index	3	13	19	19	26	47	100	154	184	237	—
Real cost index	396	121	80	66	40	52	100	123	106	105	—
	Constant 1985 Cedis per Month										
Average earnings per employee[c]											
Public sector[a]	—	4,009	2,431	2,084	1,650	2,341	3,461	5,886	—	—	—
Agriculture and forestry	—	2,927	2,058	1,864	1,283	2,426	2,675	4,618	—	—	—
Mining/quarrying	—	5,564	3,620	2,963	3,411	3,700	10,534	9,864	—	—	—
Manufacturing	—	4,791	2,650	2,434	1,935	2,646	4,198	6,731	—	—	—
Construction	—	2,982	2,167	1,779	1,373	1,725	2,474	4,074	—	—	—
Wholesale/retail trade	—	3,791	2,020	1,981	1,323	1,550	2,681	4,447	—	—	—
Transport/communication	—	4,818	2,423	2,452	1,562	2,540	3,503	8,378	—	—	—

Private sector	—	5,282	2,822	2,980	2,004	3,618	4,702	6,060	—	—	—
Agriculture and forestry	—	3,782	2,868	2,520	1,807	3,279	3,264	4,337	—	—	—
Mining/quarrying	—	5,145	3,296	5,548	3,249	4,494	5,998	5,202	—	—	—
Manufacturing	—	5,155	2,994	2,888	2,072	4,346	5,535	6,297	—	—	—
Construction	—	4,745	1,961	1,830	1,294	1,781	3,032	3,702	—	—	—
Wholesale/retail trade	—	7,300	2,557	4,110	2,356	3,263	4,781	5,494	—	—	—
Transport/communication	—	5,482	4,010	3,430	2,621	2,946	6,509	9,510	—	—	—

Sources: *World Bank (1989a); IMF (various years); Government of Ghana (1989b).*

[a] *The minimum wages given for 1983 and 1984 were not imposed until April. The minimum wage given for 1989 refers only to the first quarter.*

[b] *Real wages and earnings deflated using the average annual CPI.*

[c] *Average monthly earnings are for December of each year.*

Table 19 – Ghana: Percent of Wage Earners Earning Below Minimum Wage

	Agricultural		Non-agricultural	
	Percent	Number	Percent	Number
1987/1988 (GLSS)				
Rural	15.7	51	11.1	307
Urban	8.8	34	6.1	573
May 1990				
Brong-Ahafo and Upper East Regions	14.9	47	4.5	132

Sources: *Government of Ghana and World Bank (1989).*

rather thin; only a small percent of the population are engaged in either agricultural or nonagricultural wage employment.

Somewhat in contrast with the conventional image of a structural adjustment program, the program in Ghana included efforts to raise wages and allowances in the government sector. This likely increased pressures to raise wages in the private sector as well. Even with significant retrenchment of workers in government and parastatals, the government wage bill rose from under 25 percent of all government expenditures in 1982 and 1983 to over 35 percent in 1986 and 1987. Moreover, the government adopted a policy to increase the pay differentials between the lowest and highest grades. This differential was 2 to 1 in 1983 and increased to 6 to 1 in 1986,[46] although subsequent adjustments in allowances and wages in response to inflationary pressures had a slight tendency to raise the lowest wages relative to the top levels.

Despite a minimum wage policy, Ghana has virtually abandoned efforts to set consumer prices; the list of commodities which were to be rigidly controlled was reduced to 23 items in 1984 and further reduced to 8 in the following year. The Price and Income Board retained a regulatory role in overseeing price increases of other unlisted commodities, but, in practice, this option has not been exercised. Restrictions in trading were also relaxed, allowing for greater availability of various goods.

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46 It is likely that these figures, from the World Bank (1987), do not refer to the same reference points as the data from Abdin cited above. Both sets, however, are indicative of trends. Kraus (1988) reports that a "tiny" gap of 1:1.8 existed between January 1985 and January 1986 but was widened thereafter.

GENERAL ECONOMIC CONSEQUENCES OF WAGE AND PRICE MOVEMENTS

In comparison to the decade prior to adjustment, Ghana has been able to moderate inflation between 1984 and 1985. Despite a massive nominal devaluation in 1983 and major successive devaluations in 1984, the economy has avoided the trauma of an explosive price cycle. Various factors have helped cap the inflationary spiral: increased macroeconomic discipline, improved harvests, declining real fuel prices, a large reservoir of underutilized capacity, and general consumer confidence. In addition, market liberalization most likely improved the flow of both goods and information. Even without actual hard numbers, it can safely be concluded that the cost of obtaining – or circumventing – import permits in the early 1980s far exceeded the costs of obtaining foreign exchange in the era of auctions and foreign exchange bureaux. Since consumers often paid the true scarcity value of foreign exchange in the open market, the devaluation had a small initial impact on the cost of living. Current devaluations are less dramatic, but likely more completely transmitted to the consumer.

At the end of the decade, inflation (approximately 25 percent in 1989) was still high enough to disrupt some aspects of the economy, such as banking, and possibly also to encourage private holding of foreign exchange. Fixed long-term accounts receivable and rents as well as entitlements, which were not liquidated in the early part of the decade, are still being eroded. The memory of that earlier period would discourage private lending, while the possibility of a further decline in inflation might discourage private borrowing.

Some major shifts in relative prices have accompanied this inflation. While the CPI in 1982 revealed a ten-fold price increase in five years, there was comparatively little difference in the indices of its components except for the composite of rent, fuel, and power, which lagged appreciably behind the general CPI. In contrast, the movement of prices since 1982 was quite variable. The index of food prices in the first quarter of 1989 relative to 1982 was 661, while the indices for beverages and tobacco were 1,602 and for clothing, 1,258. Prices for transportation and communication and rent, fuel, and power moved even more rapidly with indices of 1,778 and 1,625, respectively. This comparison is somewhat influenced by the choice of the base year; food prices, which comprise nearly half of the total CPI, rose sharply in late 1982. Nevertheless, compared with 1980, the price of clothing has still risen 20 percent more than food and the relative price of fuel is twice what it was in 1980.

Wholesale prices for food appear to have risen far faster than retail prices. An index of the ratio of nominal wholesale food prices to retail food prices was 175 in the third quarter of 1988 (1980 = 100). Taken at face value, this statistic confirms the widely held belief that retail marketing margins increased as the

Table 20 – Ghana: Real Wholesale Maize Prices, Second Quarter Averages, 1980-1989

Year	Bolgatanga	Cape Coast	Kumasi	Sunyani
	1985=100			
1980	49.09	52.90	45.72	61.65
1981	36.37	48.07	42.27	34.03
1982	36.76	47.25	23.92	21.96
1983	80.51	163.06	91.88	80.74
1984	35.47	37.55	35.42	27.85
1985	22.78	24.98	20.67	17.96
1986	23.69	36.72	34.91	28.31
1987	24.73	40.07	36.90	30.87
1988	32.83	39.67	39.27	36.58
1989	21.26	26.02	19.32	15.05

Source: *Ministry of Agriculture (n.d.).*

economy broke down (Horton, 1985; Tabatabai, 1988) and, by implication, decreased as the economy improved. Given the apparent rapid increase in transportation costs in this period, one may further infer that this movement reflects reduced rents and increased competition.

A number of caveats must, however, be offered. For one thing, details on the composition of these indices are not currently available. Retail and wholesale indices may, perhaps, have significantly different components. Moreover, the price series are not volume weighted and from a limited number of markets. Recall, further, that Tabatabai (1988) found two series from the same ministry that indicate either increases or deceases in wholesale prices in the 1970s.[47]

Table 20 shows the wholesale price of maize in four markets. Prices are average monthly prices observed in the second quarter. This was chosen to abstract from seasonal patterns and focus in on the period of highest prices, hence of greatest concern from the perspective of the poor. The table indicates an apparent decline in the real wholesale price of maize – the single largest commodity in consumer budgets in the 1987-1988 GLSS.

47 Among the various anomalies that are contained in the price series reported by the Statistical Service is the apparent decline in the real retail price of maize in Accra during both 1982 and 1983 relative to 1980 and 1981.

Table 21 – Ghana: Ratio of Retail to Wholesale Prices for Maize, 1980-1989

Year	Bolgatanga	Cape Coast	Kumasi[a]	Sunyani
	1984=100			
1980	85	109	—	—
1981	90	107	—	162
1982	78	103	—	255
1983	95	107	171	42
1984	100	100	100	100
1985	103	107	130	97
1986	108	105	98	105
1987	98	107	96	107
1988	100	97	103	100
1989	113	115	110	143

Sources: *Ministry of Agriculture (n.d.).*

[a] *Uses 1st quarter prices because the reported 2nd quarter 1984 retail prices were an abnormal 2.6 times wholesale prices.*

Despite different patterns in the indices of wholesale and retail prices, the ratio of retail to wholesale prices obtained from the regional offices of the Ministry of Agriculture show no trend over the decade. The average is not particularly high, ranging between 1.05 and 1.19 in the four markets reported (Table 21). There is, however, great variability in this ratio over the months for which it is available.[48]

In order to test the statistical significance of such price movements, a regression was run with the logarithm of wholesale maize prices from various urban and rural markets regressed on time and other variables. For the analysis presented here, monthly food prices from a number of rural and urban markets were obtained from Ministry of Agriculture regional offices.[49] These monthly

48 Some of this variability may reflect errors introduced by inconsistent units of measurement. Not only are there shifts between bowl, bags, kilos, pounds, and fractions thereof, the coding sheets made available report different conversion ratios from, say, bowls to bags, in the same market and for the same commodity. Only in recent years have the price sheets been standardized over markets.

49 Disaggregated price data for much of the 1970s and early 1980s are currently unavailable in Accra, although regional offices sometimes retain the original coding sheets in their storerooms.

market prices (rather than regional or national averages) for the period between January 1970 and July 1990[50] are the unit of analysis. Depending upon the commodity, up to 36 rural and urban markets are included in the analysis.

The statistical significance of time trends in prices is tested using a set of regressions with the logarithm of real prices from the various urban and rural markets regressed on time (in months) and other variables. These prices were deflated by urban and rural CPI indices, respectively. Separate time variables for the period 1970-1982 and for the period after 1983 then indicate trends in prices in these periods. Note that observations from 1983 were excluded in this exercise. This was done not only because of the special circumstances in government staffing and in the functioning of markets in that year, but also as the test of pre- and postadjustment patterns might be sensitive to the choice of whether 1983 famine year should be considered as pre- or postadjustment.

Most wholesale food prices exhibit a statistically significant downward trend in both the preadjustment and postadjustment periods. For example, the trend coefficients for maize in Table 22 imply that the average *monthly* real decline in the wholesale price of maize was 0.06 percent a month (0.7 percent per year) in the prerecovery period and 0.13 percent a month (1.6 percent per year) after the initiation of the recovery. Only cassava prices fail to show an appreciable downward movement. In the earlier period, the downward trend was particularly pronounced for rice (nearly 4 percent per year) as well as for millet and gari. The former pattern is consistent with both worldwide trends and an increasingly distorted currency.

Not only is the monthly time trend significantly negative over the entire period, but the downward trend in wholesale prices is also significantly steeper in the period 1984-1990 for all commodities, except rice and yams. One plausible explanation for this acceleration is a period of favorable weather, although yield increases, particularly for maize, could also put downward pressures on prices.[51] A further explanation may be found in falling marketing costs; although fuel prices have increased since 1984, trucks and spare parts have been more readily available and more funds have been available for road construction and repairs. These factors are not mutually exclusive. They all may play some role in this consistent pattern.

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50 Only maize prices extend beyond April 1990. None of the conclusions discussed in the paper regarding maize prices were found to be sensitive to inclusion or exclusion of prices covering the period May-July 1990, although nominal maize prices doubled in that short period.

51 Regressions for plantain prices are not reported as few observations of prices prior to 1980 were available. There was, however, a significant upward trend in plantain prices for the post-1983 period, possibly reflecting reduced planting of the crop following the bush fires.

The pattern in millet prices provides some evidence regarding the role of transportation. The regression for millet in Table 22 deals only with the savannah zone. A similar regression covering 2,038 market observations nationwide indicates a virtually identical trend in the earlier period, but finds that the downward movement in millet prices since 1984 in the nationwide sample is twice that of the Northern and Upper regions. This is consistent with improvements in transportation from the geographically restricted producing regions to other markets that have been made in the second half of the decade.

Rice is the exception in this overall pattern that reinforces, rather than contradicts, the general results. Rice is the only commodity studied that is consistently imported or exported. One would expect, therefore, that the changes in policies regarding the exchange rate determination since 1983 would affect this commodity in a different manner than other food crops.[52] While the price of rice continued to decline throughout the 1980s, it did so at a significantly slower pace than in the earlier period. Moreover, the relatively limited number of markets that distinguish imported from domestic rice provide evidence regarding the change of trade regimes since the initiation of the economic recovery period. Imported rice was apparently 10 percent cheaper than domestic rice prior to 1983 and over 25 percent more expensive at the wholesale level after 1984. This result is indicated by the variables for imported rice in the regressions in Table 22 and includes control for some regional patterns as well as urbanization.

As Tabatabai correctly observes, declining food prices in the period of contraction could reflect falling real incomes for nonproducers, and hence reduced demand. Although there are few direct indicators of the distribution of income growth between 1984 and 1990, average per capita income has increased by over 15 percent in that period. The continuing, or accelerated, price decline, then, is indicative of production increases in the latter period.

For net consumers of grains and tubers the decline in food prices has an unambiguous impact on real incomes. The impact on producer incomes, however, is less clear. Not only does it require some assumptions to infer the movement in farm-gate prices from the movement in wholesale prices,[53] but full assessment of trends in farm-gate prices should also consider trends in yields as well. It is possible for farmers, particularly progressive farmers, to increase their

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52 While maize is also potentially a tradable good, government restrictions as well as the distinction between yellow and white maize on the world market have effectively segmented the local market from the world market.

53 A reasonable assumption is that marketing margins would decline with improved transportation, but there is little evidence with which to verify this supposition.

Table 22 – Ghana: Regressions Indicating Price Trends of Food Prices, 1970-1990

Independent Variable	Wholesale Price							Retail Price	
	Maize[a]	Sorghum	Millet	Cassava	Gari	Yam	Rice	Maize[a]	Gari
Constant	3.163	3.910	3.724	2.065	3.548	4.132	4.382	3.237	3.042
	(108.173)	(84.590)	(72.619)	(18.155)	(56.361)	(85.035)	(114.524)	(42.872)	(38.797)
Time trend prior to 1983	$-5.918x^{-04}$	$-5.505x^{-04}$	$-1.582x^{-03}$	$7.283x^{-04}$	$-1.034x^{-03}$	$-7.542x^{-04}$	$-3.260x^{-03}$	$-9.717x^{-04}$	1.922^{-04}
	(-3.001)	(-1.834)	(-4.220)	(0.955)	(-2.498)	(-2.549)	(-13.356)	(-2.468)	(0.413)
Time trend after 1984	$-1.349x^{-03}$	$-1.710x^{-03}$	$-2.099x^{-03}$	$-2.647x^{-05}$	$-1.659x^{-03}$	$-8.656x^{-04}$	$-1.445x^{-03}$	$-1.908x^{-03}$	$-1.193x^{-03}$
	(-12.664)[b]	(-9.665)[b]	(-9.918)[b]	(-0.053)[b]	(-7.644)[b]	(-4.820)	(-10.585)[c]	(-9.261)[b]	(-4.325)
Urban	$4.875x^{-03}$	0.019	$5.811x^{-03}$	0.089	-0.052	0.181	$6.589x^{-03}$	-0.023	0.166
	(0.398)	(1.292)	(0.321)	(2.900)	(-1.792)	(9.988)	(0.448)	(-0.476)	(5.057)
Upper region	-0.023	-0.165	—	0.569	-0.224	0.071	-0.101	0.045	0.369
	(-1.671)	(-9.671)	—	(7.055)	(-1.965)	(3.396)	(-6.077)	(1.452)	(10.233)
Northern region	-0.185	-0.279	-0.043	0.769	—	-0.303	-0.057	-0.151	—
	(-8.374)	(-12.473)	(-2.033)	(9.937)	—	(-10.990)	(-2.251)	(-3.474)	—
January	0.235	-0.212	-0.059	0.061	0.145	0.133	-0.126	0.225	0.117
	(8.107)	(-6.050)	(-1.442)	(0.857)	(2.191)	(3.185)	(-3.654)	(3.919)	(1.799)
February	0.249	-0.150	$-8.794x^{-03}$	0.045	0.097	0.121	-0.086	0.247	0.084
	(8.619)	(-4.279)	(-0.214)	(0.638)	(1.494)	(2.861)	(-2.462)	(4.310)	(1.297)
March	0.345	-0.149	0.020	-2.122^{-03}	0.122	0.134	-0.081	0.334	0.064
	(11.828)	(-4.223)	(0.490)	(-0.030)	(1.847)	(3.182)	(-2.275)	(5.782)	(0.987)
April	0.428	-0.116	0.076	0.057	0.132	0.216	-0.062	0.435	0.083
	(14.584)	(-3.294)	(1.823)	(0.800)	(1.952)	(5.120)	(-1.743)	(7.531)	(1.267)
May	0.486	-0.058	0.126	0.144	0.130	0.317	-0.051	0.495	0.154
	(16.669)	(-1.652)	(3.003)	(2.038)	(1.940)	(7.308)	(-1.415)	(8.773)	(2.363)

June	0.493	-0.036	0.146	0.079	0.140	0.337	-0.053	0.497	0.142
	(16.900)	(-1.027)	(3.446)	(1.124)	(2.127)	(7.594)	(-1.482)	(8.709)	(2.178)
July	0.354	-0.025	0.121	0.034	0.075	0.287	-0.027	0.409	0.071
	(12.034)	(-0.714)	(2.796)	(0.489)	(1.142)	(6.392)	(-0.740)	(7.138)	(1.092)
August	0.126	0.010	0.086	0.074	0.015	0.132	$5.887x^{-03}$	0.159	0.078
	(4.288)	(0.287)	(2.000)	(1.061)	(0.226)	(3.038)	(0.164)	(2.745)	(1.182)
October	0.025	-0.045	-0.047	-0.026	-0.014	-0.044	-0.055	$8.806x^{-03}$	0.018
	(0.841)	(-1.241)	(-1.075)	(-0.365)	(-0.205)	(-1.039)	(-1.552)	(0.152)	(0.279)
November	0.083	-0.123	-0.091	-0.052	-0.047	0.055	-0.105	0.110	-0.061
	(2.777)	(-3.440)	(-2.077)	(-0.738)	(-0.706)	(1.303)	(-2.899)	(1.884)	(-0.930)
December	0.098	-0.283	-0.190	-0.040	-0.016	0.064	-0.165	0.096	-0.089
	(3.264)	(-7.842)	(-4.452)	(-0.558)	(-0.230)	(1.508)	(-4.573)	(1.630)	(-1.307)
Imported (before 1983)	—	—	—	—	—	—	-0.118	–	—
	—	—	—	—	—	—	(-2.806)	—	—
Imported (after 1983)	—	—	—	—	—	—	0.280[c]	—	—
	—	—	—	—	—	—	(5.829)	—	—
R^2	0.295	0.251	0.267	0.131	0.189	0.242	0.134	0.364	0.323
N	3,202	2,085	1,232[d]	1,341	664	1,782	2,244	850	770

Sources: *Ministry of Agriculture (n.d.).*

[a] *The maize series includes data through July 1990 for selected markets; all other commodity series include data through April 1990 only.*

[b] *The coefficient is significantly less than the corresponding coefficient for the earlier period (p, 0.01 two-tailed test).*

[c] *The coefficient is significantly greater than the corresponding coefficient for the earlier period (p, 0.01 two-tailed test).*

[d] *Upper and northern regions only. Similar trends and significance are observed for the prices from the full sample, although the volume of sales are clearly concentrated in the savannah regions.*

Note: *T-statistics are in parentheses.*

incomes even while prices soften (see Scobie and Posada, 1978, for an illustration). However, the necessary data for such an analysis for Ghana is not currently available.

A regression of retail maize prices on time reveals basically the same pattern as the regression for wholesale prices reported above. A similar story is indicated by regressing the ratio of retail to wholesale prices in a given market on a trend variable. This ratio of retail to wholesale maize prices has declined over time, with the rate of decline somewhat faster prior to 1983 (for more details, see Alderman and Shiveley, forthcoming). Since the regressions use corresponding prices from the same locale, the declining margin does not represent changes in transportation costs. These transportation costs may also have changed in response to both reductions of fuel subsidies and improved roads. If so, this would indicate real resource costs rather than an apparent increase or decrease in trader's margins.

WAGES, PRICES, AND POVERTY

As indicated in Table 18, real wages declined markedly prior to the adjustment program and rose in 1985 shortly after it gained momentum. The rate of increase of skilled labor costs is slightly different from that of unskilled labor, while the latter kept ahead of the rate of increase in minimum wages at least until 1988.[54] As there is little evidence that points to increased unemployment, the wage increase may indicate an increase in the earnings for laborers. This conclusion is also supported by the information on average earning up until 1986 published in government reports. These latter sources show that the upward trend in real earnings was broad based, affecting all industries. Note that the gap between government and private sector earnings, which had widened prior to the recovery program, was virtually eliminated in 1986.

Beaudry and Sowa (1989) report industry-specific indices of monthly earnings, which indicate that wage earnings in agriculture and mining recovered faster than did those in manufacturing. By 1986 the average index of monthly wage earnings was 121.5 (1978 = 100), while it was only 100.1 for manufacturing. The index for mining was 153.0. Beaudry and Sowa also note a net migration from Accra between 1982-1987, with the Western region receiving more migrants than any other region. While they attribute this to the recovery of cocoa, it may also be due to mining.

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54 A preliminary estimate of inflation in 1989 is 25 percent, implying an index of the real minimum wage in 1989 of 85. Comparable data on the cost of unskilled labor in 1989 are not yet available.

A slightly less sanguine view of the wage data would focus on the apparent stagnation after 1986. To be sure, if wages were to rise faster than productivity, inflation would be fueled. Nevertheless, post-1986 economic gains are not being rapidly passed on to wage earners. Those earners whose hindsight reaches back only two or three years and, therefore, see little movement in earnings, may wonder whether the recovery is an ongoing process. Moreover, to a degree the higher average wage in the government sector represents a shift in skill levels as much as increase in individual compensation (World Bank, 1989b).[55]

As mentioned the most visible prices in the market, particularly food prices, apparently declined during the decade. On the other hand, a number of administered prices, including energy prices, have increased markedly as major distortions were removed (Table 23). Kerosine prices have risen faster than gasoline prices, in part because kerosene prices grew slower than gasoline prices in the late 1970s. As indicated in Table 24, during 1987/88, rural budget shares to kerosine were larger than the share in urban regions and were similar to the 10 percent budget share to maize and maize products. Budget share declined with higher incomes, although the absolute level of expenditures was lowest in the poorest expenditure quintile.[56]

The real income loss due to rising kerosine prices, then, was highest for the rural poor who use kerosene for lighting. In contrast, nearly all the petrol purchased by consumers was bought by the urban well-to-do. While the full distributional impact of increased fuel prices should include the energy content of public transportation utilized by the poor, it is unlikely that such an analysis would indicate that the distribution of petrol price increases were regressively distributed. The price of charcoal has risen even faster than the administered prices for petroleum products. This may reflect the increased value of the exportable commodity lumber. Although these price changes are sufficiently large that marginal analysis may be misleading, taken collectively they indicate that consumers are losing a fair amount of real income due to these increases and, furthermore, the impact of these increases appear regressive.

Gasoline prices remain, however, a key and visible prize in the political arena, in part because as of early 1990, it was one of the few remaining administered prices. Moreover, unlike in previous years, gasoline prices were increased throughout the year; increases were announced in March 1990, as well as at the

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55 Mikell (1989) argues that the trade unions represent the strongest critics of the structural adjustment program.

56 Expenditures by the lowest quintile, rural and urban combined, were 15.5 percent of total national expenditure on kerosene.

Table 23 – Ghana: Energy Prices, 1977-1989

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
	Cedis												
Premium gasoline													
Current cedis/imp. gal.	1.4	2.1	5.1	7.3	12.2	13.0	26.1	53.5	96.3	147.5	190.0	235.0	275.0
Constant cedis/imp. gal. (1985=100)	51.0	44.2	69.6	66.4	51.2	44.6	40.2	59.0	96.3	118.4	109.1	102.7	—
Kerosene													
Nominal cedis/imp. gal.	1.0	1.5	4.0	4.0	7.9	7.4	23.3	60.5	80.3	94.6	110.0	170.0	190.0
Constant cedis/imp. gal. (1985=100)	20.9	20.3	36.0	16.6	27.2	11.5	25.7	60.4	64.4	54.3	48.1	74.3	—
Charcoal													
Nominal cedis/45.4 kg.	10.4	20.6	41.4	56.9	111.9	126.7	271.7	455.6	485.9	560.3	924.7	—	—
Constant cedis/45.4 kg. (1985=100)	141.8	187.3	173.8	195.4	172.4	139.8	271.7	365.8	279.0	244.9	527.9	—	—

Sources: *World Bank (1989a); World Bank (1987); IMF (various issues).*

Table 24 – Ghana: Mean Household Expenditure on Energy, by per Capita Expenditure Quintile

		Charcoal/Fuel Wood[a]			Kerosene/Other Cooking Fuel			Gasoline/Motor Oil		
	Survey Sample	Total	Per Capita	Budget Share	Total	Per Capita	Budget Share	Total	Per Capita	Budget Share
Rural and semiurban	1,917	60.3	19.9	0.02	170.2	71.7	0.08	9.0	1.3	0.00
First quintile	512	23.6	4.1	0.01	148.7	25.0	0.10	0.6	0.1	0.00
Second quintile	443	47.8	9.2	0.02	170.5	32.7	0.07	7.5	0.4	0.00
Third quintile	374	54.8	13.5	0.02	179.6	48.9	0.07	28.2	3.3	0.01
Fourth quintile	341	78.7	19.8	0.02	185.5	61.8	0.07	5.3	1.0	0.00
Fifth quintile	247	141.3	81.6	0.04	178.5	118.1	0.06	5.2	2.1	0.00
Urban	1,205	395.0	112.2	0.12	136.3	42.5	0.05	109.5	29.4	0.02
First quintile	112	257.5	37.0	0.13	121.9	20.2	0.08	0.0	0.0	0.00
Second quintile	182	417.8	70.3	0.15	131.8	25.3	0.05	22.1	2.5	0.01
Third quintile	250	388.8	81.1	0.12	142.5	34.0	0.05	16.6	2.1	0.00
Fourth quintile	284	467.1	109.4	0.12	155.4	39.4	0.04	169.8	28.5	0.03
Fifth quintile	377	374.7	177.9	0.09	124.1	65.5	0.03	200.9	70.2	0.04
National Average	**3,122**	**190.0**	**55.7**	**0.06**	**157.0**	**47.1**	**0.07**	**48.0**	**12.2**	**0.01**

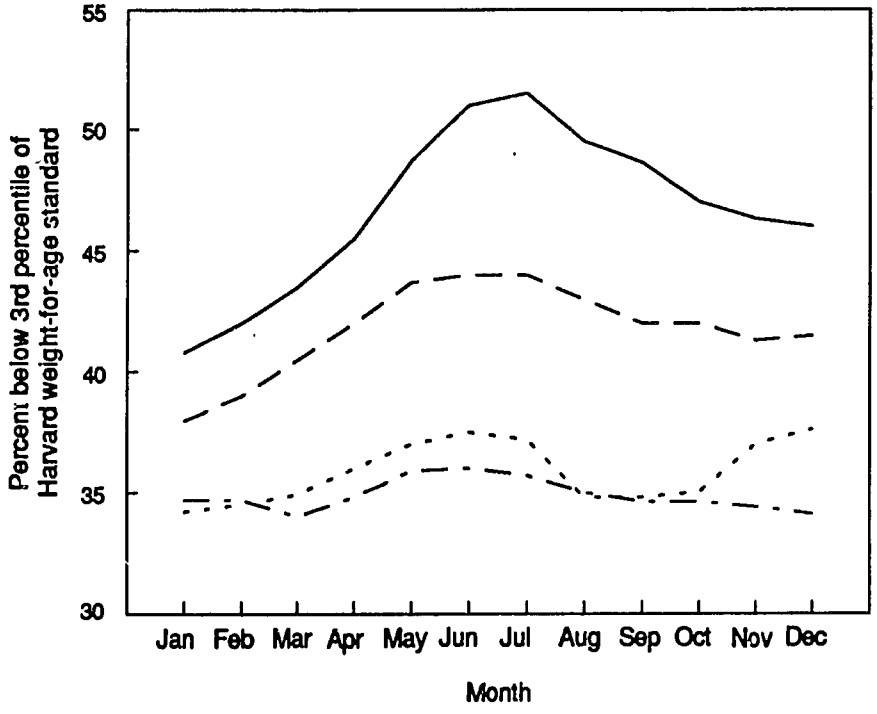
Source: *Government of Ghana and the World Bank (1989).*

[a] *Market purchases of wood and charcoal only. Total expenditure, however, includes home-produced food.*

Note: *Mean expenditures in cedis by the household since last enumerator visit, a period of time averaging 14 days. Quintiles are defined over entire population of households.*

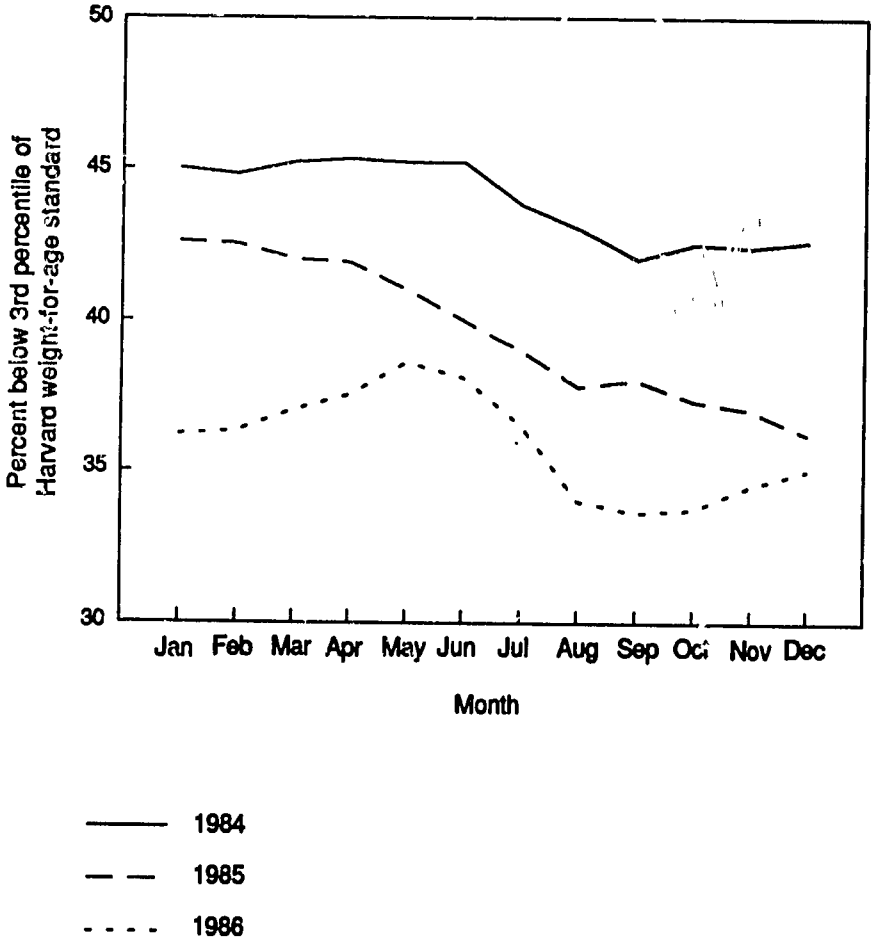
January presentation of the budget, and again in August following the doubling of world prices.

Figure 4 — Ghana: Weight-for-Age of Children Ages 7-42 Months Attending Clinics, by Month, 1980-1983



Source: *Catholic Relief Service (1987).*

Figure 5 -- Ghana: Weight-for-Age of Children Ages 7-42 Months, Attending Clinics, by Month, 1984-1986



Source: Catholic Relief Service (1987).

7. Health, Nutrition, and Education

HISTORICAL PERSPECTIVE

For all practical purposes, Ghana has not had an explicit nutrition policy, distinct from health and agricultural policies that may influence nutrition (Hopkins, 1990). Similarly, the majority of the nutrition interventions conducted within the country have been administered under NGOs. This is not to imply that the government has not monitored nutrition nor that it has been unconcerned about the data that has indicated nutritional problems.

Early surveys, such as the nationwide nutrition survey conducted in 1961-62, revealed generally high levels of malnutrition, particularly in the north. An indication that this regional pattern of malnutrition has continued comes from data collected by the Catholic Relief Service. While these data suffer from selection bias – the results are based on children who attend clinic-based feeding centers – they do provide some perspective on the changes in levels of malnutrition over time. The information in Figures 4 and 5 indicate the severity of this malnutrition between 1982 and 1984 relative to the beginning of the decade or to 1986.

The rise in levels of malnutrition appears to reflect the breakdown in food security attendant to the crop failure in 1983. World Bank (1985) data indicate that calorie availability declined 34 percent between 1969-71 and 1981-83. As mentioned, these years coincided with the drought year. To be sure, there is some reason to doubt the level of estimated food consumption. For example, average estimated calorie intakes are generally low and may reflect assumptions of crop loss and seed retention used to convert the production data, itself somewhat dubious. Recall, furthermore, Tabatabai's (1988) doubts concerning overall population data, which was reported in the introduction. Nevertheless, the available evidence points to a downward trend in food availability even prior to the drought.

The importance of food supply seems to be indicated by a reworking of the nutrition prevalence data on which Figures 4 and 5 are based. Taking these data and graphing nutrition prevalence with price movements (Figure 6), one sees a correlation between the two trends. One should recall, however, that the same weather patterns that led to the price rise also led to a fall in incomes for many Ghanian households. It is not possible, then, to use the trend data to determine the degree to which the rise in malnutrition is due to what Sen (1981) refers to as an entitlement failure – that is, a failure in earning power – and to what degree it is due to declines in food availability.

Moreover, as discussed by Reutlinger and Selowsky (1976) as well as others, average caloric availability explains only a portion of malnutrition at best. Temporal and regional differences in nutrition are also related to the distribution of caloric intakes as mediated by income disparities, as well as to differences in health care infrastructure.

The relative poverty of the North was noted prior to independence and reflects as much the resource base as policy choices. To be sure, under the colonial government the region was viewed primarily as a source of labor and received relatively little investment. This, however, may reflect expected returns; cocoa and mining, the main industries receiving investment at that time, are not feasible in the savannah. As discussed in the agriculture subsection, some investment priorities after independence, particularly in the 1970s, did favor the North, although not necessarily Northerners. Nevertheless, the relative poverty persists. This helps explain why the region, a net grain exporter (to other parts of Ghana as well as, unofficially, to Burkina Faso), still has higher levels of malnutrition than importing regions. This is discussed further below.

A UNICEF report also points out that the Northern region also has relatively few health facilities. For example, in 1975 the Upper and Northern regions had one hospital bed for every 1,209 inhabitants while Greater Accra had one for every 952 residents. This, however, is hardly an indicator of regional disparity. The divergence is, in fact, surprisingly small considering the vast differences in population density. There are, however, greater differences in hospital utilization. In 1984, for example, the Northern and Upper Regions, with 19 percent of the population, accounted for only 5 percent of visits to health care facilities (Table 25). This presumably reflects regional differences in costs of attendance in terms of travel time,[57] although it may also reflect concerns about poor quality, due to inadequate staffing, and availability of medication.

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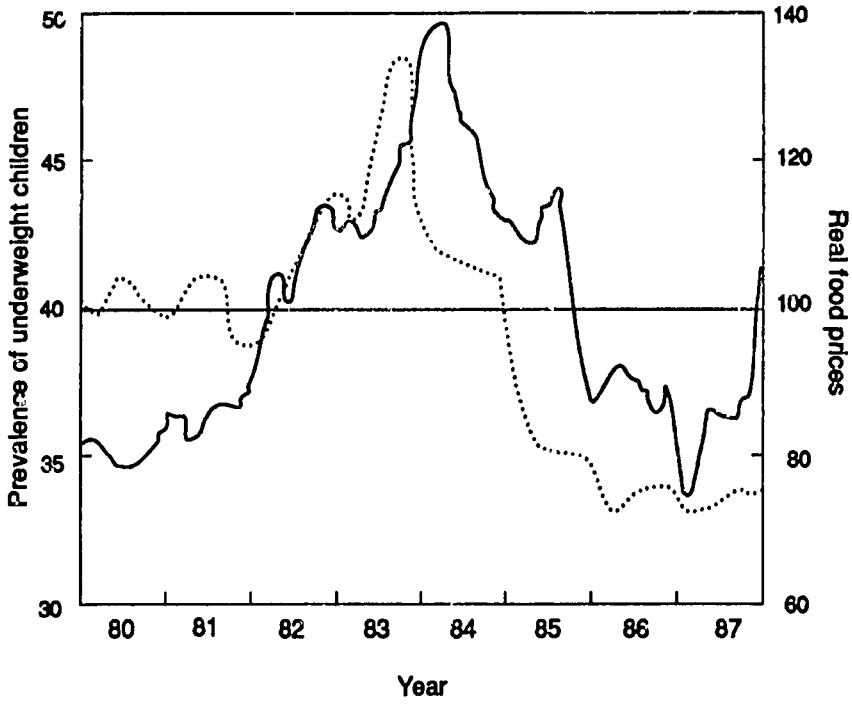
57 Travel time is important determinant of health care utilization in virtually all models which have tested the role of time and distance (see Gertler and van der Gaag, 1990, and the references contained in that study).

Figure 6 — Ghana: Relative Price of Food and Provalence of Underweight Children from Clinics, Deseasonalized, 1980-1987



Source: United Nations Subcommittee on Nutrition (1989).

The latter concern likely also accounts for the general decline in health care utilization indicated in Table 25. While there were regional differences in the rate of decline as well as one period of increase (in utilization of health units) in the Upper regions explained by a mass vaccination campaign against yaws and yellow fever, this decline paralleled the overall breakdown in infrastructure as revenues vanished. Underreporting may, of course, also have accompanied the reduced real expenditures on administration, but this is not likely the total explanation. A further, theoretically possible, explanation—a reduction in utilization due to reduced disease incidence—is not in accord with other evidence.

The overall revenue shortfall in the early 1980s did not exempt the education sector; per capita spending on education dropped from $20 in 1972 to $1 in 1983. As real salaries declined, qualified teachers emigrated. Those who stayed augmented their salaries with secondary employment, including tutoring their students on subjects normally in the curriculum (Morna, 1989). A decline in quality, then, rather than in quantity, likely characterized the school system prior to the recovery. Official statistics show only a slight dip in the number of schools or enrollment, although the universities were not in session in 1983/84.

POLICY REFORMS, 1983 -1939

As with much in Ghana's recovery, education reform in Ghana both follows and tests a strategy advocated by the World Bank, receiving for this effort the first education sector reform loan offered by the Bank to an African country. A key feature of the approach is the emphasis on primary education (see Mingat and Psacharopoulos, 1985). Primary school enrollments increased at six percent a year during 1987-1989. Given resource constraints, this implies a relative deemphasis on higher education. Subsidies for boarding at universities and secondary schools were cut, more in the former case because they were larger to begin with. The initial goal was to establish nonresidential campuses and retrench a number of nonteaching staff. This met with some resistance from students whose protests closed all three universities in 1987. A compromise was reached under which the 51 cedi a day (1987) subsidy would be removed but students would be able to obtain 50,000 cedi loans per year, payable at three percent interest after the student enters the work force (Morna, 1989).[58] An additional reform, which reduced the number of years in some preuniversity tracks from 17 to 12, has proven less controversial. Nevertheless, the number of

58 Moreover, food purchases for 80,600 boarders of secondary school will be supported under PAMSCAD with WFP assistance.

Table 25 – Ghana: Health Unit Attendance, by Region, 1979-1984

Regions		1979	1980	1981	1982	1983	1984
		Numbers: 10,000 Index: 1979=100					
Greater Accra		172	953	699	772	619	756
	Index	100	81.2	59.6	65.8	52.8	64.5
Eastern		1,513	1,134	901	1,112	1,149	862
	Index	100	74.9	59.5	73.4	75.9	56.9
Central		573	514	472	497	281	220
	Index	100	89.7	82 4	86.8	49.0	38.3
Volta		1,116	926	798	944	683	953
	Index	100	83.0	71.5	84.6	61.2	85.4
Western		623	538	347	554	186	211
	Index	100	86.3	55.6	88.9	29.9	33.8
Ashanti		980	984	900	879	664	692
	Index	100	100.4	91.8	89.6	67.7	70.5
Brong Ahafo		1,061	977	918	910	834	582
	Index	100	92.0	86.4	85.5	78.5	54.8
Northern		264	176	123	142	97	96
	Index	100	66.6	46.4	53.9	36.6	36.3
Upper[a]		310	135	289	436	223	98
	Index	100	43.4	93.0	140.6	72.0	31.6
Total		**7,614**	**6,240**	**5,346**	**6,244**	**4,735**	**4,468**
	Index	**100**	**82.0**	**70.2**	**82.1**	**62.2**	**58.7**

Source: *Ministry of Health, cited in UNICEF (n.d.).*

[a] *1981-1983 figures include mass vaccinations against yaws and yellow fever, which recurred after near elimination in 1960s.*

Note: *Coverage comprises all government health service facilities, including CHAG, the Christian Hospital Group. Level of reporting constant over period.*

teachers employed has increased. This is contrary to initial plans but may represent a response to the staff loss earlier in the decade.

The change in expenditures on health and education is indicated in Figure 7. The figure confirms the point made in Chapter 3 that the resource constraint in the early 1980s led to a virtual collapse of government services. The recovery has been equally dramatic and belies the stereotype of a structural adjustment program which cuts human services in order to be able to service loans. Such a program may exist elsewhere, but in Ghana the recovery has meant the restoration of recurrent expenditures on health and education.

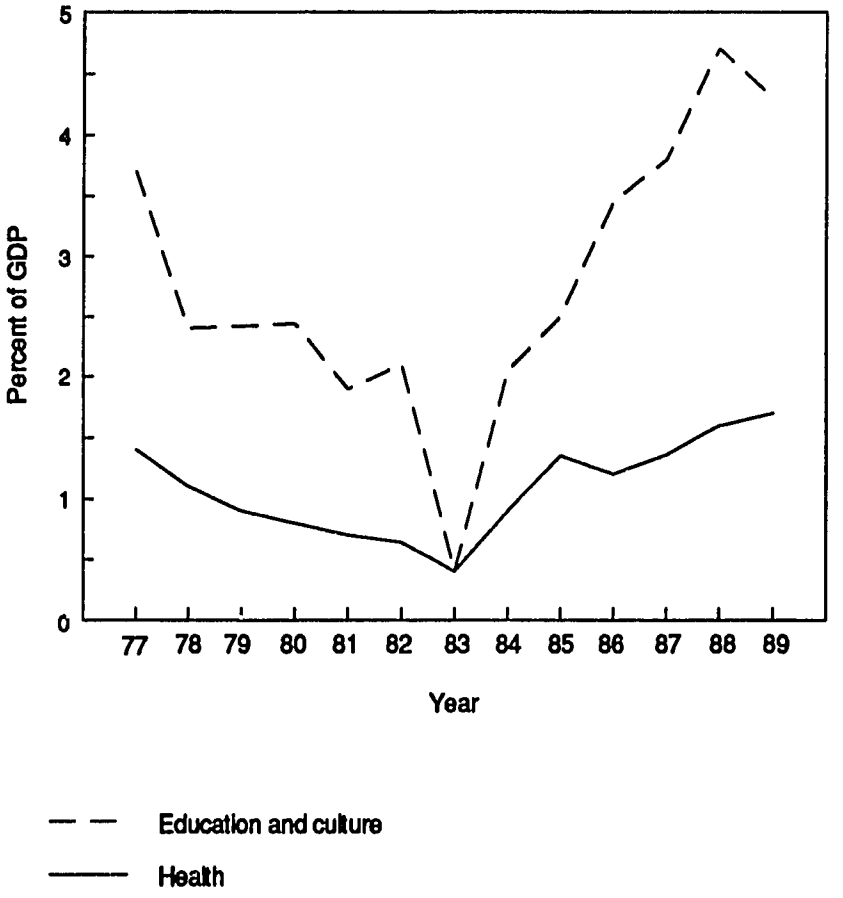
Investing in the health sector has become a major policy objective as well; actual expenditures on health from the domestic capital budget doubled in 1987 and again in 1988 (World Bank, 1989b). The construction of new primary health facilities in rural areas is a major component of this increase. The rural orientation indicates a concern for existing imbalances, although the equal allocation of new facilities in each region reflects political realities rather than an objective evaluation of needs.

Measures to increase cost recovery for services introduced with the recovery program are part of the funding of recurrent health expenditures. The degree of cost recovery is lower for primary outpatient services, for child care, and in rural areas. A 1987 regulation authorized full payment for cost of medicine. It is not clear, however, how that is being implemented. For example, while the price of malaria medication increased 150 percent in nominal terms between 1986 and 1987, it rose only 3 percent during the next two years while the CPI rose over 50 percent.

Some indication of cost recovery effectiveness is reported by Vogel (1988). While the government exhibited interest in cost recovery before the recovery program, no attempt was made before 1985 to organize collections on a basis of marginal costs. While the rationale is still not transparent and, as mentioned, many services are exempt, such exemptions are not as pervasive as in Francophone Africa. However, there is no explicit income targeting. The cost recovery is probably regressive but few data exist. However, cost recovery has probably not led to increased services; revenues in 1986 were estimated to be 15 percent of expenses and mainly from outpatient pharmaceuticals (Vogel, 1988). At that time, at least, cost recovery was more a marginal reform than a philosophic reorganization.

Nutrition has only a small share of the budget for the Ministry of Health. Nevertheless, funds earmarked for nutrition have increased at the same rapid rate as total expenditures on health (Hopkins, 1990). A major new program for supplementary feeding programs associated with health clinics was initiated in

Figure 7 — Ghana: Expenditures on Health and Education as a Percentage of GDP, 1977-1989



Source: *IMF (various years); World Bank (1989b).*

January 1990. This project, in conjunction with Catholic Relief Service and the World Food Program, intends to provide monthly rations to 24,000 mothers and young children, mostly in rural areas, as part of PAMSCAD. Hopkins (1990) points out, however, that the program utilizes only a small portion of PAMSCAD or the Ministry of Health's nutrition program. Moreover, the new supplementary feeding simply substitutes for some feeding programs that CRS had decided to phase out.

PAMSCAD, however, was not designed with nutrition as its principal focus. Rather, it was designed to provide a range of services, from employment generation to improvement of schools. The diverse group of projects proposed in the initial design (1987) ranged from the purchase of baskets for shea nut gatherers to compensation of redeployed government workers. Implementation began only after two years of negotiations with donors, who proved reluctant to fund some components of the $84 million scheme.[59] PAMSCAD, however, managed to achieve much of its desired visibility even before implementation began.

This visibility goal partly explains the wide range of projects. A related objective of PAMSCAD is to support community initiatives in each of the 110 districts in the country. This reliance on community initiative and self-help for public works as well as for education is in keeping with other efforts to decentralize social administration and to enhance local councils.

IMPACTS OF THE RECOVERY PROGRAM ON HEALTH AND NUTRITION

A nationwide survey of 14,000 children conducted by the Nutrition Department, Ministry of Health, and UNICEF in November and December 1986 found that 58.4 percent of preschool children fell below 80 percent of NCHS weight-for-age standards (Levinson, 1988). This level, roughly twice that observed in the first national survey carried out in 1961-62, indicates that full recovery from the drought had not been achieved. The 1986 National Nutrition Survey data, however, appear high relative to CRS data for that year.

More recently, the first round of the Ghana Living Sandards Survey (GLSS) conducted between October 1987 and September 1988 found 30.6 percent of preschool children aged under five years to be chronically malnourished as indicated by slow linear growth. Using a measure of emaciation or wasting, 7.8

59 Moreover, not all of the funds raised were additional.

percent of this preschool population is acutely malnourished.[60] Since the GLSS data reflect a more scientific sampling frame than the CRS data yet has similar results to the most recent year of the CRS series, the survey provides some validation for the time series that the latter data set provides. It is interesting to compare the overall nutritional status measures with similar indicators from other countries. This, in turn, necessitates a discussion of methodology, for different researchers choose different criteria for presenting nutritional status.

Most commonly, a low height for age relative to a reference population is used to measure past or chronic malnutrition, while low weight for height indicates current or acute malnutrition (Waterlow, 1973). This, however, begs the question of the definition of "low." A cutoff point of two standard deviations below the NCHS reference median is employed for this study. Alternative criteria frequently employed are below 90 percent of reference height for age and 80 percent of reference weight for height. These percentages of median cutoff points, however, are not equivalent to the standard deviation criteria (Waterlow et al., 1977). The differences between the two criteria are often not trivial. For example, using the percentage of median cutoff criteria, chronic and acute malnutrition levels were 19.6 percent and 5.1 percent respectively in Ghana in 1987-88. By this definition, then, levels of both acute and chronic malnutrition are two-thirds of what they are using a two-standard deviation cutoff point. Since an age invariant probability statement can be made using the standard deviation presentation while the distribution of the percentages of the reference vary by age and size, the former methodology is preferred.

Table 26 presents measures of malnutrition for selected African and Asian countries. Ghana and Côte d'Ivoire are strictly comparable, not only because of the similarity of survey methodology, but because the Ivoirian data are the only other data from Africa that use a standard deviation criterion for determining levels of malnutrition. To broaden the scope of comparison, Table 26 also includes a percent of median cutoff indicator of malnutrition in Ghana as well as a less sensitive indicator in terms of weight for age.

Chronic malnutrition is much higher in Ghana than in its immediate neighbor to the West, although levels of acute malnutrition are similar. This pattern may reflect the sharp decline of the Ivoiran economy that occurred alongside the appreciable recent growth in Ghana in 1987-88. Thus, they may have reached similar levels of short-term malnutrition from different antecedents. This conjecture is supported by the higher levels of acute malnutrition in Côte d'Ivoire

60 For a discussion of the interpretation of nutritional standards in the context of this data, see Alderman (1990).

Table 26 – Indicators of Malnutrition in Selected Developing Countries, Various Years

Country	Survey Year	Chronic Undernutrition		Acute Undernutrition		Underweight	
		Rural	Urban	Rural	Urban	Rural	Urban
		cut off at two standard deviations except where noted					
Ghana	1988	34.8	22.0	8.6	6.1	22.9	14.3
	1988	22.8[a]	12.3[a]	5.8[b]	3.5[b]	34.8[d]	23.5[d]
Cote d'Ivoire	1985	18.4	11.3	6.5	5.0	—	—
	1986	19.4	11.2	6.8	8.4	—	—
Egypt	1978	23.8[a]	12.7[a]	0.7[b]	0.4[b]	9.9	5.2
Cameroon	1977	22.4[a]	15.7[a]	1.1[b]	0.7[b]	23.0[d]	12.1[d]
Liberia	1976	20.2[a]	13.8[a]	1.6[b]	1.7[b]	25.5[d]	20.5[d]
Togo	1977	20.5[a]	11.4[a]	2.3[b]	0.8[b]	16.5	8.9
Sierra Leone	1977	26.6[a]	13.8[a]	3.2[b]	2.4[b]	32.4	21.3
Niger[e]	1974	—	—	11.4[b]	—	—	—
Mali[e]	1974	—	—	10.7[b]	—	—	—
	1975	—	—	5.3[b]	—	—	—
Mauritania[e]	1974	—	—	9.9[b]	—	—	—
	1975	—	—	6.1[b]	—	—	—
Chad[e]	1974	—	—	22.5[b]	—	—	—
	1975	—	—	12.1[b]	—	—	—
Burkina Faso[e]	1974	48.0[a]	—	9.1[b]	—	—	—
	1975	43.8[a]	—	8.1[b]	—	—	—
Kenya	1977	28.7[a]	—	4.4[b]	—	—	—
Sri Lanka	1976	34.7[a]	—	6.6[b]	—	42.0	—
	1976	44.0	—	8.4	—	—	—
	1980-82	36.3	—	13.8	—	—	—
Nepal	1975	51.9[a]	—	6.6[b]	—	49.9	—

Sources: *Kumar (1985).*

[a] *Children below 90 percent of reference height-for-age.*

[b] *Children below 80 percent of reference weight-for-height.*

[c] *Children below 75 percent of reference weight-for-age, except where noted.*

[d] *Children below 80 percent of reference weight-for-age.*

[e] *Surveys covered only the rural sedentary population of that part of each country estimated to be most affected by the drought. The affected zone varied from a relatively small part of Burkina Faso to nearly all of Niger. Geographical coverage for the area was about one-third.*

in 1986 than in the previous year, although the statistical significance of this difference is not known.

The percentage of Ghanaians who are below 90 percent of the reference height is roughly similar to the percentages in other West African countries, except Burkina Faso. The African levels are, however, far below the levels of chronic malnutrition in South Asia. Thus, it is somewhat surprising that the percentage of children in Ghana who are below 80 percent of the standard weight-for-height is closer to the levels in Nepal and Sri Lanka than those in Sierra Leone, Togo, Liberia, and Cameroon. Current levels of acute malnutrition in Ghana are also similar to those in rural Mali and Mauritania in postdrought recovery years but substantially less than in those countries or neighboring countries during the 1974 drought. Table 26 indicates, furthermore, that the percentage of Ghanaian children who are underweight, either due to current or past malnutrition, is also high relative to most of African countries for which comparable data are available.

The GLSS data indicate that 31.4 percent of children fell below 80 percent of the weight for age standard in 1988. This implies, then, that malnutrition has declined since the 1986 survey but remains above the levels reported for the early postindependence years.[61] Note that the weigth-for-age standard cannot distinguish between chronic and acute malnutrition. Many children who appeared malnourished in 1986 were likely stunted during the period of low food availability following the 1983 drought and bush fires. By 1987 most, but not all, of these cohorts would have left the preschool bracket.

Table 27 breaks down the GLSS data by age and by gender. While girls in South Asia are more likely to be malnourished than boys, females do not appear to be at a relative disadvantage in nutrition in Africa in general (Svedberg, 1990), nor in Ghana in specific. Levels of acute malnutrition for boys are appreciably higher than for girls in the 6-24-month age brackets. The gap closes and actually reverses in the older age bracket. This age bracket, however, has relatively little acute malnutrition. On the other hand, the older children have the highest levels of chronic malnutrition, consistent with the view that low stature represents the cumulative effects of nutritional shocks. Similarly, levels of chronic malnutrition for youngest children do not differ from levels of current malnutrition, as the only past these children have is a recent past.

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61 This data is consistent with the Ghana Statistical Service's Demographic and Health Survey (1989), which was conducted roughly concurrently with the GLSS.

Table 27 – Ghana: Nutritional Indicators, by Age and Gender, 1987-1988

Category	Age Group in Months				All
	0 - 6	6 - 12	12 - 24	24 - 60	
	Percent of Cell Population in Each Category				
Males					
Height-for-age[a]					
ZScore <= -2	4.35	11.02	33.33	39.50	31.19
-2 < ZScore <= -1	13.77	29.13	25.67	26.82	25.33
-1 < ZScore <= 0	39.13	30.71	19.16	15.66	22.36
0 < ZScore <= 1	22.46	20.47	11.11	9.04	12.21
1 < ZScore <= 2	13.04	5.51	7.66	3.50	5.69
ZScore > 2	7.25	3.15	3.07	2.48	3.22
Weight-for-height[b]					
ZScore <= -2	4.35	14.17	18.77	4.66	8.66
-2 < ZScore <= -1	15.22	47.24	37.16	24.05	28.30
-1 < ZScore <= 0	27.54	27.56	28.74	45.04	37.71
0 < ZScore <= 1	39.13	7.87	12.64	22.89	20.96
1 < ZScore <= 2	11.59	3.15	2.68	2.33	3.55
ZScore > 2	2.17	0.00	0.00	1.02	0.83
Females					
Height-for-age[a]					
ZScore <= -2	4.70	10.64	31.69	39.11	30.22
-2 < ZScore <= -1	11.41	18.44	33.74	25.79	24.78
-1 < ZScore <= 0	24.16	38.30	22.63	21.06	23.72
0 < ZScore <= 1	33.56	19.86	9.88	9.31	13.57
1 < ZScore <= 2	17.45	8.51	0.82	3.15	5.04
ZScore > 2	8.72	4.26	1.23	1.58	2.68
Weight-for-height[b]					
ZScore <= -2	4.03	9.22	13.99	5.44	7.39
-2 < ZScore <= -1	12.08	41.13	33.33	26.07	27.54
-1 < ZScore <= 0	32.89	40.43	32.92	40.83	38.26
0 < ZScore <= 1	31.54	7.09	14.81	23.35	20.80
1 < ZScore <= 2	16.78	1.42	4.12	4.15	5.36
ZScore > 2	2.68	0.71	0.82	0.14	0.65

Source: *Government of Ghana and World Bank (1989).*

[a] *Low height-for-age Z-score indicates chronic undernutrition.*

[b] *Low weight-for-height Z-score indicates acute undernutrition.*

Note: *Some percentages may not add to exactly 100.00 due to rounding.*

Table 28 confirms that malnutrition remains particularly high in the savannah agroecological zone.[62] Greater Accra has the lowest levels of both acute and chronic malnutrition in the current study. The remainder of the coastal agroecological zone has appreciably less chronic malnutrition than the forest or savannah region but has relatively high levels of chronic malnutrition. Note, however, that the cell size for each ecological zone is fairly small. Thus, confidence intervals are wide.

Econometric analysis of this GLSS data indicated only a weak relationship between income and anthropometric measures of malnutrition in children (although a strong relation of adult body mass indices and income was found for women). While the regional patterns in these data as well as overall levels can help guide the priorities for nutrition programs, few specifics for program design can be directly derived from analysis to date (Alderman, 1990), nor can these data help in assessments of current nutrition programs.

Hopkins (1990) questions whether the programs are more a symbolic effort, part of PAMSCAD's goal of "sustainability," or a well-planned effort to reduce malnutrition. A related issue, not raised by Hopkins, is the lack of strong evidence that supplementary feeding has an appreciable impact on malnutrition in Ghana.[63] It is at least arguable that malnutrition in Ghana is more linked to health and sanitation than food delivery, although a well-designed nutrition program can improve the former, especially if linked to prenatal health care (Alderman, 1990).

Similarly, concerns have been raised that the overall PAMSCAD program was only superficially planned as a poverty reduction intervention. The author, however, is not aware of any detailed studies that have evaluated PAMSCAD's impact or even design.[64] Given the view expressed elsewhere in this paper that with the possible exception of retrenched workers who PAMSCAD aims to reach, few groups are absolute (as opposed to relative) losers under PAMSCAD; the mitigation in its title may be a misnomer for a broad populist program. To illustrate, one PAMSCAD program is to deworm children. There are many reasons to suspect improved welfare from such a program, but there are few reasons to believe that the need for the program is an outcome of the structural adjustment process. With a few possible exceptions, such as PAMSCAD's support to small-scale gold miners, however, the program does

62 Although the sample was not designed for regional comparisons, malnutrition appears higher in the three northern regions than in savannah agroecological zones within other regions.

63 See Kennedy and Alderman (1987) and the references within for an overall assessment of supplementary feeding.

64 An evaluation by donors was scheduled for the later part of 1990.

Table 28 – Ghana: Nutritional Indicators, by Agroecological Zone and Gender, 1987-1988

Agroecological Zone	Males			Females			All		
	Number	Percent with Chronic Malnutrition	Percent with Acute Malnutrition	Number	Percent with Chronic Malnutrition	Percent with Acute Malnutrition	Number	Percent with Chronic Malnutrition	Percent with Acute Malnutrition
Coast (excluding Accra)	256	27.6	7.4	298	21.8	9.1	554	24.0	8.3
Greater Accra	150	20.7	6.7	113	23.9	6.2	263	22.0	6.5
Forest	531	34.1	7.7	559	32.7	6.4	1,090	33.4	7.1
Savannah	275	35.3	12.0	261	36.8	6.9	536	36.0	9.5

Source: *Government of Ghana and World Bank (1989).*

aim to transfer services and infrastructure to the poor. While such programs have an obvious value, it is not clear that *crash* programs best serve the objective. Nevertheless, its obvious political nature does not rule out the possibility that it may also serve other social and economic objectives as well.

In regards to health care, the expectation is that fee coverage for health care will be regressive unless it results in an increase in available services. Since hospitals and clinics do retain a portion of fees collected and since investment in the provision of services is a major objective, over the long run cost recovery may result in a decrease of the real cost (including time allocation costs) of health care. Unpublished data collected by K. Enyimayew indicated a 50 percent decline in health care utilization in the Volta Region when cost recovery was introduced but partial recovery of utilization by 1987. More recent data are unavailable as is any analysis of the time trend in the supply and quality of services.

The impact of service provision on health as well as the impact of PAMSCAD, then, deserve scrutiny both in terms of their impact on poverty and their overall contribution to sustainable growth.

8. Conclusion

Hirschman's well-known tunnel metaphor is applicable to contemporary Ghana. In that metaphor, Hirschman asks one to imagine oneself on one of two lanes entering a tunnel. An obstruction closes the tunnel. One is disappointed but, after all, these things happen. After some time traffic begins moving, but only in the other lane. Originally, this is perceived as encouraging, even to the person stalled, but when one's own turn never seems to come, one becomes furious.

There is no doubt that economic growth was totally stalled by the time the recovery program began. There is also little doubt that things have begun to move again. The challenge is to distribute progress sufficiently to avoid an appreciable portion of the population feeling that the recovery is only for others.

To be sure, the availability of goods has increased relative to the beginning of the decade and food prices, in particular, have fallen since 1983. Moreover, the trajectory of the economy is radically different from that which prevailed a decade ago. Individuals, however, have short memories, and few can easily conjure up a counterfactual to evaluate their current position relative to what might have been had Rawlings remained an internationally isolated populist.

This issue of growth and equity, of course, goes beyond stabilization. Stabilization policies per se have little to do with poverty in Ghana, equitable growth strategies virtually everything. As argued throughout this essay, unlike many examples from Latin America or elsewhere in Africa, few individuals are newly poor due to recovery policies. There remain, however, millions of people who await economic growth and the expansion of government services to bring them out of poverty. Can any generalizations be derived from the experience of the last decade to guide planners either in Ghana or elsewhere for poverty alleviation in the next decade?

First, the downturn confirms what basic textbooks maintain, although discipline specialization often forgets: macro and micro policies are linked both

economically and politically. Monetary and fiscal policy errors in the mid-1970s helped fuel subsequent inflation. This, in turn, led to progressive misalignment of the exchange rate and subsequent distortion of price signals. The political unpalatability of devaluation led to a reliance on quotas and price controls, which exacerbated the distortions that eventually led to the collapse of the government's ability to maintain services and infrastructure.

One symptom, although not the cause, of the breakdown, then, was too little government, not too much. Recovery, consequently, includes a strengthening of the government's capacity to deliver services. This is manifested in the tripling of public savings as a percent of GNP concurrent with a rise in the government's wage bill. It is also indicated in the steep fall and subsequent dramatic increase of health and education expenditures.

This does not come cheaply. While one should not underplay the domestic leadership and commitment necessary to revamp disastrous trade and investment policies, foreign capital has been a sine qua non of the recovery. Ghana has been able to eliminate the fiscal deficit, increase imports in the face of devaluation, pay off most foreign arrears as well as a portion of domestic debt, yet provide massive increases in real funding to education and health, all while other investments grew. Sound policies might have established the conditions for these investments to be fruitful, but the funds came from decisions made in Europe, Tokyo, and the United States. The recovery program, then, is fragile, depending as much on events occurring at the Brandenburg Gate as upon the world price of cocoa.

It is unreasonable, however, to expect domestic resource mobilization alone to initiate major structural adjustment. Moreover, while private incentives are important, so too are public investments. Seven years into a recovery program that appears successful by a number of measures,[65] private savings rates as a share of GNP have not exceeded preadjustment rates. Similarly, the resources flowing into Ghana have been largely through development agencies; private foreign investment – excepted mining – remains limited.

Ghana is, in some ways, able to bear the long-term consequences of the foreign debt because its preadjustment debt was comparatively small. More important than the ability to incur such debt, however, is the ability to both generate and mobilize the returns from the investment. A key to the latter is improvement in the collection of taxes – the first, and comparatively easy, steps toward which Ghana has achieved. A key to the former is improving investment

65 Even Green (1987), one of the more vocal critics of Ghana's recovery, acknowledges rapid gains, although writing shortly after the introduction of the program in 1987 he expresses doubt of its stamina.

signals through exchange rate reforms and the removal of the complex system of quotas and licensing. This reform stands at the heart of Ghana's restructuring.

The essential element of this reform is that the mechanism by which the exchange rate is determined has been changed. Market forces, rather than a secretary or group of secretaries, set the exchange rate, thereby establishing a largely depoliticized floating rate. Thus, the real exchange rate has not appreciated at an unplanned rate due to inflation. Moreover, with the availability of foreign exchange at the bureaux, individual importers can respond to international market prices as well as make comparatively rapid purchases of spare parts, inputs, and inventories. While low liquidity and low internal demand dampen the response of the economy to these new signals, the revamping of trade policy remains the essential policy reform that has the potential to reorient the economy.

Export values respond immediately to such changes in exchange rates. This has enabled the government to both raise producer prices for cocoa and increase revenue collection despite declining world prices. The supply of exports has also responded over time; cocoa volumes as well as traditional exports of gold and timber have increased. Moreover, nontraditional exports have expanded, albeit from a low base. Much of the supply response, however, is attributable to increased availability of inputs and to improved transportation and utilities. Similarly, the nascent productivity increases in food crops do not reflect price policy but the rehabilitation of support services, including NGO-supplied agricultural credit. Ghana's agricultural growth is no less promising for its being due to incremental increases in infrastructure and services. This does, however, imply that the change is not revolutionary; it is established by footwork more than decree and in need of continued effort to maintain progress.

Since Ghana subsidized few consumer goods and those only to a privileged few, impacts of budget cuts on consumers were small. An exception would be energy prices. While devaluation can increase the cost of living across the economic spectrum, there is little evidence that this has happened. Devaluation came only after imports had already dried up. Marginal consumer prices were unlikely to be influenced by official exchange rates; hence devaluation affected rents, not the general cost of living.

Regarding relative prices, it should be noted that the real price of food staples appears to have declined since the recovery program began, except during the main drought year. This may be interpreted as a shift in rural-urban terms of trade, although such an interpretation disregards the income-increasing effects of any productivity gains. Moreover, many poor, even rural poor, are consumers

of the foods that have declined in price and therefore also benefit from this change in relative prices.

For many people, however, particularly government employees but for minimum wage earners as well, real wages have stagnated after an initial postrecovery rise. Such groups, allied with students who have lost their appreciable boarding subsidies and the relatively few government workers who have been involuntarily retrenched, are central and visible. They contribute both to journalistic stories of recovery austerity and to political pressures to modify the reform program.

Continued growth may dissipate such pressure. To a degree, programs like PAMSCAD seek to buy such time. These programs, however political in origin, also have the potential to deliver services and increase employment. PAMSCAD is a component of, but not a substitute for, more pervasive measures to improve health, housing, and other basic services. As indicated by budgetary allocations, the government is undertaking such investments. Largely freed from having to choose between physical and human capital by the level of foreign capital inflows, Ghana has invested in both. In general, social indicators respond to inputs only after some lag. They require, moreover, somewhat more time to collect than price or even GNP figures. The absence of incontroversial evidence on improvement in health and nutrition, then, is hardly proof that the recovery program has failed in this regard. Here too, a foundation for incremental improvement through continued investments has been established. The restoration of economic and social indications to predownturn levels is a noteworthy achievement. It remains, however, only a prologue to economic growth and poverty alleviation.

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