Policy Reform and Poverty in Malawi

A Survey of a Decade of Experience

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CORNELL FOOD AND NUTRITION POLICY PROGRAM

MONOGRAPH 7 • DECEMBER 1990

The Cornell Food and Nutrition Policy Program (CFNPP) was created in 1988 within the Division of Nutritional Sciences, Cornell University, to undertake research, training, and technical assistance in food and nutrition policy with emphasis on developing countries. The Nutritional Surveillance Program (CNSP), which was formed in 1980 with support from the US Agency for International Development, is part of CFNPP.

CFNPP is funded by several donors including the Africa Bureau and the Nutrition Office of the Agency for International Development, UNICEF, the Pew Memorial Trust, the Rockefeller Foundation, the Government of Indonesia, and the World Bank.

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Glossary of Abbreviations

ADD	Agricultural Development District
ADMARC	Agricultural Development and Marketing Corporation
ASA	Annual Survey of Agriculture
ASAC	Agriculture Sector Adjustment Credit
BWB	Blantyre Water Board
c.i.f.	Cost, insurance, and freight
CAN	Calcium Ammonium Nitrate (Fertilizer)
CPI	Consumer Price Index
CSR	Centre for Social Research
DAP	Diammonium Phosphate (Fertilizer)
DRC	Domestic Resource Cost
EPP	Export Parity Price
ESAF	Enhanced Structural Adjustment Facility
ESCOM	Electricity Supply Commission
f.o.b.	Free on board
f.o.r.	Free on rail
FAO	Food and Agricultural Organization
FSRP	Fertilizer Subsidy Removal Program
GDP	Gross Domestic Product
GNP	Gross National Product
GOM	Government of Malawi
HAF	High-Analysis Fertilizer
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Center

IMF	International Monetary Fund
IPP	Import Parity Price
ISIC	International Standard Industrial Classification
ITPAP	Industrial and Trade Policy Adjustment Program
LAF	Low-Analysis Fertilizer
MDC	Malawi Development Corporation
MK	Malawi *kwacha* (1 MK = 100 *tambala*)
MOA	Ministry of Agriculture
MOEC	Ministry of Education and Culture
MOH	Ministry of Health
MT	Metric Tons
NDF	Northern District Fire-Cured (Tobacco)
NFS	Net Factor Services
NPC	Nominal Protection Coefficient
NSO	National Statistical Office
NSSA	National Sample Survey of Agriculture
PFP	Policy Framework Paper
PSIP	Public Sector Investment Program
RSA	Republic of South Africa
S/A	Sulphate of Ammonia (Fertilizer)
SADCC	Southern African Development Coordination Conference
SAL	Structural Adjustment Loan
SDF	Southern District Fire-Cured (Tobacco)
SDR	Special Drawing Rights
SFFRF	Smallholder Farmers' Fertilizer Revolving Fund
SSA	Sub-Saharan Africa
TAMA	Tobacco Association of Malawi
UN-ECA	United Nations Economic Commission for Africa
USAID	United States Agency for International Development

Preface

Most developing countries in sub-Saharan Africa are engaged in reform programs to address imbalances in their internal and external accounts. Often referred to as structural adjustment and/or stabilization programs, they are frequently undertaken without a true understanding of the consequences for the poor or a sound empirical framework upon which to base realistic expectations of their macroeconomic implications.

In order to perform the necessary empirical analysis, develop appropriate economic models to address the most pressing issues faced by policy makers, and to understand the macroeconomic and distributional implications of their decisions, the Cornell Food and Nutrition Policy Program (CFNPP) is conducting research in a number of countries in sub-Saharan Africa, one of which is Malawi.

How has structural adjustment affected the population in Malawi? The question is important on two counts. First, poverty is pervasive in Malawi. When it adopted its structural adjustment program, Malawi was confronting an economic crisis, and the country's human resources were suffering the consequences. Malawi was, and still is, among the poorest countries in Africa. Of the 39 nations in sub-Saharan Africa, it had the seventh lowest GNP per capita and the third lowest life expectancy rate. Most of its people were living at subsistence level. The impact of policy reform on their welfare is thus of critical importance in the context of the Malawian situation. Restoring macroeconomic vitality is a prerequisite for improving living standards. Policy reform measures that place short- to medium-term human welfare on the agenda with macroeconomic aggregates are needed.

The impact of policy reform on the poor is also important in a larger context. In light of the recently escalated debate on the impact and effectiveness of structural adjustment policies in Africa, the Malawi case study is of special interest. Malawi is generally regarded by the World Bank and major bilateral donors, such as the United States Agency for International Development, as a "strong adjuster." Indeed, Malawi's structural adjustment program represents one of the earliest commitments to policy reform in Africa and one of the longest ongoing structural adjustment efforts anywhere. The government's efforts to adhere to these reforms also stand out relative to other African experiences. Given its relatively strong commitment to policy reform, Malawi's experience

has also become important in determining the effectiveness of structural adjustment in enhancing development and reducing poverty in Africa.

This monograph is therefore intended to provide insights into the characteristics of household groups that are vulnerable to economic policy reforms, to increase understanding of the evolution of macroeconomic disequilibria, clarify the nature of the policy reforms that have been planned or initiated in response to these imbalances, and examine the functioning and characteristics of the markets and institutions that will mediate between macroeconomic and sectoral reform policies and their household and macroeconomic effects.

Most importantly, the key links between policy reform and its outcomes will be examined. This examination will help us to pose the correct hypotheses and provide some preliminary conclusions as to the impact of policy reform on both macroeconomic and household level outcomes. These outcomes will be explained further in future research papers.

This research is being financed under a Cooperative Agreement with the Africa Bureau of the US Agency for International Development (USAID). Additional support for our work in Malawi is being provided by the USAID Mission in Malawi.

Ithaca, New York
December 1990

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1. Introduction

SNAPSHOT

The Malawian economy is based on agriculture, constrained by limited resources, and strained by a rapidly expanding population. A small, landlocked nation in Southeastern Africa, Malawi lacks the mineral resources of neighboring countries. Rather, agricultural land constitutes the primary natural resource for Malawi, and agriculture is the backbone of its economy. This sector directly generates approximately 40 percent of GDP and 77 percent of national export revenue. Ninety percent of all Malawians earn their livelihood from agriculture. The rest of the economy, moreover, is largely dependent on this one sector.

Agriculture in Malawi is dualistic. The country's scant 2.2 million acres of arable land are cultivated either by smallholders or by estate owners and workers. The two are delineated according to legal and institutional rules regarding crop production, marketing arrangements, pricing, and land tenure. Indeed, agricultural land itself falls primarily into two distinct categories. One is customary land, whereby right of usership is inherited according to customs that vary by ethnic group and region. Customary land is generally accessed through agreement with the village head. The agreement usually calls for residence on the land, as well as the payment of an annual tax and gift to the headman. It constitutes a usufructuary right, not a right of ownership, and, though inherited, is not transferable. Customary lands may be reallocated but a user seldom loses his rights unless he abandons the land or is expelled for some serious offense. In contrast, the second category of land, the leasehold estate land, is granted by the government in response to applications made by private individuals. Estate lands have been steadily growing at the expense of customary lands.[1]

The inherent structural duality between estate and customary landholdings is the overriding attribute of Malawi's agricultural system. This sectoral duality

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1 In addition, there is a small amount of freehold land whose status dates back to the colonial period, and public lands that include forests and reserves.

however, differs from that of other countries with both estate and smallholder sectors (eg, Sri Lanka and the Philippines) where the size of the holding is a major distinguishing characteristic. In fact, estates in Malawi vary in size from less than a hectare to more than 100 hectares, indicating great heterogeneity in the level and organization of production on estates.[2] Nonetheless, as will be argued in later sections of this paper, the duality is a determining factor not only of economic outcomes, but of social welfare and observed inequalities as well. It defines the institutional rules through which policy affects the economy; it defines economic groupings by source of livelihood; and, ultimately, it defines the manner in which policy filters through the macroeconomy to affect economic groupings.

A look at the impact of Malawi's high population growth rate and binding land constraint, exacerbated by the imposed duality in agriculture, begins to tell the story of the country's current economic crisis. Recorded at 5.5 million in 1977, the population of Malawi was measured at 8 million by the 1987 Population and Housing Census. The national annual average growth rate of 3.66 percent is among Africa's highest (Malawi Government 1987b).

A persistently high birthrate has shifted the country's demographics toward an increasingly young population, and 46 percent of all Malawians are under the age of 15. The dependency ratio in 1987 was estimated at 1. At 54 per thousand, according to most recent estimates, Malawi's birthrate was 10 percent and 20 percent higher than those of neighboring Zambia and Mozambique, respectively.

Since 1987 the high fertility rate has been accompanied by a massive immigration of refugees from war-torn Mozambique. Refugees account for an estimated 10 percent of the total national population and place a severe strain on an already constrained resource base.

Meanwhile, out-migration to neighboring South Africa (RSA), Zambia, and Zimbabwe, the traditional population safety valves, is increasingly restricted. In the 1970s more than a quarter of a million Malawians lived and worked in these countries. Now, however, migration to RSA for employment is officially forbidden, while Zambia and Zimbabwe are facing their own economic crisis and have few employment opportunities to offer.

These factors make Malawi one of the most densely populated countries in

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2 For example, as Mkandawire, Jaffee, and Bertoli (1990) point out, many of the recently formed estates are not only small in size, but often do not have salaried managers or a large permanent work force, in contrast to the larger and earlier established leaseholds.

Africa. Between 1977 and 1987 Malawi's population density increased from about 59 to 85 people per square kilometer. Among continental sub-saharan african (SSA) countries in 1987, only Rwanda, Burundi, Gambia, Nigeria, and Uganda have numbers to equal or exceed that level.

The figures on population density disguise actual pressures on arable land. Only about 20 percent of the country's 11.8 million hectares is under cultivation (Stobbs and Jeffers 1985).[3] Protected forests and reserves combine with the topographical obstacles of rocks and hills to limit the area of cultivable land, and thus restrict the areas where population can live and work. These restrictions are reflected in figures disaggregated regionally. Population density in the more fertile south, which houses 50 percent of the total population, is 125 people per square kilometer. The comparable figure for the central region, host to 39 percent of the total population, is 83 people per square kilometer. The north, with the least fertile land and 11 percent of the total population, has 11 people per square kilometer. Intraregional figures would be expected to show even greater pressure on cultivable land. Indeed, differences in growing conditions probably contribute to the four-fold difference in population densities noted between adjacent districts (Carr 1988). The impact of population pressure on cultivable land, tightening the resource constraint on already resource-poor households, is thus central to the issue of poverty in Malawi.

With this broad picture of Malawi in mind, we next turn to a more detailed categorization of poverty in Malawi in section 2. This is followed in section 3 by an examination of the events leading up to the implementation of structural adjustment, highlighting the elements that have historically characterized the Malawian economy as well as the factors that necessitated reform. Section 4 presents a description of the structural adjustment program in Malawi, focusing on both the nature of stabilization and adjustment measures agreed upon with donors and on the chronological evolution of the program. It concludes by summarizing the five principal areas of policy reform: (1) agriculture, (2) industry and services, (3) exchange rate policy, (4) monetary policy, and (5) fiscal policy. Section 5 examines each of these five major facets of the adjusting Malawian economy in turn. A concluding section closes this study.

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3 This includes *dambos*, seasonally flooded, and swamp lands, since they are often cultivated nowadays.

2. The Characterization of Poverty in Malawi

AGGREGATE INDICATORS

There are numerous indicators of poverty and welfare. These indicators fall under the broader heading of living standards. The more prominent such indicators are literacy, health, and nutritional status, all of which partially reflect a combination of the quality and quantity of public and private services, as well as the general economic position of the household as indicated by a measure such as money metric utility.

In Malawi historical information on poverty and living standards dates back only one or two decades and is both scanty and unreliable. With respect to education, the literacy rate, up from 21 percent in 1976, continues to be among the lowest recorded in SSA, although it was recently estimated at 29 percent nationally (Malawi Government 1988b). The gross enrollment ratio for primary school stagnated around 62 percent between 1980 and 1985 (World Bank various years b) after improving from 44 percent in 1964 to 56 percent in 1976.

Perhaps the most fundamental indicators of well-being are captured by statistics on survival and mortality. The life expectancy in Malawi has increased slowly but steadily during the past two decades, from 38 years in 1965/66 to 45.5 years in 1985/86. Concurrently, infant mortality has fallen from 201 to 130 deaths per 1000 children (ibid.). However, a comparison of infant mortality rates between the 1977 population census (Malawi Government 1977) and the 1984 family formation survey (Malawi Government 1984) does not indicate a decline in infant and child mortality between the two periods, suggesting that the improvements were recorded in the late 1960s and the first half of the 1970s. On the basis of these surveys, Quinn et al. (1988) estimate that one-third of all children still die before the age of six.

Nutritional deficiency and avitaminosis were responsible for 18 percent of the deaths among hospitalized children 0-4 years of age (table 1). Pneumonia, anemia, diarrheal disease, malaria, and measles were the other major causes of death. The difficulty of isolating malnutrition from other causes of mortality and the synergism between malnutrition and infection are well documented. One can reasonably conclude that many of the deaths from malnutrition were aggravated by disease; and conversely, many of the deaths from malaria, diarrhea, and so forth, were a consequence of malnutrition weakening immunity.

Table 1 – Malawi: Ten Leading Causes of Mortality Among Hospital Inpatients Under Five, 1986

Disease Condition in order of Importance	Number of Deaths	Percent of Deaths	Cumulative Percent
Avitaminosis & other nutritional deficiencies	1,407	18	18
Pneumonia	998	13	31
Anemia	981	13	44
Enteritis, other diarrheal diseases	730	10	54
Measles	704	9	63
Other malaria	578	8	71
Cerebral malaria	402	5	76
Certain causes of perinatal morbidity	389	5	81
Other specified and ill-defined diseases	316	4	85
Tetanus	168	2	87

Source: *UNICEF (1986).*

The most recent national data on the level of malnutrition in Malawi come from the National Sample Survey of Agriculture (NSSA), a major survey carried out in 1980/81 prior to the commencement of the process of policy reform and adjustment (Centre for Social Research 1988). Overall, the data from this survey of the smallholder sector indicate that 56.4 percent of the pre-school-age children in Malawi suffer from long-term, chronic malnutrition (ie, stunting). The percentage of currently and acutely malnourished (ie, wasted) children is only 1.6 percent (Centre for Social Research 1988).[4] A recent small survey conducted in a rural area of Liwonde District (Peters and Herrera 1989) revealed a similar prevalence of malnutrition: the level of stunting was high, while

4 The NSSA data reveal that a greater percentage of male children are stunted by age group than are females, especially in the 6 to 11 month age group, where 42 percent of all male children are stunted as opposed to 27 percent of all females. Also, stunting increases with age from 34 percent of all children between 6-11 months to 59 percent of all children between 24 and 59 months.

wasting was not a serious problem. In fact, the mean weight-for-height in the Peters and Herrera study was slightly greater than those found in the United States reference population for children less than 72 months of age as reported by the National Center for Health Statistics (WHO 1983). In contrast, a recent analysis of anthropometric data from low-income urban households in Lilongwe and Blantyre showed that 37.5 percent of the children were stunted, and 7.1 percent were wasted (Chilowa and Shively 1989).

Stunting, which reflects the accumulation of episodes of disease and nutritional stress during presurvey years, is higher in Malawi than in every other country in Africa for which there are data, except Burkina Faso (see table 2). The prevalence of stunting increases steadily with age. But even more startling is the extraordinarily low level of wasting. The high prevalence of stunting relative to acute malnutrition is unusual. This can be seen by comparing the situation in rural Malawi with other countries in sub-Saharan Africa (SSA), and Asia. This anomaly is difficult to explain, and one should guard against drawing certain conclusions. One explanation could be that the genetic makeup of the Malawian population is different from the reference standards derived from the US population. This is quite unlikely, however, as evidence from other third world countries has shown the appropriateness of employing the United States National Center for Health Statistics Standards (WHO 1983, Habicht et al. 1974). In addition, a recent study in Malawi indicates that the growth potential of elites is commensurate with North American standards, as shown in work done by Beatrice Mtumuri (personal communication from V. Quinn). Another potential explanation for the high levels of stunting, especially among infants and children under 24 months of age, revolves around measurement error in data collection.[5]

It is noteworthy, however, that even the youngest age cohort, children 6 to 11 months of age, suffer from a high prevalence of stunting. These figures partly reflect the prevalence of low birth weight, especially among males. Data from 1984 indicate that 20 percent of all births that occurred in health facilities involved low birth weight babies (Malawi Government/UNICEF 1987). This percentage is expected to be markedly higher than births that take place somewhere other than in health facilities. This problem, coupled with an

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5 This problem is especially likely to arise in determining the length of children under 24 months, who tend not to fully extend their legs. This would give rise to figures showing higher than expected levels of stunting and lower levels of acute malnutrition during the vulnerable weaning period. Another possible reason for the apparent low level of wasting is that children were weighed with their clothes on.

Table 2 – Malawi: Indicators of Malnutrition in Selected Developing Countries, 1975-1988

Country	Survey Year	Chronic Undernutrition		Acute Undernutrition		Underweight	
		Percentages					
Ghana	1988	34.8[e]	22.0.[e]	8.6[f]	6.1[f]	22.9[c]	14.3[c]
	1988	22.8[a]	12.3[a]	5.8[b]	3.5[b]	34.8[d]	23.5[d]
Côte d'Ivoire	1985	18.4[e]	11.3[e]	6.5[f]	5.0[f]	...	...
	1986	19.4[e]	11.2[e]	6.8[f]	8.4[f]	...	...
Egypt	1978	23.8[a]	12.7[a]	0.7[b]	0.4[b]	9.9[c]	5.2[c]
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[c]	8.9[c]
Sierra Leone	1977	26.6[a]	13.8[a]	3.2[b]	2.4[b]	32.4[c]	21.3[c]
Niger[g]	1974	...	...	11.4[b]	...	...	...
Malawi	1980/81	56.4[e]	...	1.6[f]	...	...	...
Mali[g]	1974	...	...	10.7[b]	...	...	...
Mauritania	1974	...	...	9.9[b]	...	...	...
	1975	...	...	6.1[b]	...	...	...
Chad	1974	...	...	22.5[b]	...	...	...
	1975	...	...	12.1[b]	...	...	...
Burkina Faso	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	44.0[a]	...	8.4[f]	...	42.0[c]	...
	1981	36.3[e]	33.6[e]	13.8[f]	10.5[f]	...	...
Nepal	1975	51.9[a]	...	6.6[a]	...	49.9[c]	...

Source: *Adapted from Alderman (1989).*

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

[b] *Children below 90 percent of reference weight-for-height.*

[c] *Children below 75 percent of reference weight-for-age.*

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

[e] *Children below -2 Z-scores of reference height-for-age.*

[f] *Children below -2 Z-scores of reference weight-for-height.*

[g] *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*

environment characterized by disease and periods of household food deficit that these infants are born into, precludes any chance of catch-up growth in those children during their preschool years.

These data on the high level of chronic malnutrition and household food insecurity were disguised by the aggregate calorie adequacy (or national food security) that Malawi had nearly reached by the end of the 1970s. This, coupled with the evidence that Malawi was frequently a net exporter of maize in the 1980s, led many to the incorrect assumption that malnutrition was not endemic. The recent evidence, however, indicates that malnutrition is both a serious problem in its own right and remains a major cause of infant and child mortality.

This seeming incongruity between national and household food security can be partly explained by the unequal distribution of available food-energy (ie, calorie) supply. We seek to gain a better understanding of those groups that have been vulnerable to calorie inadequacy and the reasons for this vulnerability. More specifically, we are interested in examining how the recent adjustment-related policies may have altered their vulnerability to household level food insecurity, as well as to adverse health and nutrition outcomes.

Prior to discussing the macroeconomic context and the links between policy reform and household welfare, we focus on the specific groups within Malawi that appear most susceptible to food insecurity.[6] They are treated separately because (except for changes in the provision of social services) different dimensions of the policy reform package have affected each group differently. In this context, while recognizing that they are not mutually exclusive categories, we distinguish between the characteristics of smallholders, female heads of households, estate tenants, agricultural laborers, and the urban poor. These distinctions are useful for examining the implementation of policy reform on living standards.

SMALLHOLDERS

With 72 percent of its labor force working on customary lands, Malawi's social welfare is tied to the performance of its smallholder sector. However, as shown in table 3, in 1987 the smallholder sector generated only 34.2 percent of Malawi's

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6 Implicit in the focus of this section on the most vulnerable is that certain types of households are not discussed. These include a range of classes of workers, such as those in construction, professions, civil service, etc, as well as estate managers and owners. The latter include those who might have been smallholders but, in the past decade, have converted their holdings into leaseholds, and are presently relatively better off as a group than smallholders still working on customary lands.

Table 3 – Malawi: Labor Force, Functional Distribution of Income, and Income per Worker, by Sector

	Labor Force (15-64 years old)			Functional Distribution of Income (percent value added)[a]		Income Per Worker		Income Per Worker	
	1968	1978	1987	1978	1987	1978	1987	1978	1987
	1,000			Percent		Current MK		1978 MK	
Smallholder	1,497.3	1,768.7	2,138.6	31.1	34.2	131	398	131	138
Estate agriculture[b]	64.5	207.5	266.4	6.4	7.2	234	704	234	244
Government[c]	31.6	36.6	52.6	8.3	9.3	1,760	4,625	1,760	1,606
Manufacturing and other industries[c]	82.6	133.8	176.4	53.6	48.5	2,976	6,840	2,976.0	2,375.0
Informal sector	44.9	87.4	121.0	...	...	...	...	...	...
Unemployed	...	48.0	197.0	0.0	0.0	0	0	0	0

Sources: *World Bank (1989a,1989b,1988c).*

[a] *Figure does not ascribe a portion of the value added to the labor force in the informal sector. To what extent their contribution to GDP is captured in the figures of other sectors is unknown.*

[b] *Includes wage and nonwage employees, the latter group of which includes tenant households.*

[c] *Includes wage and nonwage employees.*

Table 4 – Malawi: Households by Landholding Size, Calorie Production, and Calorie Requirement, 1984/85

Holding Size	Mean Holding Size	Mean Household Size	Percent of All Holdings	Percent of Land Planted in Maize[a]	Percent of Land Planted in Hybrid	Land Planted in Hybrid as Percent of Land Planted in Maize[b]	Calorie Production (per person per day)		Calorie Production (as a percent of calorie requirements)[c]	
							If All Land in Local Maize	If All Land in Hybrid Maize	If All Land in Local Maize	If All Land in Hybrid Maize
Hecatres			Percent						Percent	
<0.50	0.31	3.60	23.00	81.50	0.60	0.74	809.22	2,179.12	36.78	99.05
0.50-0.99	0.74	4.40	32.30	83.70	1.30	1.55	1,580.47	4,256.00	71.84	193.45
1.00-1.49	1.23	4.90	19.90	82.30	3.40	4.13	2,688.92	6,529.81	122.22	296.81
1.50-1.99	1.71	5.10	10.90	74.70	5.30	7.10	3,591.66	8,722.03	163.26	396.46
2.00-2.49	2.22	5.70	6.30	77.30	8.40	10.87	4,705.72	9,888.37	213.90	449.47
2.50-299	2.73	6.10	3.50	69.80	10.30	14.76	5,407.30	1,1362.64	245.79	516.48
>=3.00	4.00	6.40	4.20	70.60	15.50	21.95	7,551.41	15,868.16	343.25	721.28

Source: *Kandoole (1990).*

[a] *Includes land dedicated to pure stand and mixed cropping maize cultivation.*

[b] *Assumes that all hybrid maize is grown pure stand.*

[c] *Daily calorie requirement per capita used is 2,200.*

Table 5 – Malawi: Distribution of Smallholder Landholdings, by Agricultural Development District (ADD), 1980/81

District	*N*	Percent of Households by Landholding Size			Percent of Households by Per Capita Landholding Size		
		<0.7 ha	0.7-1.49 ha	>=1.5 ha	<0.15 ha	0.15-0.30 ha	>=0.3 ha
Northern region							
Maronga	220	42.9	37.9	19.2	40.0	37.3	22.7
Mzuzu	580	31.1	36.3	32.6	26.5	31.4	42.1
Central region							
Kasungu	940	8.0	29.5	62.5	5.7	23.7	70.6
Salima	500	40.0	39.2	20.9	326	33.4	34.0
Lilongwe	1,591	24.9	39.1	36.0	15.8	27.7	56.5
Southern region							
Liwonde	1,360	46.8	40.6	42.6	35.5	37.1	27.4
Blantyre	1,580	57.4	31.1	11.5	48.3	27.4	24.3
Ngabu	379	30.4	36.8	32.8	24.3	29.6	46.1

Source: *Centre for Social Research (1988).*

value added, and income per worker was just over half that in the estate sector and only 8.6 and 5.8 percent of incomes in the government and manufacturing sectors, respectively. This pattern of a low value added per smallholder in absolute and relative terms has not changed during the past decade. In fact, the evidence suggests that the real value added per worker had only increased from Malawi *kwacha* (MK) 131 to MK138 between 1978 and 1987.

The prospects for economic growth and poverty reduction among the largely subsistence smallholder sector is first and foremost limited by natural resource constraints. Indeed the seeming scarcity of land and the unquestionable density of households in the smallholder sector are traditionally presented as the nexus of the poverty problem in Malawi. Data on the size of landholdings from the National Sample Survey of Agriculture (Centre for Social Research 1988) indicate that 23.5 percent of the households cultivate less than 0.5 hectare of land and more than one-third of all households in Malawi cultivate less than 0.7 hectare of land. Similarly, according to the 1984/85 Annual Survey of Agriculture (Kandoole 1990), 55.3 percent cultivate less than 1 hectare; 75.2 percent of smallholder households cultivate less than 1.5 hectares; and 86.1 percent have a landholding size of less than 2.0 hectares (table 4).

A comparison of survey data from 1968/69 and 1980/81 shows that land pressures are getting worse. The average size of holding fell from 1.54 to 1.16 hectares between the two periods (Pryor 1988). In 1968/69 28.7 percent of the households had less than 2 hectares of land. In contrast, 81 percent had less than 2 hectares in 1980/81 (Christiansen and Kydd 1987a).[7] The nature of the rural sector and rural poverty in Malawi is thus being transformed by a combination of population growth and other land and agricultural policies that are marginalizing the holdings of rural producers.

Of equal interest are the considerable regional differences in the distribution of landholdings, with the south, most notably Blantyre, having a considerably higher proportion of smallholdings, both on a household and per capita basis (table 5). However, even though the population density in northern ADDs, such as Karonga, is a fraction of those such as Liwonde agricultural development district (ADD) in the south, the number of households with per capita landholdings of less than 0.15 hectare is higher. This is probably a reflection of land quality

7 Since 1980/81, when the most recent NSSA was conducted, the only data available from which to estimate changes in landholding sizes have been the annual surveys of agriculture done at the agricultural development district (ADD) level. Unfortunately, these are not self-weighting, precluding the possibility of monitoring landholding size. However, for lack of a better estimate, Kydd (1988) estimates that by 1987, one quarter of the rural households were landless.

and the absence of marketing channels through which northern households can sell their surplus.

A sense of the potentially constraining size of holdings for the nutritional well-being of the small subsistence farmer can be garnered through a brief illustration. According to the 1984/85 annual survey of agriculture, the average smallholder household with less than 0.5 hectare of land could be expected to produce just over 800 calories per person per day, assuming that all that land was planted in local maize. This figure represents just over one-third of the expected calorie requirement. Similarly, smallholder households with between 0.50 and 0.99 hectare of land will not, on the average, be able to produce adequate calories from their landholdings, assuming it is all in local maize. If hybrid maize is produced, the picture changes dramatically, since calorie availability per hectare from hybrid maize production is more than two and one-half times that of traditional varieties. However, in practice, only 0.6 and 1.3 percent of the maize is hybrid among farmers with holdings of less than 0.5 hectare and between 0.5 and 0.1 hectare, respectively.[8]

Similarly, evidence on food stocks also suggests that the small smallholders are at serious risk of food insecurity. The data from the 1980/81 NSSA show that 83 percent of the households with holdings of less than 0.7 hectare ran out of food stocks by the preharvest month of February, suggesting that they confront a serious seasonal food security problem (Quinn et al. 1988).[9] Among households with 0.7 to 1.49 hectares of land and greater than 1.5 hectares of land, 72 and 51 percent, respectively, depleted their stock before February. These figures illustrate the expected negative relationship between landholding size and depletion of stocks. However, a surprisingly large share of relatively large farm households still fail to produce enough crops to provide for subsistence requirements throughout the year, as manifested in depleted stocks prior to harvest.

The evidence on food stock depletion, however, should be interpreted with

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8 Although only around 81.5 percent of the landholding of the farmers with less than 0.5 hectare of land was actually sown in maize (including local hybrid varieties, and mixtures with groundnuts and pulses), let it be assumed that all of the land was planted in maize. The volume of traditional maize was then converted into calories, assuming 3,570 calories per kilogram of maize. A comparison of total calories available with the requirement is then made, deriving the latter by multiplying the mean household size of the landholding category by 2,200 calories.

9 Another more recent survey in Salima ADD indicated that 81 percent of the 385 smallholder households interviewed depleted their stock by February, two months prior to the April harvest (Mkandawire and Chipande 1988).

caution. First, it does not take into account commodities that are not harvested and stored near the house, such as root crops (eg, cassava), that are left in the ground. Second, it may be financially sound to market some produce early in the year and thereafter purchase back some grain during the preharvest season. The wisdom of doing so is predicated on the cost of storage, including interest and losses, being in excess of the price increase in the market. In fact, there is considerable wisdom in the decision to sell in the postharvest period and buy back later in the year where, as in Malawi, grain marketing agencies engage in seasonal price stabilization. Third, households with adequate land to produce enough food to get them through the preharvest season may still deplete stocks. By choosing to grow export crops and/or market relatively larger shares of food crops, they can raise their cash income at the expense of maintaining food stocks. For example, the evidence to be discussed in greater detail in section 5 that an increasing number of smallholder households are growing burley, both illegally and legally through their conversion of land to leaseholds, amply illustrates the limitations of judging food security by means of food stock depletion. Nonetheless, the fact that the NSSA suggests that households that deplete their stocks early in the year also have lower levels of cash earnings, including those from the combination of food and cash crop sales, casts some doubt on this theory.

Given these cautions on the food security consequences of smallholders' inability to grow sufficient food to meet their dietary requirements and the depletion of their stocks long before the harvest, the question arises as to whether in practice such households manifest more poverty and higher levels of malnutrition. The evidence in this regard is at best ambiguous. Concerning the relationship between landholding size and income, the study for Zomba district showed that for the five household landholding groups with less than three hectares, no statistically significant difference in their income levels was noted. Further analysis of the Zomba data by Sahn and Shively (1990) revealed that when one stratifies household expenditure levels by per capita landholdings, there is a positive correlation between the two when landholdings exceed 0.2 hectare (table 6). More importantly, the results of the household welfare functions indicated that the elasticity of household consumption expenditure with respect to landholdings is close to zero for households with less than 0.1 hectare, and increases to around unity for households with greater than 0.5 hectare per capita. The models also implied that, at the margin, providing an increment of land to a household with a very smallholding (ie, less than 0.1 hectare/capita) will have little impact upon household welfare. In contrast, the returns to increasing landholdings of relatively larger households will be much greater. This suggests that in the long term, income derived from land and off-farm income are direct substitutes for the large percentage of households

Table 6 – Malawi: The Effect of Household Landholding Size on per Capita Expenditure

	Per Capita Landholding Sizes					
	<0.1	0.1-0.2	0.2-0.3	0.3-0.4	0.4-0.5	>0.5
Per capita expenditure (MK)	73.20	72.00	89.10	123.10	124.50	154.10
Elasticity of per capita expenditure with respect to land	0.03	0.34	0.60	0.77	0.89	1.10
Change in per capita expenditure (MK) with a change of 0.1 hectare of land	3.00	16.20	21.70	27.50	25.80	34.10

Source: *Sahn and Shively (1990).*

with holdings less than 0.1 hectare per capita, while this is not the case for larger smallholders.[10]

In addition to showing the limitations of marginal increases in landholdings on household welfare, the study from Zomba district also illustrates the importance of off-farm earnings in ensuring household food security. The share of income derived from off-farm sources is quite significant for most smallholder households, although it is higher for households with smaller holdings (table 7). Households with less than 0.5 hectare of land derive approximately 55.1 percent of their total earnings from off-farm sources. The contribution of off-farm sources, furthermore, declines by size of landholding categories, accounting for 34.8 percent of total income for households with over three hectares of land. It is important to note that a large portion of off-farm income for smallholder households is derived from remittances, transfers, and other sources, rather than from agricultural wages.[11]

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10 The analysis by Sahn and Shively is based on a cross-section, not on a dynamic model. Consequently, the elasticities and marginal effects are an approximation for the medium- to long-term impact of changes in landholding. They do not represent what could be expected in the short term from a policy that increased access to land among smallholder households.

11 The role of land quality in confounding the relationship between landholding size and incomes may also be important.

Further insights into the importance and range of sources of incomes among smallholder households are found in the 1980/81 NSSA (Centre for Social Research 1988) despite its failure to include in-kind transfers and home consumption. It is nonetheless interesting that the results of the NSSA survey indicate that sales of food and cash crops, as well as livestock, comprised 22 percent of earned income for smallholders with less than 0.7 hectare. The comparable figure for those with 1.5 hectares or more was 62 percent. Business, agricultural and nonagricultural labor, and transfers comprised the remaining income shares. It is also noteworthy that in general, income from business, labor, and transfers is more important in the densely populated southern region, comprising 85 percent of the earned income among those who had less than 0.7 hectare of land.

When we examine the descriptive data on the relationship between landholding size and levels of malnutrition, no relationship is observed (table 8). This applies to total household and per capita landholdings.[12] Several hypotheses can explain this finding. First, incomes are often poorly correlated with nutritional status (Alderman 1990). Second, as pointed out above, land holdings are not necessarily a good proxy for per capita incomes. Third, as intimated above, malnutrition among preschoolers may be predominantly caused by infection, intrahousehold food allocation, childcare practices, and so forth, rather than household food insecurity.[13] Related to this, a fourth hypothesis is that households with larger holdings devote less time to child care and more time to agriculture. The net nutritional benefits of the additional income from cultivating more land may prove small if the mother's nurturing time declines.

Therefore, it is somewhat ambiguous whether landholding size and related indicators, such as the timing and prevalence of preharvest food depletion, are appropriate proxies for household food insecurity and malnutrition. Nevertheless, the evidence that productivity on smallholder plots is extremely low and that families do reduce their meal frequency during the preharvest season (UNICEF 1986) strongly suggests that access to food during the preharvest

12 The household-level correlation coefficients between landholding, weight-for-height, and height-for-age were not significant at standard levels.

13 Victoria Quinn has pointed out that hospital admissions for malaria have increased by 200 percent between 1979 and 1988. Given the role of such diseases, which do not discriminate by social class in causing malnutrition, this explanation finds some additional support and suggests the urgency of addressing the burgeoning problem.

Table 7 – Malawi: Per Capita Income, by Landholding Size in Zomba District

	Landholding Sizes (ha)					
	<0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-3.0	>3.0
	MK					
Home consumption	18.20	15.9	22.10	22.00	28.24	57.46
Agricultural sales	16.18	18.06	27.37	23.66	22.05	57.46
Nonfarm earnings	17.03	4.67	11.46	12.41	8.69	4.30
Transfers, remittances, and others	15.17	12.22	12.24	13.99	17.81	48.84
Agricultural wages	10.04	11.15	4.48	2.44	1.86	1.45
Total per capita income	**76.62**	**61.29**	**77.65**	**74.50**	**78.65**	**156.85**

Source: *Peters and Herrera (1989).*

Note: *These per capita figures are for the 10 month period over which survey data were collected.*

Table 8 – Malawi: Nutritional Status of Pre-School-Age Children from Smallholder Households, by Landholding Size

	N	Percent of Undernourished Population	
		Chronic[a]	Acute[b]
		Percentages	
Household landholding size (ha)			
<0.5	934	56.4	2.9
0.5-0.7	576	57.6	2.1
0.7-1.0	740	54.9	3.2
1.0-1.5	831	56.1	4.2
1.5-2.0	450	58.0	2.0
>2.0	847	54.8	2.8
Per capita household landholding size (ha)			
0.000-0.075	651	56.3	2.8
0.075-0.150	1,053	57.1	3.3
0.150-0.225	822	55.5	3.2
0.225-0.300	681	58.1	2.9
0.300-0.400	516	57.3	2.1
>0.400	701	53.0	3.1

Source: *Centre for Social Research (1988).*

[a] *Chronic undernutrition defined as <= -2 Z-score height-for-age.*

[b] *Acute undernutrition defined as <= -2 Z-score weight-for-height.*

season remains a strong threat to nutritional status. This concern goes beyond the harmful prospects of transitory periods of undernutrition. There are reasons to believe that early stock depletion exposes the household to several other realities that in combination may have deleterious effects on their long-term well-being through a process of disaccumulation.

First, the demands for cash after the harvest are such that the poorest households are often compelled to sell their produce to traders immediately after harvest when prices are low.[14] Second, the timing of stock depletions are

14 This phenomenon predated the recent reform and will be discussed below.

such that these households must return to buy back maize from the market at a time when prices are much higher than what they sold for, implying a net loss from the transaction. Third, as a result of these factors, smallholders often find themselves low on stocks and incomes specifically during the preharvest period. This may indeed contribute to the drawing of labor off their farms to engage in low-paying agricultural work (ie, ganyu), leaving the fields unplanted and/or unseeded and the next harvest compromised (Quinn et al. 1988). Consequently production capabilities on the smaller farms are diminished, contributing to chronic undernutrition and a longer-term downward ratcheting of household welfare. Those who engage in ganyu become caught in a patron-client relationship in which low wages and neglect of their own modest holdings during the planting season, further perpetuating and exasperating poverty (Mkandawire and Chipande 1988).

In sum, there is a need to more fully understand the characteristics of the poor and malnourished and how to limit their vulnerability to both episodes of food insecurity and disaccumulation. More attention must be given to evaluating the diversity of activities and income sources in rural areas and the strategies that households employ to ensure adequate access to food. Even if the total value of agricultural incomes, including home consumption and the grain equivalents of market sales, does not provide for access to adequate food, one must also examine the wage earnings, remittances, and other income sources of smallholder households before reaching any conclusions on the scope and severity of the food security problem. Thus, we turn next to the potential contribution of off-farm income sources, namely the rural labor market and the service and informal sectors, in generating income in land-scarce Malawi.

WAGE LABORERS

Although the welfare of the poor in Malawi is intimately linked to agriculture, the relationship is not necessarily one of direct dependence, as it is with farmers. Agricultural work on customary lands and estates, as well as self-employment in processing and trading agricultural goods and providing services that cater to the farm sector, afford considerable opportunity for income generation. Although the importance of the rural nonfarm economy in particular is addressed later in this paper, it appears clear that smallholder households with less than 0.5 hectare of land earn a large share of their income either as agricultural workers or from nonfarm activities.

The opportunities for households to earn incomes off their own smallholdings is conditioned by the amount of labor directly hired by larger customary holdings and on estates, by the wages that are offered, and by the extent to which

agriculture has forward and backward linkages to the nonfarm economy. Thus, in order to further explore the characteristics of vulnerability and food insecurity in rural Malawi, one must take into account the diversity of income sources and examine the opportunities for households to supplement their earnings from agricultural sales and consumption from own production. In particular, rural households receive income from three other major sources: wage labor on estates and the relatively large smallholder plots; non-farm businesses and enterprises; and transfers and remittances. The distribution of earnings from each of these sources is in turn conditioned by a variety of factors, including the household's physical assets, size, and structure. A better understanding of each factor, and of how opportunities have changed with regard to each over the course of adjustment is thus also critical to understanding changes in the welfare of smallholders during these years.

Unfortunately, there is a serious lack of information on the rural labor market, particularly on the patterns of and arrangements for hiring out to work on larger holdings, both in the smallholder and estate sectors. Nevertheless, several observations can be made with respect to agricultural wage labor in rural areas. First is a typological distinction between two forms of agricultural labor in Malawi. One category includes smallholders who, due to the diminutive size of their holdings and/or the early depletion of food stocks, seek seasonal employment off their own land. These workers maintain their own smallholder plots while seeking extra income, usually during the peak season of December and January, when labor demand generally pushes wages higher and household food stocks are already depleted. Referred to as ganyu, casual labor of this kind is generally performed by households with relatively smaller holdings for those with relatively larger holdings.[15] The other category contains those more permanent wage laborers who are either landless or near landless. Although some work on the larger smallholder farms with a chronic demand for labor, these permanent wage laborers are engaged primarily on estates.

Little is known of the employment and income significance of ganyu. It is obviously prevalent in the smallholder sector, but the number of people who find work in this capacity nationally and the duration of their employment is unclear. Nor are their wages from this form of employment well documented. Anecdotal evidence indicates, however, that a large share of the payment is in kind and that

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15 A study by Chipande in Lilongwe ADD (UNICEF 1986) revealed that the average landholding among households hiring labor was 2.4 hectares, as compared with 1.3 hectares for households not hiring labor.

wages are very low, often below minimum wage levels.

With regard to more permanent agricultural wage labor, estates are in fact the primary source of employment. Their functioning depends critically on labor. The number of agricultural wage laborers in the estate sector (excluding tenants) has grown tremendously during the 1970s and first half of the 1980s, with estimates on the order of 157,200 hired workers in 1987 (table 9).[16] Despite the quadrupling of the number of estate laborers since 1969, the numbers are still small compared with the number of smallholders, the former representing just over 7 percent of the latter. In the more densely populated south, where surplus labor is plentiful, estates rely almost exclusively on wage labor,[17] with sharecropping not being observed.

Although employment in the estate sector may be high, the evidence indicates that wages are low. An examination of the value added per estate worker indicates that it is approximately 75 percent higher than in the smallholder sector (see table 3). However, this does not take into account the highly skewed income per worker within this category, which includes wealthy estate owners and managers as well as tenants. So, for example, if one assumes that the estate owners and managers represent 5 percent of those engaged in the estate sector and receive 50 percent of the income (likely a conservative estimate), the average nominal value added for the remainder of the population would have been MK370 per annum in 1987. This is less than that of smallholders.

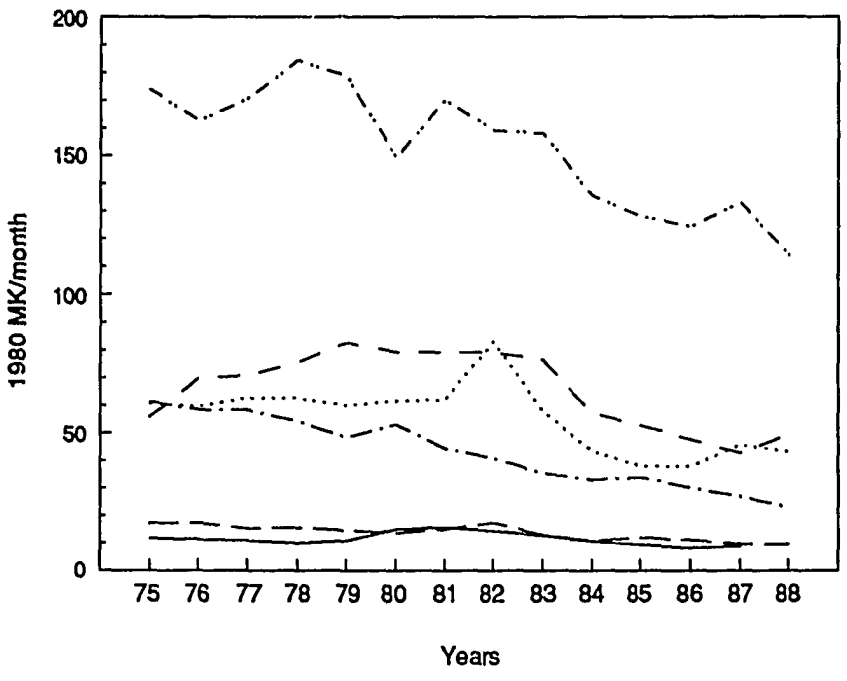
In addition, data on average earnings by sector derived from government statistics indicate that estate workers' wages have corresponded almost exactly to the minimum wage since 1980, although prior to that date they were higher than the legislated floor (figure 1).[18] The real agricultural wage of MK9.54 per month in 1987 is lower than the figure of MK16.95 in 1975 and than the peak level achieved in 1982 of MK17.92. More importantly, estate workers' wages are markedly lower than any other classification of workers (although other workers have also experienced a declining real wage during the 1980s). For example, in 1987 estate workers received just over one-third the payment of construction workers, the next lowest paid category, and less than one-fifth the amount

16 However, caution is needed in interpreting these figures because even among the so-called permanent wage earners on estates, employment is highly seasonal, peaking in January and February, precisely when the demands for maize cultivation are greatest.

17 This is true especially for estates growing flue-cured tobacco, predominantly in the south.

18 It should be noted that the minimum wage increased markedly in 1989. It is unclear whether this jump was paralleled by average agricultural earnings.

Figure 1 – Malawi: Average Monthly Wages in Private Sector, 1975 - 1988



Sources: *Malawi Government (1990, a and c); World Bank (1985a, 1982).*

Table 9 – Malawi: Wage and Salary Employment in Commercial Estate Agriculture, 1969-1989

Year	Tea Estates	Tobacco	Other Private Commercial Agriculture	Total Wage and Salary Employment	Tenants
	1,000 Persons				
1969	30.1	8.1	4.5	42.6	...
1970	30.7	13.1	4.8	48.6	...
1971	32.6	15.9	5.2	53.7	...
1972	32.5	20.2	6.8	59.5	...
1973	35.2	24.6	11.5	71.4	...
1974	35.2	22.5	17.1	74.8	...
1975	36.8	20.5	28.8	86.1	...
1976	36.7	30.6	28.5	95.8	...
1977	39.6	71.0	21.5	132.8	...
1978	39.0	87.5	21.8	148.3	...
1979	...	...	...	...	...
1980	...	...	...	...	21.0
1981	...	...	...	...	24.0
1982	...	...	...	...	35.0
1983	63,7	85.3	23.3	172.3	59.0
1984	49.6	80.6	25.0	155.2	40.0
1985	47.3	89.7	28.7	165.7	47.0
1986	...	...	...	162.3	42.0
1987	...	...	...	157.2	52.0
1988	...	...	...	...	78.0
1989	...	...	...	...	105.0

Sources: *Malawi Government (1988c); Duncan (1990).*

Note: *Before 1977, only firms employing over 20 employees were included in wage or salary employment numbers. After 1977, all firms are included. Figures for 1977 and 1978 include about 18,300 workers not previously counted.*

received by workers in manufacturing, on a monthly basis. Furthermore, if the estate worker had been employed 12 months per year, his annual earnings would have been only MK277 in 1987, based on average earnings in the agricultural sector. This is less than the estimate above for estate workers, which we expected to overstate the welfare of those engaged as estate workers.

While only limited survey data are available to serve as a source of comparison with the estimates derived from national accounts and discussed above, indications are that the official agricultural wage (or closely corresponding minimum wage) apparently serves as a wage ceiling rather than a floor. A large share of the estates, especially those of a smaller size, pay laborers less than the minimum wage, once again suggesting that these workers comprise an important component of Malawi's vulnerable population.[19]

In sum, as population density increases and landholding size decreases, the role of wage labor, both within and outside agriculture, as well as small-scale enterprises, will increase, suggesting the need for greater attention in this area. Of course, the increasing role of wage labor focuses attention on the functioning of the labor market in general, and the formation of wages in particular. Little is known about wage determination in rural Malawi, especially on estates that employ many agricultural workers. In addition to knowledge about the estate sector, an improved understanding of the rural labor market requires further research on the functioning of the informal sector that is engaged in trading, providing services, and processing agriculture output.

TENANT FARMING

A significant number of households derive their livelihood primarily from holdings as tenants on estate lands. These tenants differ from hired wage laborers in their form of remuneration, their regional distribution, and the crop they produce. Tenancy arrangements are generally not found in the densely populated southern region. In the central region there is a mixture of labor and tenancy arrangements on the estates. For example, both laborers and tenants work the tobacco growing estates in Kasungu, while the sugar plantation in Nkhotakota is operated under the contract system of farming, which closely

19 Survey data (Mkandawire and Phiri 1987) indicate that estate wages ranged from 0.7 to 0.9 *tambala* (100 tambala = MK1) per day. Assuming the workers were employed 26 days per month, this gives a monthly nominal income of between MK18.20 and MK23.40. In constant 1980 kwacha, the upper bound is extremely close to estimates found in figure 1. Likewise, a more recent study (Mkandawire, Jaffee, and Bertoli 1990) indicates that in 1989/90, 49.5 percent of the wage laborers were paid less than the statutory minimum wage.

parallels traditional tenancy arrangements where individuals live on the estates and are allocated a piece of land on which to grow the stipulated crop. Evidence from the northern region, one of Malawi's major tobacco growing areas, suggests that a predominance of tenants rather than laborers work the estates (Nyanda 1989). Tenant farming relationships are found mainly on burley tobacco estates, while direct wage labor is employed on flue-cured tobacco and tea estates (UNICEF 1986). One estimate puts the number of tenants at about 105,000, a dramatic increase from only 21,000 in 1980 and 47,000 in 1985 (Duncan 1990).

In examining the welfare of tenant households, several points should be noted. First, most tenants are in fact smallholders whose plots are so small that they are required to migrate in search of income. Tenancy represents the predominant source of income for these households (Mtawali 1989). It is the one source that can assure at least a subsistence diet.[20] In addition, tenancy increases access to extension, credit, and infrastructure, which are otherwise difficult to procure. Credit is available for production inputs, such as fertilizer, seed, and tools, as well as food and home construction materials. Overhead service and infrastructure such as storage facilities, transport services, and insecticide spraying, are also made available and sometimes subsidized (Nankumba 1990), as are technical advice and supervision.

A second observation revealed by the limited data is that due to the nature of tenancy arrangements, tenant households are often poor and subject to chronic and seasonal food insecurity, despite working to produce highly lucrative crops.

To amplify, the figures on household income reveal that tenants, especially

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20 One recent survey (Nankumba 1990) found that among tenant farmers on burley tobacco farms in the Kasungu zone, 90 percent of tenants surveyed declared additional income as their primary motive for becoming tenants, while only 3 percent cited access to land as their primary motive.

on burley estates, only share marginally in estate profits.[21] First, mean earnings of estate workers in these studies show them to compare favorably with the minimum wage. Vaughan and Chipande (1986) found the median tenant annual profits to be between MK200-MK300 in 1985, while Nankumba (1990) cites an average annual net return to tenants in 1989 of MK476.[22] In another recent study, the mean profits of tobacco tenants for 1989 was MK396 (Nyanda and Shively 1989), although when nonestate income was added, total household income rose to over MK600. All these figures compare favorably with an annual minimum wage rate of MK281 from 1987 into 1989,[23] which corresponds closely to the average agricultural wage as discussed previously.

In many ways the very nature of the tenancy relationship reinforces poverty among a subset of the sharecropper population, even in arrangements that provide for food and credit, the payment for output, and the shared risk. First, with regard to meeting tenant farmers' nutritional needs, tenants are sometimes provided with an extra plot of land for the cultivation of crops for their subsistence needs. The survey in Kasungu reported by Nankumba (1990) found that management sometimes provided tenants with a second plot of approximately 0.6 hectare to produce maize for the family's subsistence needs. However This usually does not occur (Nyanda 1989, Vaughan and Chipande 1986); estate managers know that the cultivation of subsistence crops diverts both land and tenant labor from the production of highly remunerative export crops such as tobacco.

Estate managers prefer to provide a food ration on credit. However, this system leaves some tenants at nutritional risk. The food ration varies by estate, but a typical allotment consists of one tin of maize and three kilograms of beans

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21 At the same time, incomes are highly variable among tenants, possibly a reflection of the risk that they shoulder. The figures from Vaughan and Chipande (1986) indicate that tenants earned between MK8 and MK1,000. Similarly, the recent analysis of data from tobacco estates showed that income varied from MK19 to MK3,000 per year (Nyanda and Shively 1989).

22 Caution should be taken in interpreting these returns, however, since a number of costs should be subtracted in these calculations but are not. For example, the Nankumba study only subtracts production expenses for which tenants received advances from landlords. It does not take into account rental value, if any, on housing. Furthermore, tenants migration costs, for example, probably are not subtracted in calculating their net returns here.

23 The sharp increase in the minimum wage in 1989, however, permits an annual income of MK635 if one were to work every day of the year.

per household per week, regardless of household size (Mtawali 1989). This often leaves larger households short of food. In addition, landlords do not always adhere to the food distribution arrangement. They frequently run short of maize and extend the ration distribution period from once every week to up to once every two weeks (Mtawali 1989). Also, once the tobacco crop is planted in January, landlords are observed to pay less attention to the agreed food rations, knowing that tenants are now bound by debt and investment to wait until harvest.[24] These factors certainly help to explain the relatively high rate of malnutrition among tenants. A recent study on nutritional status in the estate sector found the degree of malnutrition to be higher on estates than among smallholders or wage laborers (Mtawali 1989).

Second, remuneration to the tenants is largely constrained by the government-determined ceiling on them. Maximum prices are based on recommendations of the Tobacco Association of Malawi (TAMA). As a producer organization, TAMA can be expected to serve the interests of estate owners in determining both prices charged for tobacco as well as wages paid to tenants (Mtawali 1989). In fact, tenants are paid a very small proportion (between 19 and 41 percent over the last decade) of the auction price of estate crops (Duncan 1990). Moreover, the official price is the maximum, and estates sometimes pay less, undergrading tobacco purchased from tenants, delaying payment until after the auction, and paying in installments (Nankumba 1990). However, some recent evidence suggests that tenants are sometimes paid more than the maximum price set by the government as an inducement to produce more. This does not interfere with the estate operators' profits, given the high auction relative to administered price offered the tenants (Duncan 1990).

Third, landlords do provide necessary credit to their tenants, but at an extremely high cost. Interest paid on credit is as high as 140 percent for high-analysis fertilizer and 45 percent for hoes (Mtawali 1989). The interest on the maize ration is as high as 40 percent, significantly increasing the cost of a subsistence diet. These charges are subtracted from the value of the final tobacco sale to the tenant, which obfuscates a determination of the extent to which low sales revenue is actually due to low prices on output rather than high credit costs of inputs. However debt repayment appears to significantly diminish actual tenant incomes. On one estate, for example, presumably as much as 90 percent of the crop value is designated as repayment of debt accrued that year, and

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24 In fact wives are often compelled to work at pounding maize for the landlord so as to be paid in maize husks that may be used to prepare corn meal (*nsima*) for the family (Mtawali 1989).

contracts specify that tenants will receive only 10 percent of the value of the crop in cash (Nankumba 1990).

Fourth, the burden of risk invariably falls upon the tenant. This appears to be a primary reason for estate managers' preference of tenant labor over wage labor. In the event of a crop failure or a fall in the price of the crop, the uncompensated costs incurred during production must be borne by the tenant.

Thus, although many workers continue to migrate in search of favorable arrangements within the estate sector, they continue to face poor working conditions and low pay. The turnover among tenants is constant: either they move to work as tenants or laborers elsewhere, or they return to their own plots. Out of the 90 tenants interviewed on tobacco estates in 1989, for example, only 46 had been there for two or more years (Nankumba 1990). Such turnover is a reflection of tenant discontentment and welfare. But the transaction costs of the job search not only threaten the household's welfare but represent an indirect cost to the estate manager, who often lacks a reliable, experienced work force.

THE URBAN POOR

The level of urbanization in Malawi, compared with that of other developing countries, remains low. This is at least partly due to the government's stated policy of limiting the disparity between urban and rural wages, thereby discouraging urban migration (Malawi Government 1971). This has been achieved partly through the relatively high levels of taxation of high income households, in both direct taxes and indirect taxes on luxury goods. Also, employment in the public sector has grown slowly throughout the 1970s and 1980s, which means that Malawi will not be faced with the specter of bloated bureaucracy and a severe retrenchment in the numbers of civil servants, as has occurred in many African countries following adjustment. One of the potential advantages of limited urban expansion is that urban poverty will also remain proportionately low.

However, although the rate of urban growth has been slow, it is accelerating and will inevitably bring with it a greater prevalence of urban poverty. The land squeeze felt in the smallholder sector can be expected to increase urban growth in Malawi, as it has in other LDCs. Having grown from 5.0 percent in 1966 to 8.5 percent in 1977, Malawi's urban population is now estimated at around 12 percent of the total. The population growth rate has been higher in Lilongwe than in Blantyre and Mzuzu, cities whose growth has been less than one half that of the capital in recent years. The labor force is expected to double in urban areas between 1987 and 1996 (Malawi Government 1988). Understanding the impact of policy changes and exogenous shocks on the urban poor will be critical

to understanding poverty in Malawi.

Information on living standards in urban areas is limited. Pryor (1988) suggests that the mean income in urban areas was markedly greater than in rural areas in 1984/85, the average in the big towns being MK3,235 per household compared with only MK432 among smallholder households. Another interesting set of issues is whether income distribution and poverty is worse in major cities than in rural areas and whether the real incomes of similarly skilled persons are greater in urban areas than rural areas. On the basis of a variety of inequality coefficients, including Gini, Theil, and Log variance (table 10), it seems clear that income distribution is more unequal in cities, reflecting the greater heterogeneity of the urban labor force. The poor and unskilled in urban areas do not seem to have markedly higher incomes than their counterparts in rural areas. There is, therefore, legitimate cause for concern over the problem of urban poverty, even if average incomes are far higher than in rural communities.

Several observations on Malawi's urban poor can be made on the basis of existing data. First, although no nutritional status data are available from a representative sample survey of all urban households, the recent survey of low-income urban households in Lilongwe and Blantyre indicates that 37.5 percent of the children are stunted and 7.1 percent wasted. Second, on the basis of Malawi's urban household expenditure survey of 1979/80 (Malawi Government 1988), poverty appears considerably greater in Blantyre than in other urban areas, in both absolute and relative terms. The two poorest income categories (households making less than MK20 a month and those making between MK20 and MK40 a month) held approximately 45 percent of all households in Blantyre, 25 percent of households in Lilongwe, 24 percent of households in Zomba, and 30 percent of households in Mzuzu. While approximately 3 to 6 percent of the populations of Mzuzu, Zomba, and Lilongwe makes less than MK20 per month, approximately 21 percent of Blantyre's population falls in this category of household (Malawi Government 1983).

Third, the data indicate that income inequality in the major towns has declined between 1968/69 and 1984/85 (table 10). Given the lack of data from the late 1970s, one cannot conclude from these figures that this small improvement in income inequality, in contrast to the situation in rural areas, is attributable to policy reform measures instituted in the early 1980s. However, the figures do suggest that adjustment has not had negative distribution consequences.

The fourth observation drawn from the survey relates to the sources of urban income. As expected, wages account for the major source of income for the two poorest income categories. For example, 97 percent of households in Lilongwe's

Table 10 – Malawi: Income Inequality Statistics, 1968-1985

Groups of Families	Gini		Thoil		Log Variance	
	1968/69	1984/85	1968/69	1984/85	1968/69	1984/85
	Inequality Coefficient					
Smallholder families	0.203	0.453	0.113	0.348	0.118	0.607
Families on estates	0.187	...	0.903	...	0.110	...
Families in small towns	0.466	...	0.417	...	0.651	...
Families in four major towns	0.660	0.621	0.884	0.776	1.494	1.065
All families	**0.448**	**0.599**	**0.796**	**0.944**	**0.317**	**0.860**

Source: *Pryor (1988).*

lowest income category listed wages and salaries as their predominant source of income.

A fifth important observation on urban poverty, borne out by the 1979/80 household expenditure data and a 1988 survey of low-income urban areas (Chilowa and Shively 1989), is that household size tends to increase with increased household income in Malawi's urban areas (see, for example, table 11 for data from Blantyre). This probably reflects both an obligation of higher income households to house the extended family and the eventual participation of more household members in the labor force as household size increases. The poorest households, however, tend to have only one worker per household regardless of size. From the 1979/80 data we find in Lilongwe only one worker per household in households making less than MK20, and in 96 percent of all households making between MK20 and MK40. In Blantyre the figures were 96 percent and 95 percent, respectively. The most vulnerable urban population appears to be concentrated in the class of large, low-income households.

Sixth, any attempt to examine budget shares or food expenditure using the 1979/80 urban survey will yield limited results because all the data are reported on a household, rather than per capita basis. Nonetheless, a look at the levels and patterns of household expenditure will provide some insight. In all four urban areas surveyed in 1979/80, low-income households spend much less on food than do the higher income households (figure 2). However, the poorest

Table 11 – Malawi: Average Monthly Household Expenditure, by Household Size

Number of Household Members	*N*	Percent of Households in Sample	Average Household Expenditure	Average per Capita Expenditure
			MK per Month	
1	1	0.5	60.82	60.82
2	11	6	83.66	41.83
3	25	13	115.12	38.38
4	34	17	96.72	24.18
5	31	16	115.10	23.02
6	25	13	136.60	22.77
7	21	11	113.44	16.21
8	20	10	129.38	16.18
9	14	7	142.08	15.79
10	4	2	263.80	26.38
11	3	15	168.23	15.29
12	2	1	175.65	14.64
13	2	1	252.69	19.44
14	2	1	290.53	20.75

Source: *Chilowa and Shively (1989).*

income groups spend a disproportionate share of their income on food.[25] A few patterns also emerge specifically in Blantyre with regard to changes in the composition of food intake with changes in income (figure 3). Starchy staples constitute a large part of the diet of low-income households. For the lowest income category starchy roots, flour, grain, bread, and other cereals accounted for 19 percent of total expenditure and 38 percent of food expenditure. In contrast, the average figures for all households sampled is 5 percent and 23

25 For the lowest income category, food items account for 49.2 percent of total expenditure in Blantyre, 41.9 in Lilongwe, 63.3 percent in Zomba, and as much as 64.8 percent in Mzuzu. In Blantyre and Mzuzu, expenditure on food as a percentage of total expenditure actually drops monotonically with every income category, falling from 64.8 percent for the lowest income category, to 15.5 percent for the highest. This is also the case in Lilongwe and Zomba, with the exception of an increase in food expenditure between MK20-39 and MK40-69 categories. It is also noteworthy that in the 1988

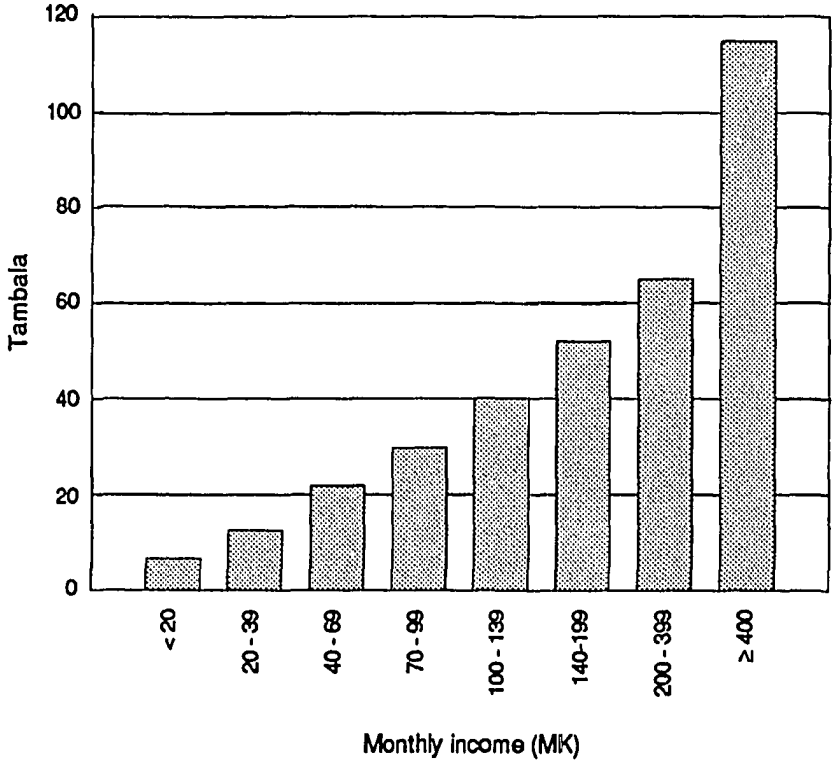
percent, respectively. Corresponding to experiences elsewhere, the proportion of these foods in the diet drops as income rises. The other interesting fact is the relatively higher percentage of income allocated to nonstarchy staples by those in the lower income groups. This may partially reflect the inclusion of small, not necessarily poor, households in this group. However, the importance of other food groups in the diet of the low-income households suggests that their poverty is not acute.

Also of interest is the large share of expenditure on fish by the poor. The share of fish, most probably the local *chambo*, accounts for 10.5 percent of food expenditure for the average household in the lowest income category, and declines monotonically to 0.7 percent for households in the highest income category. Fish appears to be a substitute for meat, poultry, and dairy products, whose share in food expenditure rises from 5.2 percent for the lowest income category to 12.6 percent for households making between MK100 and MK140 a month (then drops again to 6 percent of the food expenditure in the richest households). The price of a kilogram of chicken in 1980 was 155 *tambala* (100 *tambala* = MK 1), as compared with 80 tambala per kilogram for chambo. The preference for a predominantly carbohydrate and fish diet among the urban poor clearly reflects an attempt to maximize the calorie/kwacha ratio when facing an obvious income constraint.

A seventh characteristic of the urban poor is the correlation of household facilities with household income. Poorer households tend to have less access to good water, energy supplies, and toilet and bathing facilities than richer households. For example, 93 to 100 percent of households in the two poorest income categories in Blantyre, Zomba, and Mzuzu neither used electricity or gas for cooking, nor electricity or pressure lamps for lighting. Of those households making less than MK20 in Blantyre, 92 percent had no access to shower/bath facilities, 16 percent had no access to toilet facilities, and 73 percent were getting their water from sources other than tap water. Statistics such as these point to some of the causes of Malawi's high morbidity and infant mortality rates. They also seem to indicate that, in the urban areas at least, the poor suffer the greatest losses in terms of these important quality of life indices.

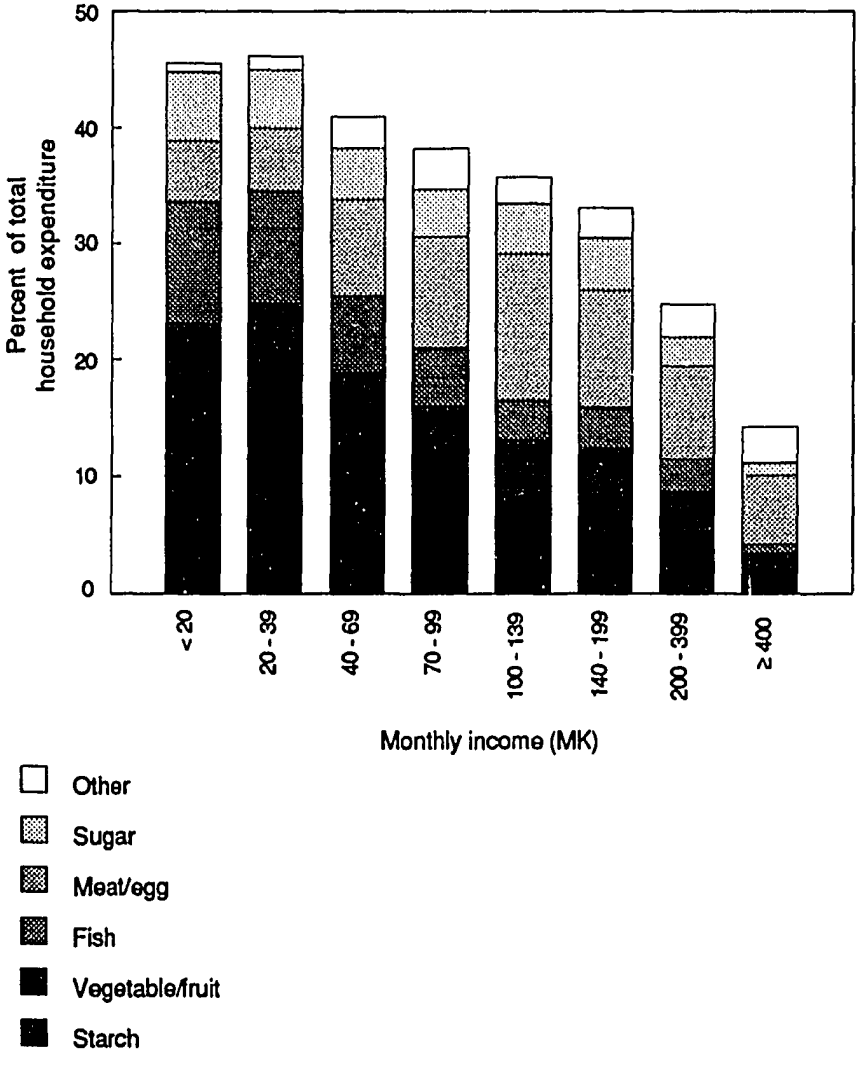
Eighth, several observations can be made about the heads of poor urban households. In every urban area they tend to be less educated than the average household head. According to the 1979/80 survey, in Blantyre, none of the heads of households with incomes of less than MK20 went beyond primary school and 26 percent of the same group never went to school. Heads of the lowest income households are also disproportionately represented in both the youngest (15 to 29 years) and oldest (60 plus years) age categories compared to heads of richer

Figure 2 – Malawi: Household Food Expenditure in Blantyre per Month by Income Category, 1979/80



Source: *Malawi Government (1983).*

Figure 3 – Malawi: Percent of Household Expenditure on Food in Blantyre, 1979/80



Source: *Malawi Government (1983).*

households. As in all income classes, the heads of poor households are predominantly male. With respect to the proportion of female-headed households per income category, the story varies by city. In Blantyre, Zomba, and Mzuzu the lowest income class had a higher proportion of female-headed households compared to the city average.[26] In Lilongwe, though, the lowest income class had a much lower proportion of female-headed households (1 percent) compared to that city's average (10 percent).

A final interesting feature is also borne out by the statistics of all four urban areas in Malawi. Most heads of households in urban Malawi were born in rural areas ("elsewhere, not a town, in Malawi"), especially among the two poorest income categories. Among these income classes in each of the four cities, the percentage of heads of households born in rural areas is above 85 percent, except the MK20 to 40 category in Lilongwe. The lowest income classes have the highest percentage of rural-born of all income classes. This phenomenon has several explanations.[27] One could be the lack of townships in Malawi 60 years ago. Another may be that because of cost, care, and tradition, the urban poor are returning to their rural homes to deliver their offspring. Another explanation, of course, is that the lowest income classes in the urban areas generally contain the newest migrants from rural areas. Very little research has been done in Malawi with regard to rural-urban links and the associated poverty dynamics. It would be interesting to examine patterns of rural-urban labor movements in more depth and to study the pattern of transfers between these two sectors. As will be discussed further, a priori one would expect the recent changes in economic policies in Malawi to have affected these patterns and, as a result, the nature and severity of urban poverty.

FEMALE-HEADED HOUSEHOLDS

The increasing land pressures that encourage temporary and permanent migration to estates, urban areas, and to neighboring countries may partly explain the existence of so many female-headed households in the smallholder sector in Malawi. These women and children represent an increasingly vul-

26 Nineteen percent of the income class making less than MK20 a month was headed by females in Blantyre, versus 9 percent of all Blantyre households. In Zomba the figures were 17 percent versus 15 percent. In Mzuzu they were 30 percent versus 10 percent.

27 These statistics may simply reflect the disproportionate number of older heads of households in the poorer income categories. While disproportionately represented, however, the fact that older heads of a household are still a minority of all heads of household in the lowest income categories diminishes the importance of this argument.

nerable component of the poor and one with special characteristics.

Women in Malawi, like other African countries, have an extremely important productive, as well as reproductive, role. It has been estimated that women comprise approximately 70 percent of the farmers in Malawi. Owing to the high levels of male migration, about 30 percent of rural households are headed by women.

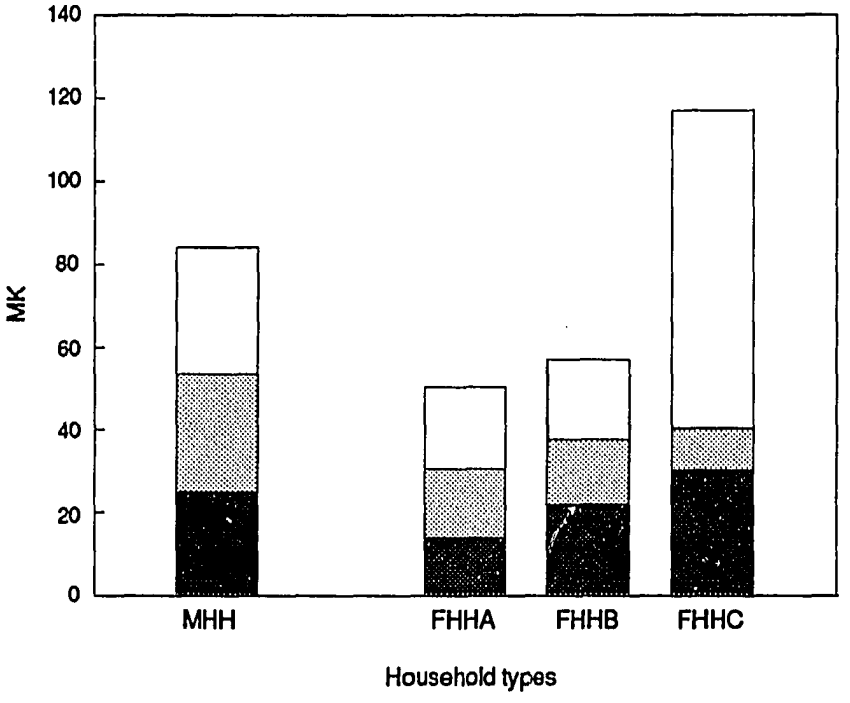
The literature offers much discussion on how these female-headed households are poorer and worse off nutritionally (see, for example, Centre for Social Research 1988, and Malawi Government/UNICEF 1987). However, the salient questions are: what are the particular characteristics of female-headed households that make them high risk, and what policy measures can be undertaken to reduce this vulnerability?

In examining the financial and social strains on female-headed households, it is initially important to make certain qualitative distinctions. In particular, three types of female-headed households can be identified. First are those where the woman is either widowed or divorced. Second are female-headed households where the husband is engaged in work elsewhere in Malawi, such as in urban areas or on estates. The third group of female-headed households are families in which the husband has migrated to South Africa for work. The former two groups were each found to comprise approximately 40 percent of the female-headed households, and have significantly lower per capita incomes than those of male-headed households, according to a recent study from Zomba (figure 4).[28] In contrast, the remaining 20 percent of the female-headed households had incomes presumably largely composed of remittances from abroad, 40 percent higher than male-headed households, and more than double that of other female-headed households (Peters and Herrera 1989).

The most distinguishing characteristic of the female-headed households at greatest risk (ie, excluding those in which the husband sends back remittances from South Africa) is that their labor inputs, incomes, and commodity demands are all less than in male-headed households. Female-headed households tend to be smaller and have fewer labor equivalents and total time inputs for market and nonmarket activities than their male-headed counterparts. Their earned incomes are dramatically less, and the share from transfers, which includes remittances, is higher (table 12). The smaller household size does not, however, compensate for the lower earnings. Female-headed households have smaller

28 Household incomes of females are proportionately even a smaller share of male-headed households, reflecting the fact that female-headed households are smaller in size.

Figure 4 – Malawi: Income Source, by Gender of Household Head, 1986/87



Source: *Peters and Herrera (1989).*

Notes:

MHH : Male-headed households.

FHH A: Female-headed households; husband is absent and works elsewhere in Malawi.

FHH B: Female-headed households: no husband (widowed or divorced).

FHH C: Female-headed households: husband is migrant worker in South Africa.

Table 12 – Malawi: Household Characteristics, by Gender of Household Head, 1980/81

	Male		Female	
	MK/Annum	Percent	MK/Annum	Percent
Household size				
1-2	...	14.29	...	32.63
3-5	...	51.73	...	51.04
6+	...	33.98	...	16.33
Farm size				
<0.7 ha	...	30.31	...	51.08
0.7-1.49 ha	...	35.60	...	35.39
>=1.5 ha	...	34.09	...	13.54
Household expenditure				
Farm	21.6	16.09	6.69	7.55
Business	9.78	7.29	6.70	7.56
Food crops	12.26	9.13	12.51	14.11
Livestock	3.58	2.67	1.83	2.07
Other food	14.96	11.15	13.34	15.05
Non durable	34.47	25.68	24.50	27.64
Durable	26.45	19.71	17.58	19.83
Transfers	11.19	8.34	5.43	6.12
Total	**134.22**	**100.00**	**88.64**	**100.00**
Household income				
Food crops	40.92	25.87	15.75	18.47
Cash crops and products	17.93	11.34	3.13	3.67
Livestock and products	14.67	9.28	3.74	4.38
Business	41.03	25.94	26.13	30.65
Labor	25.22	15.95	10.78	12.65
Transfers and other	17.29	10.93	25.06	29.39
Total	**158.17**	**100.00**	**85.27**	**100.00**

Sources: *Center for Social Research (1988).*

holdings, even on a per capita basis, than their male counterparts. This only compounds the problem of their significantly lower cash earning, from food and cash crops and, most dramatically, from wage labor (Centre for Social Research 1988).

The data indicate that levels of cash expenditure are considerably higher in male-headed households (see table 12). Female-headed households spend a higher share of their cash income on food, so in absolute terms their cash food expenditure is nearly equal to those of male-headed households. This probably reflects both their lower levels of home consumption and Engel's Law, which states that the budget share to food declines with increasing income. It is indeterminate whether female-headed households have a higher marginal propensity to consume food and calories.

There are too few male single-parent households to draw a comparison between female- and male-headed households. Women rarely leave their families in search of work elsewhere, and the children rarely stay with the man in the case of a divorce. Therefore the extent of the similarities between the problems of male-headed households without a female companion, and vice versa, are unclear. Specifically, it is uncertain whether the issue of vulnerability among female-headed households is primarily a function of household demographics and dependency ratios, rather than gender-specific discrimination. It was shown, for example, that the child dependency burden was considerably higher among female-headed households than male-headed ones in a small study done in the Phalombe area of Southern Malawi (Chipande undated), although the actual numbers of dependent children in female-headed households were fewer. Perhaps the income stress of single-parent households encourages children to leave home in search of employment at a young age; maybe infant and child mortality rates in these households are higher; and, of course, fewer children are born to single-parent households.

Given the more binding time constraint in single-parent households and the resulting higher dependency ratio, it would be particularly interesting to see whether the trade-off between market and nonmarket activities is different (due to exogenous or behavioral reasons) for a female-headed from a male-headed one. Also, it would be interesting to examine the marginal cost, in terms of health and nutritional impacts, associated with one less hour devoted to nonmarket activities (such as feeding and household healthcare) as opposed to one less hour devoted to market activities. Differences in these relationships could explain differences in vulnerability for female- as opposed to male-headed households.

Furthermore, the vulnerability of female-headed households is evidently

exacerbated by discriminatory practices in the delivery of services, even when controlling for farm size (Centre for Social Research 1988). Female-headed households have lower rates of participation in credit programs and use less fertilizer and improved seeds. Only 16 percent of all farmers' clubs members in Malawi were women (IFAD 1986 cited in UNICEF 1986). Only 5 percent of credit recipients in Phalombe were women in 1981/82 (UNICEF 1986); and the limited available data on wage payment to workers on tobacco estates also indicate that women work at lower-paying jobs, and receive less for doing the same job, as their male counterparts (Vaughan and Chipande 1986).

These points give rise to a number of questions concerning association versus causation and whether associated outcomes are simultaneously determined by the same external or exogenous factors. For example, it is important to determine whether female-headed households are discriminated against in terms of plot size, access to credit, and attention by extension agents, and if so, why. Is much of the suspected discrimination, manifested in female-headed households having smaller landholdings, actually the result of their men having migrated in search of wage employment precisely because of the land constraint? If this is the case, many points in the cycle may be attacked to address poverty among female-headed households, including discouraging male migration through the promotion of technological change and the improved access to credit. Targeted welfare programs for female-headed households may in fact be the intervention of last resort. Similarly, are female-headed households not served by extension because of their gender, or because their holding sizes are smaller, or because they have a lower educational level than the average smallholder?

In sum, we need a deeper understanding of the characteristics of female-headed households. We should also compare them with other households to see whether differences in child nutritional status, access to credit, and consumption patterns remain after controlling for the household resource level. Better understanding of the causes and nature of poverty among female-headed households is a prerequisite not only to designing programs to deal with the problem, but to understanding how policy reform will affect these households.

CONCLUSION

Rural households with smallholdings (most of whom are engaged as wage laborers on customary lands and estates), estate tenants, female-headed households, and the urban poor will receive special attention in this study. These groups are probably the most vulnerable to food insecurity and poverty as a result of the historical evolution of Malawi's social, political, and economic system, and of the recent exogenous changes and endogenous policy responses.

Their behavior and characteristics must be understood, both with regard to their involvement in the evolution of the Malawian macroeconomy and their role and relationship to more recent policy reforms. The closer these groups are pushed toward or below the subsistence margin by exogenous factors and the pre- and postcolonial legacy of the structural development of the Malawian economy, the greater the importance of understanding the impact of recent policy reform on these groups in particular and on poverty in general.

We turn now to the issue of recent policy reform in Malawi. This initial review of the literature will survey the reform program and point to the links through which policy has affected both macroeconomic performance in general and the above discussed vulnerable groups in particular.

3. The Structural Adjustment Program in Context: Malawi before Adjustment

Malawi's development performance since independence has often been characterized as "impressive." Malawi has been commended for its high levels of production, for its agricultural export-led growth, and for its strong effort in mobilizing both domestic and foreign investment resources (Acharya and Johnston 1978). The country has been lauded for having sustained a reasonable rate of aggregate growth through a policy set that has revolved around export-led growth in agriculture, fiscal restraint, limited governmental regulation of markets, and general economic discipline.

Yet Malawi, like many sub-saharan nations, faced an economic crisis by the late 1970s and the early 1980s that called for reform and the adoption of a structural adjustment program. How did Malawi's economy culminate in crisis, given their policy orientation? To answer this question we turn to a historical overview of the economy's evolution since independence, tracing the events that led to the need for adjustment in Malawi.

EARLY GROWTH

Malawi's postindependence growth spurt stands out relative to other low-income sub-saharan african (SSA) countries. Average annual growth in GDP, which was about 4.9 percent in the 1960s, accelerated to 6.3 percent in the 1970s. SSA's low-income nations as a group, in contrast, averaged a growth rate of only 1.7 percent in the 1970s. Similarly, despite the rapid growth in population, Malawi's GNP per capita grew at a rate of 2.9 percent between 1960 and 1979. This figure was surpassed by only six countries in the region, all unlike Malawi, either small enclave economies or exporters of high-priced natural resources.

Malawi was also able to maintain its 1960 levels of aggregate per capita levels of food production through the 1970s, while other low-income countries in SSA saw an average drop of 12 percent in these levels over the decade.[29]

Malawi's extraordinary growth had been characterized by two factors: its strong efforts and performance with regard to (1) exports and (2) resource mobilization and investment.

Export Orientation and Performance

Aggregate growth has been strongly supported by Malawi's superior track record with regard to exports. Reflecting resource endowments and the government's export-oriented agricultural policies, Malawi's export trade is dominated by agricultural products. Exports valued at current prices experienced an average annual growth rate of 15 percent since the 1960s (table 13).[30] The mid-1970s were exceptionally good years. Annual growth rates averaged as high as 22.5 percent between 1973 and 1977. By 1977 the value of exports had grown to almost one-third of GDP. In contrast, other SSA countries on average fared much worse, experiencing an average annual export growth rate of -1.9 percent for the decade (World Bank 1983b).

Malawi's stature in its export markets grew notably. It ranks among the top three world producers and exporters of fire-cured tobacco[31] and third as an exporter of burley leaves. Its share of the world production and export of tea

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29 The information in this paragraph is based on data provided in the statistical annex contained in the World Bank's, *Accelerated Development in sub-Saharan Africa: An Agenda for Action* (1983b). This reference is the source throughout the study of data for SSA in general during the 1960s and early 1970s.

30 This growth rate takes into account the growth in quantity of exports, the change in the level of world prices, and the effect of exchange rate adjustments. The latter is particularly important since Malawi has had a series of devaluations and exchange rate policies that started with the unpegging of the kwacha from the US$, pegging it to the SDR first and then to a basket of currencies of major trading partners. The kwacha value of exports therefore tends to be inflated. Allowing for the deviations caused by exchange rate adjustments, the value of exports in US$ is estimated to have increased by 4.3 percent per year between 1965 and 1980 and by 1.1 percent between 1980 and 1981.

31 Firewood is used to cure the tobacco leaves. Currently, the shortage of firewood is identified as among the major constraints to the growth of the tobacco industry. The gravity of the problem in the forestry sector and the prospects of its growth are reviewed in French (1986). A review of Malawi's status in the various tobacco crops, the constraints on production and the prospects for future export growth can be found in *World Tobacco Situation* (United States Department of Agriculture 1988b).

stands at about 1.5 percent, making it the second major producer and exporter in Africa following Kenya (United States Department of Agriculture 1988a).

Several factors, both policy-related and exogenous, explain Malawi's fine performance in this regard. First, Malawi's trade regime has been characterized by relatively liberal exchange rate and trade arrangements. The Malawian kwacha was consecutively pegged to the British pound, to a weighted average of the US dollar and the pound and, in June 1975, to the SDR. The level of import duty through the 1970s was relatively low by African standards, ranging from 2 to 3 percent for machinery and equipment, to 20 to 45 percent for consumer goods and petroleum. The application of quantitative restrictions was also limited. Until the late 1970s and the early 1980s, the only restriction against imports had been an import licensing practice.

Second, domestic agricultural policy has aided the export sector by adopting measures to facilitate the growth and increase potential profit of estates, the national export enclave. Leasehold estates were legally designated as the sole producers of high revenue export crops, such as sugar, tea, and flue-cured and burley tobacco. On average, the estate sector contributed 35 percent of all export earnings.[32] In addition to establishing a legal barrier to entry of smallholders in these export crop markets, government policies also promoted export growth by easing estate access to inputs. This practice of granting licenses to grow burley and flue-cured tobacco in particular has contributed to the expansion of the estate sector at the expense of production of export crops and domestically consumed food crops by traditional smallholders. Ease of access to land has been and continues to be granted to estate developers. Long-term lease arrangements on both government land and customary holdings have been conducive to long-term capital investment. This, plus outgrower schemes and sharecropping, facilitated the expansion of estates into what had previously fallen under customary tenure.[33] Furthermore, the delivery of credit and supplies of inputs, such as pesticides, was also directed specifically to government sanctioned farmers. Similarly, estate products destined for export have been subject to more favorable pricing and marketing rules than smallholder products generally destined for domestic markets. For example, estates are free to sell through

32 A summary of Malawi's experience with respect to factors that precipitated the macroeconomic difficulties, policies adopted and their effect, and resource flows through the SALs is provided in Kydd and Hewitt (1986).

33 Negotiations and transactions with traditional chiefs, for example, have permitted estates to use customary land for export crop cultivation.

Table 13 – Malawi: Exports and Imports, 1967-1990

r	Exports			Imports			Exports/ Imports
	Exports of Goods and NFS (MK Million)	As Proportion of Nominal GDP	Growth Rate (%)	Imports of Goods and NFS (MK Million)	As Proportion of Noiminal GDP	Growth Rate (%)	
1967	49.00	0.227	...	68.90	0.320	...	0.711
1968	49.10	0.218	0.204	79.70	0.354	15.675	0.616
1969	58.90	0.241	19.959	85.30	0.349	7.026	0.691
1970	60.50	0.227	2.716	94.50	0.354	10.785	0.640
1971	72.70	0.217	20.165	106.50	0.318	12.698	0.683
1972	79.40	0.221	9.216	124.30	0.346	16.714	0.639
1973	100.60	0.250	26.700	136.80	0.341	10.056	0.735
1974	129.40	0.266	28.628	179.80	0.369	31.433	0.720
1975	148.00	0.261	14.374	252.00	0.444	40.156	0.587
1976	185.60	0.284	25.405	222.70	0.341	-11.627	0.833
1977	218.40	0.284	17.672	252.00	0.328	13.157	0.867
1978	168.90	0.211	-22.665	312.40	0.390	23.968	0.541
1979	200.50	0.232	18.709	353.10	0.408	13.028	0.568
1980	249.70	0.248	24.539	390.10	0.388	10.479	0.640
1981	284.40	0.257	13.897	348.60	0.315	-10.638	0.816
1982	280.20	0.225	-1.477	359.30	0.289	3.069	0.780
1983	298.20	0.208	6.424	407.10	0.284	13.304	0.732

1984	484.40	0.284	62.441	451.20	0.265	10.833	1.074
1985	475.00	0.235	-1.941	568.20	0.281	25.931	0.836
1986	491.30	0.216	3.432	555.60	0.244	-2.218	0.884
1987	620.20	0.233	26.237	675.10	0.254	21.508	0.919
1988	827.30	0.224	33.392	1,133.90	0.307	67.960	0.730
1989	817.10	0.163	-1.233	1,456.60	0.291	28.459	0.561
1990	970.60	0.171	18.786	1,660.70	0.293	14.012	0.584

Sources: *Data before 1978, World Bank (1982). Data after 1978, Reserve Bank of Malawi (1987,1988) and Malawi Government (1990).*

auction and individual arrangement with importers. In the absence of an export tax, estates have garnered the full international price less any marketing costs. Smallholder products destined for the domestic or foreign markets, in contrast, were subjected to an implicit tax. The smallholder producer's share of export revenue from the sale of tobacco was less than 50 percent throughout the 1970s (Christiansen and Southworth 1988). Nonetheless, gross margins from exported smallholder products were still higher than those to products destined for the domestic market.

Malawi's labor-intensive export sector was also assisted by policies restraining the domestic wage rate and restricting labor emigration to neighboring countries. Large direct government investment in estate production and infrastructural development (eg, roadways, electrification), funded by implicit taxation of the smallholder sector, contributed to the country's strong export performance in the 1970s.

In the final analysis, while it is clear that the export-oriented estate sector benefitted from the favorable rules that governed its production and marketing functions, it is unclear how overall export crop production would have fared without both the restrictions on smallholder production and the favorable treatment of the estate sector. It is increasingly evident, though, that these policies aided the estate sector to expand its share of earnings at the expense of smallholder production destined for the export market.[34]

Third, a number of favorable exogenous factors, not directly attributable to policy, contributed to Malawi's export experience in the 1970s. The economic embargo imposed on the former Rhodesia, a major tobacco producer and competitor in the world market, caused world supply shortages that benefitted Malawi. It also resulted in an exodus of many experienced tobacco growers from Rhodesia, and those who settled in Malawi brought skill and established market outlets (Christiansen 1984).

As a result of the embargo, as well as demand, Malawi's terms of trade fared moderately well throughout the decade. Between 1967 and 1970 it improved by

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34 Indeed, there is sufficient evidence that allocating quotas, regardless of type of tenure, will not compromise agriculture's position as the engine of export growth in Malawi, as will be discussed in section 5 of this report.

16 percent. Between 1972 and 1977, though, Malawi experienced a gradual decline in its terms of trade. However, the average annual growth rate of the terms of trade for the entire period 1970 to 1977 was still positive, resting at close to 1 percent. Malawi appears to have done better in this regard than other low-income SSA countries.[35]

In practice, then, the estate sector has been the engine of Malawi's good export performance, but the fuel for this engine has been the smallholder sector. But the two are not distinct and completely separate enclaves. Rather, they are involved in important interactions, both directly in the market and through the intermediation of the state. On the production front estates have, until recently, found access to labor services through tenancy arrangements and also enjoyed relatively open access to customary land. Subsidized fertilizer intended for the smallholder leaks to the estate sector at prices that are sometimes below the full cost price that the estates are required to pay. Other estates are engaged in an out-grower scheme whereby smallholder households provide their land and labor while the estate provides seeds, extension, and market for the produce. Likewise, through the rural labor market, estates find direct access to the labor of the smallholder sector which then benefits from employment, earnings, and remittances. The state has also been an important medium of interaction. Both by taxing the smallholder sector and by allowing easier access to financial capital of the banking sector for investment in the estate sector, it has assisted the expansion of the latter.

Savings and Investment Performance

Malawi's felicitous growth experience has also been explained by impressive levels of investment and domestic saving. The 1970s were characterized by restrained consumption and strong efforts at capital formation. In contrast to 1960, when public and private consumption exceeded GDP (and domestic savings stood at -4 percent of GDP), the 1970s were characterized by low consumption growth rates (averaging only four percent annually) that remained well below the GDP growth rate. By 1979, private and public consumption had declined to approximately 80 percent of GDP (table 14). Savings and investment benefitted from this decline.

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35 Using different data, the World Bank (1983b) reports the average annual growth rate of Malawi's income terms of trade for the entire 1970s as 3.5 percent, compared with an average annual growth rate of -0.8 for the set of all low-income SSA countries. The argument that Malawi did better than these countries during the shorter period of 1970-77 is made all the more strong by Malawi's sharp decline in its terms of trade in 1978, 1979, and 1980 (to be discussed below).

Table 14 - Malawi: Share of Final Demand Components in GDP, 1968-1990

	Private Consumption	Public Consumption	Total Consumption	Domestic Savingst	Private Investment	Public Investment	Total Investment
	Proportion of GDP						
1968-1970	0.77	0.16	0.93	0.08	0.10	0.11	0.20
1971-1973	0.75	0.13	0.88	0.12	0.11	0.11	0.22
1974-1976	0.77	0.12	0.89	0.11	0.09	0.14	0.23
1977-1979	0.65	0.16	0.81	0.17	0.11	0.16	0.27
1980-1982	0.65	0.18	0.83	0.17	0.05	0.12	0.17
1983-1985	0.69	0.16	0.86	0.14	0.05	0.08	0.13
1986-1988	0.73	0.17	0.90	0.09	...	...	0.15
1989-1990	0.82	0.14	0.96	0.04	...	...	0.18

Sources: *Data before 1978, World Bank (1982). Data from 1979 to 1986, Reserve Bank of Malawi (1987,1988). Data from 1987 to 1990, Malawi Government (1990).*

Investment growth in Malawi was distinctive. The investment-to-GDP ratio rose from 10 percent in 1960 to almost 30 percent in the late 1970s. Only nine countries in SSA, primarily those rich in minerals and oil, had a higher or comparable investment-GDP ratio by the end of 1970. Malawi's investment effort was shouldered primarily by the public sector. Due primarily to easy government access to concessional foreign capital and partly due to the crowding-out phenomenon, the share of public investment in total investment increased continuously while the private sector's share dropped. In 1977 public investment accounted for over 60 percent of national investment.

These figures illustrate the importance of the public sector to Malawi's growth. The size of the government, as measured by its expenditure, had increased rapidly since independence. Average yearly growth rates of government expenditure at current prices were well over 10 to 15 percent for most of the period since the 1960s. As a proportion of GDP, government expenditure averaged close to 26 percent, surpassing 30 percent in several years.

The growth of public sector expenditure, reflected in the aggregate investment figures above, was largely due to the emphasis on public investment. Postindependence Malawi, until the crisis era of the 1980s, can be characterized by two distinct periods. The first corresponds to the initial postindependence period, when the government was engaged in creating the administrative networks and the civil service sector. The civil servants expanded from 10,745 people in 1964 to 50,008 in 1987. Together with the number of people and facilities, government expenditure also increased. In the late 1960s, recurrent expenditure accounted for 70 to 80 percent of total expenditure. The second phase, beginning in the 1970s, emphasized development of the economy's material and technical base. It accounts for the public-sector-driven, investment-led growth that characterized Malawi's development. The high investment in roads, transportation, and institutions to support and monitor private sector growth led to quick growth in development (ie, capital) expenditure during this period. The share of such expenditure within the total government budget grew from 21 percent in 1967 to 38 percent by the end of the 1970s.

Much of this expenditure was channeled through public enterprises. Few such enterprises were inherited from the colonial past, but their numbers expanded, along with their role. The postcolonial government established over 20 parastatals, which greatly contributed to the expansion of investment. Moreover, until 1979 most public enterprises operated with substantial profits.

Their consolidated account, excluding the subsidiaries, showed profit earnings close to 3 or 4 percent of GDP for most of the period.[36] Up until that time, Malawi's public enterprises not only financed part or all of their investment from internally generated funds but contributed positively to the national budget.

LOOMING PROBLEMS

Malawi's early growth did not last. Although it generated relatively fast growth through most of the 1970s, the country's export- and investment-led growth strategy was also partly responsible for the development of critical difficulties by the latter part of the decade. If the two-pronged strategy was not the direct cause of Malawi's structural weakness, it certainly increased Malawi's vulnerability to the shocks that occurred in the late 1970s. Furthermore, it exacerbated the symptoms.

First, while exports had grown to command 28 percent of GNP, the composition of exports had become highly concentrated. Malawi became increasingly vulnerable to movements in the international prices of a few commodities. In fact tobacco, tea, and sugar, in that order, accounted for most of the export revenue (table 15). Th two-commodity concentration ratios for tobacco and tea increased from 61 percent in 1965-67 to 77 percent in 1989-90. The three-commodity concentration ratio, which includes sugar, had reached 86 percent by 1989-90. Tobacco alone accounted for over 60 percent of the exports during the latter half of the 1980s, compared with just over 30 percent in the late 1960s. Groundnuts, cotton, and pulses, the other export crops, had all decreased in importance during the past 20 years. Moreover, exports of manufactured goods were insignificant and limited to textiles, processed food (including sugar), and fishing nets.[37]

Second, aside from encouraging export growth, Malawi's open economy policy also resulted in an increased reliance on imports. Together with a change in the composition of imports favoring intermediate goods such as oil, this contributed to Malawi's vulnerability to the exogenous world price shocks that characterized the 1970s.[38]

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36 The information can be found in Malawi Government (various years d).

37 Only 10 percent of all export revenue in 1977 was from sources other than tobacco, groundnuts, tea, cotton, and sugar.

38 In 1970 consumer goods accounted for 18 percent of total imports while auxiliary materials and intermediate goods accounted for 45 percent. In 1977 consumer goods' share of imports had fallen to 14 percent while auxiliary and intermediate goods accounted for 50 percent of imports.

Table 15 – Malawi: Compostiion of Exports by Commodities, 1965-1970

	Tobacco	Groundnuts	Tea	Cotton	Sugar	Other
	Proportion of Total Exports					
1965-1967	0.32	0.14	0.29	0.07	...	0.18
1968-1970	0.36	0.13	0.27	0.05	0.00	0.18
1971-1973	0.45	0.11	0.22	0.04	0.02	0.16
1974-1976	0.46	0.07	0.19	0.02	0.13	0.13
1977-1979	0.55	0.04	0.20	0.01	0.09	0.11
1980-1982	0.49	0.05	0.15	0.01	0.17	0.14
1983-1985	0.50	0.01	0.23	0.01	0.09	0.16
1986-1988	0.60	0.03	0.12	0.00	0.10	0.15
1989-1990	0.63	0.00	0.14	0.02	0.09	0.09

Sources: *Reserve Bank of Malawi (1987,1988); Malawi Government (1990).*

Third, the extent and nature of government public investment in the 1970s had its costs. As discussed earlier, it resulted from a contraction of consumption, primarily by the private sector. Between 1967 and 1979, the share of private consumption in total GDP fell by 23 percent of its value, while the share of public consumption in total GDP rose by 19 percent of its value. Furthermore, these public sector figures reveal that investments, in focusing specifically on the productive sectors, may have left social service infrastructure relatively unattended. In 1978, for example, Malawi allocated approximately 17 percent of total government expenditure to social services, while sub-Saharan Africa as a whole allocated an average of 26.3 percent to social services.[39] In 1977 and 1978 close to 50 to 60 percent of capital expenditure went to economic services, which include material and services production, while less than 13 percent was allocated for social services.[40] Low levels of investment in social service infrastructure, perhaps partly explaining longer term phenomena such as the persistence of high levels of illiteracy and infant mortality, left Malawi ill-prepared to provide the social services required to protect its poor in the acute economic crisis in the 1980s.

Fourth, while Malawi boasted of high levels of investment, they were not sustainable on two counts. Most important, the investments made with mobilized resources called development expenditure, were often used to finance public projects that were unlikely to have high returns, such as an international airport, military aircraft, palaces, and colleges (Roe and Johnston 1988). This expenditure had risen to more than 18 percent of GDP. This issue increases in importance, given the second count; these resources were largely mobilized from abroad, and at increasing rates of interest.

On the government sector account, while recurrent expenditure was more

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39 Malawi's total net expenditure as a share of GDP was close to the mean values for SSA (Sahn 1990), which implies that the spending on social services as a share of GDP was also low relative to the rest of the continent.

40 Data on the allocation of government capital expenditure is scanty. These data come from the IMF (various years b) *Government Finance Statistics*.

than covered by recurrent revenues, the deficit on the development expenditure side caused aggregate fiscal budget deficits throughout the 1970s. While, the fiscal deficit was partially funded domestically through banks and other sources, much of the financing had to come from abroad.

An examination of aggregate national investment tells a similar story. Domestic savings could not cover total national investment (table 14).[41] As a result, public and private investment, as well as Malawi's fiscal deficit, was increasingly financed by foreign sources. Increasing levels of foreign financing would imply serious debt difficulties for Malawi come the 1980s.

The changing composition of external financing rendered the difficulties all the more acute. Specifically, borrowing from commercial sources increased throughout the 1970s.[42] Debt due to commercial sources had increased from approximately 10 percent of the total in 1973 to 33 percent of the total by 1978.

This increased reliance on foreign commercial sources of finance toward the end of the decade exposed Malawi to their less favorable terms. Whereas the interest rate on loans from official creditors averaged between 2 and 4 percent, loans from private sources ranged between 11 and 15 percent. Whereas loans from official sources had 8 to 10 year grace periods, that from commercial sources had 2 to 3 year grace periods. Whereas credit from official sources had maturity periods of over 25 years, that from private sources had maturity periods ranging from 8 to 9 years.

EXOGENOUS SHOCKS AND THE ONSET OF CRISIS

The four factors outlined in the previous section, partly resulting from policy decisions and partly from economic mismanagement, made Malawi especially vulnerable to the shocks that began to buffet the country by the end of the 1970s.

Given the concentration of exports and the volume of imports, Malawi was ill-prepared to face the dramatic fall in its terms of trade at the end of the decade. The average annual growth rate of Malawi's terms of trade for the period 1970 to 1977 had been 0.7 percent, but in the 3 years following 1977 it *fell* at an average rate of 15.5 percent a year (table 16). In 1980 it was less than 56 percent of its

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41 Although domestic savings grew from 13 percent of GDP at the end of the 1960s to around 20 percent by the end of the 1970s, it still covered less than half of the total cost of investment in 1978. In 1979 and 1980 the rate of domestic financing of investment dropped to 37 percent and 31 percent, respectively.

42 It was commercial borrowing, for example, that financed the expensive construction of the 180,000 MT strategic grain reserve in the early 1980s. The increasing share of commercial financing is evident in debt share figures by source

1970 level. The sharp fall in the terms of trade index was due both to a drop in the prices of all of Malawi's exports and to increases in the prices of imports. For example, the export price index for Malawi's leading export, tobacco, fell by 53 percent between 1977 and 1980. At the same time, Malawi faced a second oil price shock, with the cost of petroleum expanding to account for 10 percent of the value of all imports.

The terms of trade crash was partly due to the shutdown of transport routes out of the country. Malawi faced a sharp increase in transportation costs as a result of the ongoing war in Mozambique. The Beira route was progressively less used until it was closed in 1983. The Nacala line has been subject to the same problems. As a landlocked country, Malawi has inevitably been subject to high costs of freight, insurance, and handling for both export and import goods. The consequences of the recent trade diversion, however, have been phenomenal. In 1985 the Ministry of Transport estimated the economic cost of transport diversion in 1983 to have been US$30 million and the cost index of rail handling of imports and exports at 35 percent more than that in 1980 (Malawi Government 1985).[43] Consequently, the spread between the c.i.f. and f.o.b. price increased dramatically. While the difference between c.i.f. and f.o.b. values for exports averaged 19.5 percent between 1967 and 1971, the gap had dropped to an average of 8.6 percent between 1982 and 1986. Similarly, the spread increased on the import side during the same period from 28.3 percent to 46.4 percent, decreasing returns to importers.[44] As a result, the deficit on the NFS account increased from about 5 percent of GDP in 1967 to over 10 percent in the late 1970s and early 1980s.

To compound the balance-of-payments difficulties, adverse movements were also experienced on the factor services account during the same time. This was caused primarily by the increasing interest burden from the foreign debt accumulated since the mid-1970s. The repatriation of wages and profits earned by foreign capital and labor employed in Malawi also exacerbated the situation, albeit to a somewhat lesser extent (Reserve Bank of Malawi 1987).

Internal development exacerbated the economic crisis, which occurred because of a downturn on the external account. Malawi was hit by drought in

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43 The railway was almost closed in 1986. Of the 0.66 million tons of foreign trade in 1986, the railway handled only 2,000 tons. The necessary rerouting of foreign trade from ports in Mozambique to the port of Durban in South Africa increased the distance traveled from about 700 to 3,150 km.

44 The spread is even higher if we take the extreme years individually. Also, the increase in the spread in the latter year is partly a result of the increase in the import tariff.

Table 16 – Malawi: Terms of Trade and Quantum Indices of Exports and Imports, 1967-1990

Year	Terms of trade (TOT)					Quantum Indices	
	Tobacco	Tea	Sugar	Ground-nuts	Ag-gregate TOT	Exports	Imports
1967	1.60	2.18	...	0.73	1.53	...	...
1968	1.51	2.13	...	0.91	1.59	...	...
1969	1.83	2.03	0.95	0.92	1.64	...	...
1970	2.20	2.43	1.01	1.14	1.77	...	...
1971	1.87	0.93	1.14	1.00	2.29	36.30	51.10
1972	2.12	2.16	0.80	1.08	1.65	53.00	87.80
1973	1.97	1.85	1.39	1.01	1.59	56.30	83.10
1974	1.86	1.64	3.11	0.87	1.49	55.80	85.10
1975	2.00	1.63	1.81	0.72	1.44	57.50	96.70
1976	1.97	1.48	2.24	1.08	1.40	60.90	70.70
1977	2.11	2.04	0.95	1.30	1.66	68.50	82.40
1978	1.93	1.38	0.93	1.52	1.49	65.40	108.30
1979	1.36	1.26	0.91	1.26	1.18	83.70	109.30
1980	1.00	1.00	1.00	1.00	1.00	100.00	100.00
1981	1.33	0.91	1.07	1.34	1.22	79.30	84.20
1982	1.63	1.03	0.66	0.83	1.23	82.40	80.10
1983	1.42	1.18	0.58	0.81	1.13	109.20	80.40
1984	1.24	1.94	0.60	0.85	1.18	79.40	64.10
1985	1.04	1.47	0.75	0.61	1.01	94.80	81.30
1986	1.11	0.80	0.50	0.60	0.88	98.93	78.99
1987	1.10	0.63	0.63	0.38	0.85	104.21	66.41
1988	...	...	...	...	0.82	103.61	77.66
1989	...	...	...	...	0.77	93.75	84.21
1990	...	...	...	...	0.71	107.01	84.78

Sources: *Reserve Bank of Malawi (1987, 1988); Malawi Government (various years a, 1990).*

1980/81. Agricultural production dropped. The agricultural sector recorded growth rates of -6.5 percent in 1980 and -8 percent in 1981. Consequently, large levels of food imports were required. The war in Mozambique, furthermore, exacerbated the nascent crisis. The massive influx of refugees from Mozambique placed additional demands on a distressed government budget and on the

drought-generated food shortage.

Finally, parastatals, previously considered a growth pole, became a drag on the economy as their financial position deteriorated. Malawi's public enterprises were unable to adjust to developing adversities, partly because of the size and nature of shocks. Institutional rigidities and economic mismanagement also limited their adaptability. The Agricultural Development and Marketing Corporation (ADMARC) registered overall deficits when the terms of trade deteriorated, and surpluses on its tobacco account could no longer support the inefficient crop handling and the related consumer subsidies on its food crop accounts. Malawi Railways suffered from increasing fuel costs. The Electricity Supply Commission incurred losses because of the transportation problem. The government budget, already in deficit, was further strained in meeting the increased subsidy requirements of these public enterprises. Furthermore, Press Ltd., a private enterprise with close state affiliation, also became a burden on the economy. A large holding company with subsidiaries in most sectors of the economy, Press encountered financial difficulties by 1979, and its cash needs strained Malawi's commercial banks and restricted credit extended to the rest of the private sector.

The net effect of these factors was economic crisis by the 1980. The MK113 million budget deficit for 1981, over 10 percent of GDP, was the largest ever recorded. Twenty percent of government recurrent expenditure in that budget was now needed to pay for the increasing interest burden on debt. The debt had grown to almost two-thirds the size of GNP, while the principal and interest to export ratio was close to 20 percent. Meanwhile, export revenue was falling far short of import costs. Imports' share in nominal GDP had increased from 32 percent in 1967 to 40.8 percent in 1979. The cost of the import basket in 1980 was 55 percent greater than it was three years earlier. Yet the size of the basket was 8 percent smaller. Due to increasing transportation costs, the nonfactor services account recorded a deficit of 11.5 percent of GDP in 1979, and the merchant trade balance that year was close to -£.5 percent of GDP. Both represented the lowest recorded levels ever for Malawi (except for the merchant trade balance in 1975). The current account deficit was deteriorating at an alarming rate. It increased by close to 100 percent between 1977 and 1978 and worsened by another 45 percent between 1978 and 1979. In 1980 the current account deficit was one-fifth of GDP. GDP growth itself, which had begun to slow, stalled in 1980. In 1981 Malawi's GDP fell, registering a negative growth rate of 5.2 percent.

4. Malawi's Structural Adjustment Program in A Nutshell

The Government of Malawi reacted to this crisis with a stabilization and structural adjustment program, supported by the IMF, World Bank, USAID, and other donors.[45] This adjustment program has had a significant impact in the evolution of the macroeconomy throughout this decade and continues to define Malawi's policies.

OVERVIEW

In order to reduce the fiscal deficit, Malawi initiated a series of short-term demand management policies under a two-and-one-half-year IMF stand-by facility in 1979 (Zulu and Nsouli 1985). The program called for the raising and diversifying of revenue sources, the cutting of government expenditure, the limiting of new credit and its diversion to the private sector, and the rationalization of interest rates. The program stalled when credit ceiling requirements were not attained, largely due to the unforeseen need to use commercial credit for emergency imports resulting from the drought. As a result, a second stand-by loan was negotiated to last through mid-1982.

Under the new arrangement certain duties and sales and excise taxes were to be increased, a ceiling was to be placed on aggregate government expenditure, effectively calling for their decline in real terms, and development expenditure was to be limited to funds available from foreign aid. However, once again the government had difficulty attaining targets. Growth in government revenue was slow, in spite of the revisions in tax rates and the introduction of new revenue sources. The continued need for imports kept expenditure above targeted levels. Interest payments to foreign creditors continued to adversely affect the fiscal and balance of payments situations. As a result, the aggregate credit level and the level of central bank credit to the government also rose beyond the budgeted level. Malawi became ineligible for further drawings under the existing facility

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45 This overview of the adjustment program has been drawn from information and discussion presented in World Bank SAL documents (1981, 1983a, 1985b, and 1988a) and from Roe and Johnston (1988).

after September 1981. However, by then the country had access to the first tranche of its first structural adjustment loan from the World Bank.

Malawi's first structural adjustment loan (SAL I), was approved on June 4, 1981 in the amount of US$45 million. Phase one of the adjustment operation targeted three broad medium-term objectives: increasing the real GDP growth rate to 4.8 percent; diversifying the sources of export earnings while increasing the role of smallholders in foreign exchange generation; and improving both internal and external balance through better financial management of public enterprises and the government budget. To accomplish these goals, SAL I addressed problems in the areas of balance of payments, prices and incomes, resource management, and institution building.

The initial SAL called for substantial policy and price review and study, together with reviews of several public enterprises. Actual reform concentrated on the liberalization of prices, the increased generation of revenue, the revision of public expenditure targets, and the strengthening of several public institutions.

More specifically, to improve balance of payments, smallholder producer prices on export crops were to be raised and measures were to be taken to make ADMARC, the parastatal charged with agricultural marketing, more efficient. Pivotal to the functioning of the smallholder sector and also important purely in terms of the budgetary resources committed to it, ADMARC was to become a major focus of reform efforts.

Prices and wages were to be reviewed with a view to improving flexibility. Public utility rates were to be raised. In conjunction with IMF stand-by requirements, the exchange rates and interest rates were to be frequently reviewed. With respect to resource management, external borrowing by domestic banks and the government was to be monitored. The government investment program called for revised recurrent and development expenditure targets that increased the commitment to the agricultural and other key economic sectors such as education, health, and housing. Finally, with regard to institution building, steps were to be taken to assist government and public enterprise in planning and financial management, and a committee was to be instituted for the coordination of public investment.

Several other IMF facilities supplemented SAL I. After the reinstitution of a stand-by arrangement in August 1982 to replace the inactive facility, a buffer stock financing facility involving close to US$65 million was arranged in December 1982. A compensatory financing facility was made available in February 1983. In September 1983, a three-year extended fund facility was also provided to smooth the implementation of the adjustment program's first phase.

SAL I's success with implementation was mixed. Some agricultural prices were adjusted in 1982 and 1983. The government agreed to liberalize industrial price controls as well, and began to devise a timetable to do so. The government appointed a new general manager of ADMARC and prepared a program and timetable for specific measures to reorganize the corporation. On the issue of resource mobilization, the Malawi Government prepared a public sector investment program (PSIP) and took a number of measures to increase government revenues. Taxes were imposed on hotels and entertainment, and income taxes were made applicable to insurance companies. In addition, the maximum income tax rate was increased, as were surtaxes, import levies, excise duties, and vehicle fees. Cost recovery measures were also taken. User fees were increased for forest industries in 1981, for water usage in 1982, and for house rents and primary and secondary schools by 1983. Only moderate rate increases were undertaken by the parastatals such as Air Malawi, Malawi Railways, Electricity Supply Commission (ESCOM), and Blantyre Water Board (BWB). With respect to the external account, the kwacha was devalued by 15 percent (relative to the SDR) in April 1982 and by another 12 percent in September 1983. Interest rates also rose: the deposit rate climbed 2 percentage points in May 1983 to 10.75 percent. Moreover, a unit was set up within the Ministry of Finance to monitor external debt. With regard to institutional reform, an investment coordination committee was established, and the reform of Press (Holdings) Corporation was initiated. A new agricultural subsidiary was to become the prime focus of Press; minority holdings were slated for eventual sale; and the government was to pay off Press's debt to commercial banks in return for income notes and convertible preferred stock in the company.

Initial implementation of SAL I, however, was slow in most areas. A World Bank mission to review Malawi's progress in late 1981 found the growth rate of recurrent expenditure at over 15 percent above the targeted growth rate of 8 percent. Revenue growth, meanwhile, dropped as a percentage of GDP between 1980 and 1982. Despite the new measures, limited cost recovery curtailed expenditure on social services. Many of the studies committed to, moreover, had not been undertaken. Despite the reforms, the problems they were meant to address persisted. Moreover, they were exacerbated by adverse movements of international prices and bad weather, which also slowed the pace of reforms. A 66 percent increase in the price of maize and a simultaneous increase in the cost of inputs was not matched by comparable increases in the producer prices of export crops, causing a fall in relative and absolute returns to most export crops. Public enterprises continued to flounder; the balance of payments and government budget continued to deteriorate. The disbursement of the second tranche of the adjustment loan was delayed until April 1982, when the Government of

Malawi showed renewed commitment to the program by undertaking the delayed studies and adopting a realistic budget for 1982.

In the face of these problems, the signing of the SAL II of US$55 million was delayed until January 1984. While revising the targeted growth rate to a more realistic 3.4 percent over the next five years, this second phase of the adjustment program was intended to continue the reform initiated in the first phase. For example, smallholder producer prices were to be further increased, the revenue-to-GDP ratio was to be maintained at 1982/83 levels, and the budget was to assure the assignment of enough resources to agriculture, education, road maintenance, and other key development sectors. Meanwhile, recommendations to improve the efficiency of parastatals, including the annual review of parastatal accounts and increases in parastatal tariffs, were to be acted upon in accordance with reports completed in phase one. Similarly continued improvements were to be made in the management and finance of statutory bodies and, specifically, in strengthening those working on external debt and investment screening.

SAL II addressed two important issues not addressed in SAL I. The first was fertilizers. SAL II committed the government to a phased removal of its entire fertilizer subsidy by 1985/86, with a 50 percent reduction in 1983. Moreover, the government committed to procure and distribute fertilizer to smallholders and to contribute to the establishment of a fertilizer revolving fund. A second significant aspect of phase two of the adjustment program was the government's commitment to implementing important measures to improve the operation of ADMARC. These included reducing ADMARC's marketing costs by cutting the number of markets in which it operated, limiting ADMARC's investments to those that were related to marketing and processing, and increasing the role of the private sector in this regard with a view to improving crop marketing and distribution. These two prongs of the adjustment package, the fertilizer subsidy removal program and the revision of ADMARC's role, have represented two of the more controversial and debated aspects of the entire structural adjustment program and will be the focus of more extensive discussion in the section to follow.

Progress under SAL II appeared promising. By September 1985 the prices of 47 commodities that had been controlled in 1983 were no longer controlled, including several in the industrial sector. The Press restructuring agreement was signed in December 1983. Several parastatals – Malawi Railways, ESCOM, Air Malawi, Malawi Housing Corporation, and the Blantyre and Lilongwe water boards – had increased their rates. The 1984/85 budget, by increasing the import levy, customs duty, surtax rate, vehicle fees, and rent on leasehold land (by 300

percent), boosted the revenue to GDP ratio above the targeted figure. Another three-year public sector investment program was developed for the fiscal years from 1984/85 to 1986/87. With respect to fertilizer procurement and subsidy, a fertilizer revolving fund was established within the reserve bank with the International Fund for Agricultural Development/International Development Association (IFAD/IDA), which was subsequently replenished by USAID funds. While the government continued to subsidize that portion of fertilizer cost resulting from extended transportation routes, it supposedly removed all other components of the subsidy in 1984, announcing fertilizer prices based on the import parity price. The kwacha was tied to a basket of currencies and devalued by 3 percent in January 1984. In September 1984 smallholder agricultural crop prices were announced at agreed levels. Barring an overallocation (with respect to initial credit negotiations) of the development budget to "government buildings," which delayed the second tranche release by six months, the second phase of Malawi's structural adjustment program progressed relatively smoothly.

The government's adherence to SAL II guidelines, coupled with GDP growth rates of 3.6 percent in 1983 and 4.5 percent in 1984, helped expedite the approval of SAL III in November 1985. Backed by a US$100 million credit from the Bank and US$15 million from USAID, the third SAL targeted an annual GDP growth rate of 3.5 percent per annum and the consolidation of gains already made and addressed existing weaknesses. Specifically, new commitments were made to complete the agricultural price liberalization program so as to serve the goals of food self-sufficiency, export promotion, and crop diversification. The fertilizer subsidy, which was maintained to compensate for the longer transportation routes, was to be eliminated by 1989/90. The estate sector was to be supported with a pilot scheme to provide medium- and long-term credit and with an extension and management training program. While continuing the active exchange rate policy, measures were to be taken to complete the development of an export promotion policy and to set up an export financing facility. The third SAL also committed the government to adopting a strategy for restructuring the tax system. With respect to public sector management, measures were to be taken to strengthen and reorganize the policy-making staff of the office of the president and cabinet, to strengthen the monitoring of parastatal operations, to accelerate the rationalization efforts of ADMARC while expanding the role of private traders in agricultural marketing, and to continue monitoring and rationalizing the operations of the Malawi Development Corporation (MDC) and Press (Holdings).

In 1986, however, the economy once again showed signs of weakness, and progress faltered. Development expenditure dropped from 36 percent of total

government expenditure in 1982 to 23 percent in 1986. Similarly, problems were evident with respect to the external account. The progressive disruption and closure of rail lines to the ports of Mozambique contributed to the decline in Malawi's terms of trade. Furthermore, net foreign financing actually declined in the latter half of the decade, partly due to high amortization rates of earlier loans whose rescheduling grace periods had terminated. As a result of these developments Malawi's current account deficit was at about 5 percent of GDP by 1987. Moreover, having almost depleted reserves, the GOM resorted to increased rationing of foreign exchange. Under these circumstances, after the termination of the extended fund facility in September 1986, Malawi Government and IMF could not reach any agreement on the extension of further facilities to Malawi for 1986 or 1987.

The World Bank, however, extended a SAL III supplemental credit to Malawi in January 1987. Several rectifying measures were subsequently taken by the government, in consultation with the Bank and the Fund. A new fiscal program restraining expenditure and generating revenues assisted in limiting the fiscal deficit to 10.7 percent of GDP in 1987/88. Bank lending rates increased by 4 percentage points and deposit rates by 3 points. In February the kwacha was devalued by 20 percent against its currency basket. Initial steps of the tax reform program were also taken. However, these measures were taken in the face of continued deterioration in critical economic indicators. The terms of trade continued to slide, emergency maize imports were required to fulfill food needs, inflation rose to 25 percent, real GDP fell, and the debt service ratio rose above 40 percent going into 1988, forcing Malawi to seek debt rescheduling.

By mid-1988, the government, once again working with the Bank and the Fund, adopted a shadow stabilization program designed to reduce the fiscal deficit. A 15-month IMF stand-by of US$18 million was organized by March 1988. It called for the reduction of the fiscal deficit to 9 percent of GDP in 1988/89, the maintenance of flexible interest and exchange rates, the limiting of monetary and credit expansion, the elimination of commercial trade arrears by June 1988, and the commencement of a phased import liberalization program. At the same time the IMF and World Bank prepared a policy framework paper (PFP) for Malawi covering the period between 1988/89 and 1990/91. A three-year enhanced structural adjustment facility (ESAF) for US$75 million was also negotiated to cover the same period. In concentrating on the external sector, the public sector, and sectoral reform, the ESAF was to supplement the stand-by.

The World Bank, meanwhile, had expressed an intention to "move away from broad-based SALs to a series of policy-based sectoral operations, designed to address remaining structural constraints in the key productive sectors" (World

Bank 1988g). In making this move, the Bank approved an industrial and trade policy adjustment (ITPA) credit for US$70 million in 1988. This program focuses on the liberalization of the foreign exchange allocation system, the promotion of appropriate exchange rate policy, and the establishment of a duty-drawback system and an export revolving fund to benefit exporters. The removal of legal provisions that inhibit the entry of new firms in industry was also committed to under this agreement.

Finally, an agriculture sector adjustment credit (ASAC) was approved in 1990. It includes agreements to legalize the production of burley tobacco on a limited basis among smallholders and to discourage the transfer of land from the smallholders to the estate sector. The proposals also include measures that would raise rents on leasehold land, partially privatize the distribution of fertilizer, and partially liberalize official maize prices to reflect transportation prices to and from ADMARC's 22 main depots. The ASAC also stresses research leading to the development of a maize variety with acceptable storage and processing qualities.

SUMMARY

The reform program undertaken by Malawi has dictated national economic policy for an entire decade. Combining World Bank structural adjustment measures with IMF stabilization prescriptions, the program was structured to achieve multiple ends. First, it sought to attain both internal and external balance. Second, by manipulating demand and restructuring supply, policy reform also targeted growth.

From the above overview of the chronology of the adjustment program, moreover, it becomes evident that the attainment of these multiple objectives has been tied specifically to policy reform in five major areas. First, price reform together with privatization, particularly with respect to agricultural markets, has represented a major facet of the structural adjustment program. The increased producer prices for most agricultural products and the increased role for private traders in marketing agricultural products have contributed to increased agricultural production. Second, price liberalization has also directly and indirectly affected the industrial and service sectors. A third area of policy reform has been in exchange rate and trade policy reformulation. Exchange rates have been devalued in an attempt to boost exports and counter the balance of payments crisis. Fourth, interest rate liberalization has been implemented in order to increase the mobilization of domestic savings and to control demand. Fifth, fiscal policy reform has called for increased resource mobilization through higher levels of taxation, among other means. Partly to control fiscal deficits and restrict demand for stabilization purposes and partly to foster economic

privatization for structural adjustment purposes, policy reform has also entailed a reduction in government expenditure on aggregate, the institution of a more rationalized public sector investment program, and associated efforts to revamp and revitalize Malawi's public enterprises.

We now turn to a more detailed analysis of the evolution of the Malawian macroeconomy under structural adjustment. We are interested, specifically, in the links between the macroeconomic outcomes of adjustment and the welfare of the more vulnerable segments of the Malawian population, who were discussed in section 2. To do so, we examine each of the above five policy sets in more detail. First is an analysis of the effect of agricultural pricing and marketing reform on sectoral output, national food availability, and rural welfare. Second is a closer study of changes and prospects within the industrial and service sectors. Third is a discussion of the effect of exchange rate policies on the external balance and their likely effect on the poor. Fourth is a treatment of the effects of recent monetary policy under structural adjustment. Fifth is an analysis of the effects of fiscal policy reform on fiscal balance, particularly, in the way Malawi's vulnerable populations are affected by changes in the government allocation of resources to social services.

5. Evolution of the Economy Under Structural Adjustment

AGRICULTURAL PRICING AND MARKETING REFORM

Introduction

Structural adjustment seeks to alter the allocation of resources to increase production and productivity, primarily by altering the relative prices and the structure of incentives. This characteristically involves initiatives that raise the incentives for production of tradables relative to nontradables. In the case of agricultural economies such as in Malawi, this has made the agricultural sector the most important target of reform.[46] It should be no surprise that the conditionality associated with Malawi's first three SALs and the policy reform efforts in general focused heavily on agricultural reform. Indeed, given that the exchange rate policy changes have had little effect on actual prices faced by smallholders in agricultural input markets, agriculture-specific pricing policy has had the greatest impact on the agricultural sector.

As intimated earlier, the dual nature of agriculture in Malawi has been a significant factor in explaining the country's economic linkages and outcomes. The subsistence-oriented smallholder sector, operating in land administered under customary law, accounted for close to 80 percent of Malawi's agricultural production in 1990 (table 17).[47] Smallholder production is concentrated on maize, cassava, and other subsistence crops, as well as cash crops such as cotton, groundnuts, and oriental, sun- and air-cured tobacco. Crop choice, however, is based not solely on subsistence requirements, but also on crop regulation. Indeed the law has forbidden the smallholder sector from growing certain export-oriented cash crops: burley and flue-cured tobacco, tea, and sugar.

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46 Agriculture accounted for 58 percent of GDP in 1960, 40 percent in 1979, and 37 percent in 1987.

47 The share of estate sector production in agricultural GDP increased from about 17 percent in 1978 to close to 23 percent in 1983. After a slight retreat in subsequent years, it has again risen to over 23 percent in 1988 (table 17).

Table 17 – Malawi: Estate and Smallholder Production as a Percentage of Real Agricultural GDP, 1978-1990

Year	Real agricultural GDP	Estate	Smallholder
	MKmn	Percent of GDP	
1978	294.90	0.17	0.83
1979	304.10	0.17	0.83
1980	284.20	0.19	0.81
1981	261.00	0.19	0.81
1982	277.60	0.22	0.78
1983	289.90	0.23	0.77
1984	306.50	0.21	0.79
1985	307.40	0.21	0.79
1986	308.00	0.21	0.79
1987	312.50	0.22	0.78
1988	318.70	0.24	0.76
1989	329.70	0.25	0.75
1990	346.50	0.23	0.77

Sources: *Reserve Bank of Malawi (1987, 1988); Malawi Government (1990).*

While a large portion of smallholder production is consumed domestically, marketed production is subject to marketing and pricing regulations. Smallholders have traditionally had little option but to sell their produce to the state-owned marketing agency, ADMARC, which is also their primary source of inputs such as fertilizer. Thus the setting of producer and input prices is a powerful policy tool for the government and an important determinate of cropping patterns and production, as well as of marketed levels and of household food security.

The estate sector differs from the smallholder sector on every count. As discussed earlier, having historically targeted export crop production as the vehicle for growth and the estate sector as the pole upon which to hinge such growth, the government has attempted to institute production, pricing, marketing, and land tenure policies accordingly. Given these initial rules of the game,

the earlier discussion of how the two subsectors have interfaced is particularly relevant. They compete for the same resources and are linked through the input, land, and labor markets.

Structural adjustment policies have thus been applied to an agricultural sector with strongly defined institutional cleavages. In particular, as can be gleaned from the overview of reform programs discussed in the section above, adjustment has concentrated on smallholder sector reforms. Three major agricultural sector reforms have been prominent. First, producer prices of agricultural commodities have been increased. Since undertaking the program, Malawi has altered the producer prices of both its export commodities and its main food commodities. Second, the adjustment program has aimed at removing the subsidy on fertilizers for smallholders. Third, adjustment has meant the privatization of the important grain marketing function traditionally carried out by ADMARC. We address each of these issues in turn, turning first to the pri[illegible] objectives of the reform program. This is followed by a brief discussion o[illegible] limited structural change that has characterized the estate sector, focusing [illegible] the linkages with the performance of smallholder agriculture in general and the welfare of the rural poor in particular.

Smallholder Agriculture under Adjustment

Price reform. Price reform in Malawi has had two objectives: increasing agricultural producer prices in general, and raising the relative prices of export commodities in particular. Both aim at raising incomes in the agricultural sector, specifically among smallholders. Both objectives are also characteristically based on the elimination of the high levels of taxation on smallholder production that were prevalent in preadjustment pricing (Christiansen and Southworth 1988). Thus, a move toward an undistorted incentive structure was expected to encourage increased agricultural production in aggregate. Moreover, the increase in relative prices of export commodities implied by such a move was to contribute to the economy-wide allocation of resources toward the production of tradables. With export crops representing a significant portion of Malawi's total exports (see table 15), pricing reform along these lines was thus seen as essential in fostering increased production and, hence, in generating increased exports and foreign exchange earnings.

Given these objectives, an assessment of price reform is in order. Specifically, we address five separate questions: (1) What has actually happened to producer prices during reform? (2) Has price reform in fact reduced implicit taxation of the smallholder on export crops? (3) Are maize producers being taxed or subsidized under price reform? (4) How has pricing policy affected production?

(5) How have pricing policy changes affected the maize consumer? An attempt to answer these questions, as will be seen, raises some doubt as to whether price reform has in fact made significant progress in attaining its primary objectives.

Producer prices. In nominal terms the producer prices of both food crops and export crops were increased dramatically during adjustment (table 18). These price increases, especially for maize and tobacco, were erratic and abrupt, not in step with the rate of inflation. Furthermore, pricing policy was reactive and did not follow any clearly defined rules or objectives. For example, partly in reaction to the poor rains in 1981 and subsequent food shortfall, the price of maize was increased by 67 percent in 1982. During the next five years, however, it was increased only 11 percent. This led to a fall in maize output. Then, to bolster production, there was a 37 percent increase in 1988 and a 44 percent increase in 1989. Thus relative prices shifted dramatically from one year to the next. Meanwhile, under the auspices of SAL II, substantial price increases were effectuated for most cash crops, commencing in 1982, although the rate and timing of increases varied considerably. For example, between 1982 and 1984 the nominal producer price of groundnuts increased at an annual average rate of 28.14 percent, mainly due to the sharp price increase in 1983. Similarly, cotton prices rose at a rate of 26.09 percent and haricot beans at a rate of 47.17 percent at the same time. By 1988 nominal producer prices for all agricultural commodities had more than doubled since 1980: maize prices by 153 percent, groundnuts by 127 percent, tobacco by 146 percent, cotton by 183 percent, haricot beans by 244 percent, and rice by 170 percent.

The movements in nominal prices might suggest that policy reform was meeting its objectives of raising production incentives to farmers. However, a more critical examination of both movements of real prices and the level of taxation on agriculture reveals that although the sharp nominal price increases for maize, tobacco, and groundnuts resulted in rising real prices in the early 1980s, they have not kept pace with inflation since 1982 (see table 18).[48] As a result, through 1987 all three crops experienced declining real producer prices. By 1987 real prices were below the irrespective 1980 values for each of these crops.

The decline in real prices for the main agricultural commodities raises some questions concerning the success of reform. Declining CPI deflated prices of

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48 The real price of rice, to the contrary, fell between 1980 to 1983 and then rose slightly between 1983 and 1985, although never regaining its 1980 value.

Table 18 – Malawi: Nominal and Real Producer Prices, 1975-1988

	Nominal Prices					Real Prices				
	Maize	Rice	Tobacco	Groundnuts	Haricot Beans	Maize	Rice	Tobacco	Groundnuts	Haricot Beans
	Current Tambala/Kg					1980 Tambala/Kg				
1975	3.90	10.00	23.76	18.70	...	6.09	15.63	37.13	29.22	...
1976	5.00	10.00	27.53	19.80	...	7.46	14.93	41.09	29.55	...
1977	5.00	10.00	30.96	20.00	...	7.14	14.29	44.23	28.57	...
1978	5.00	10.00	40.74	22.00	...	6.58	13.16	53.61	28.95	...
1979	5.00	10.00	40.23	33.00	...	5.88	11.76	47.33	38.82	...
1980	6.60	10.00	42.12	33.00	...	6.60	10.00	42.12	33.00	...
1981	6.60	10.00	42.61	33.84	13.94	5.89	8.93	38.04	30.21	12.45
1982	11.00	10.00	45.07	51.85	14.50	8.94	8.13	36.64	42.15	11.79
1983	11.00	11.50	75.87	59.46	30.00	7.91	8.27	54.58	42.78	21.58
1984	12.20	15.00	74.62	69.28	40.00	7.31	8.98	44.68	41.49	23.95
1985	12.20	17.00	89.38	73.76	42.00	6.59	9.19	48.31	39.87	22.70
1986	12.20	19.00	84.56	73.76	44.00	5.78	9.00	40.08	34.96	20.85
1987	12.20	22.00	90.62	73.76	44.00	4.62	8.33	34.33	27.94	16.67
1988	16.70	27.00	103.56	75.00	48.00	5.22	8.44	32.36	23.44	15.00

Sources: *Christiansen and Southworth (1988); Malawi Government (1987a) and Economic Reports; Harrigan (1988); World Bank (1986c).*

export commodities is contrary to the expectation of rising prices of tradables relative to nontradables. Moreover, if falling real producer prices signify falling real incomes from agricultural production, then the smallholder producers may not have gained as much from price reform as initially expected.

Taxation of export crop production. Next, we turn to the more complex issue of the extent of and impact of policy reforms on taxation of agricultural products in Malawi. A major motivation for price reform was to reduce the high levels of implicit taxation on export crop production incurred by the Malawian smallholder so as to allow the prices of Malawian agricultural commodities to reflect their true opportunity costs (Harrigan 1988, Christiansen and Southworth 1988). Theory has it that by signaling to producers the true value of these crops, such prices would lead to the correct allocation of resources and subsequently to higher agricultural product.

In the case of traded commodities, the level of taxation is best measured by comparing the actual price paid relative to the goods' appropriate opportunity cost as indicated by the import/export parity price (Scandizzo and Bruce 1980). If Malawi is an exporter of a given good, the appropriate reference price is the export parity price. It is calculated as the f.o.b. export price, adjusted for transport and handling from the relevant export market to the relevant domestic market, and converted using an appropriate exchange rate. For imported goods the opportunity cost to Malawi would be the import parity price. It is calculated as the c.i.f. import price at the country's border, converted at the appropriate exchange rate, and adjusted for transport and handling to the relevant domestic market.[49]

The deviation of pricing from the parity principle outlined above is picked up by the nominal protection coefficient (NPC) for a given good. Calculated as the ratio of a commodity's domestic producer price to its border price,[50] an NPC greater than one implies an implicit tariff that protects producers and implies a subsidized producer price. An NPC less than one implies an implicit tax on producers. These concepts—export parity prices (EPP), import parity prices (IPP) and nominal protection coefficients (NPC)—are central to the issue of

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49 The parity prices discussed in this paper were calculated by the authors. Notes regarding these calculations are outlined in appendix A1.

50 The relevant border price is the export parity price for an exportable and the import parity price for an importable.

pricing export and food crops, to which we now turn.

In conjunction with other policies aimed at opening up the economy to international competition and international prices, SAL II explicitly called for the increase of export crop producer prices on the basis of export parity pricing criteria. Several observations can be made with regard to the ensuing experience. First, the increase in cash crop producer prices commencing in 1982 was initially associated with falling implicit taxes on smallholders (rising NPCs) for groundnuts, tobacco, and rice (table 19).[51] In the case of tobacco, for example, the NPC, calculated as the ratio of producer price to auction price on sun/air-cured tobacco, increased from 17 percent in 1982 to 89 percent in 1985 before falling again. The NPC for groundnuts increased from 37 percent in 1981 to 92 percent in 1983 and 1984. The NPC for rice rose from 29 percent in 1981 to 73 percent in 1985 using one estimate and from 28 percent to 39 percent using another.[52] Thus, between 1982 and 1985, implicit taxes on the main smallholder cash crops declined.

The second observation is that although NPCs increased in 1985, the falling levels of taxation were due not to an increase in real producer prices but rather to a fall in real world prices (figure 5). Indeed the nominal producer price increases in the early 1980s at best served to stabilize real producer prices in the face of falling world prices. Real tobacco export parity prices dropped by MK1,586 per metric ton between 1982 and 1985 while real producer prices rose by only 7 percent of that amount. Similarly, real export parity prices for groundnuts fell by MK542 per metric ton between 1981 and 1985 while real producer prices rose by only 18 percent of that amount. Real export parity prices for rice fell by MK183 per metric ton between 1981 and 1985, while real producer prices increased by only 1 percent of that amount.

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51 The NPCs cited in this paragraph are calculated on the basis of export parity prices denominated in Malawi kwacha and converted at the official exchange rate.

52 The first estimate is based on rice prices f.o.b. Bangkok net of international and domestic transportation, handling, and marketing costs. The second estimate is based on the f.o.b. unit value of Malawian rice exports from Malawian trade statistics. For a further discussion on estimation methods, see appendix A1.

Table 19 – Malawi: Nominal Protection Coefficients (NPCs), Selected Crops, 1975-1988

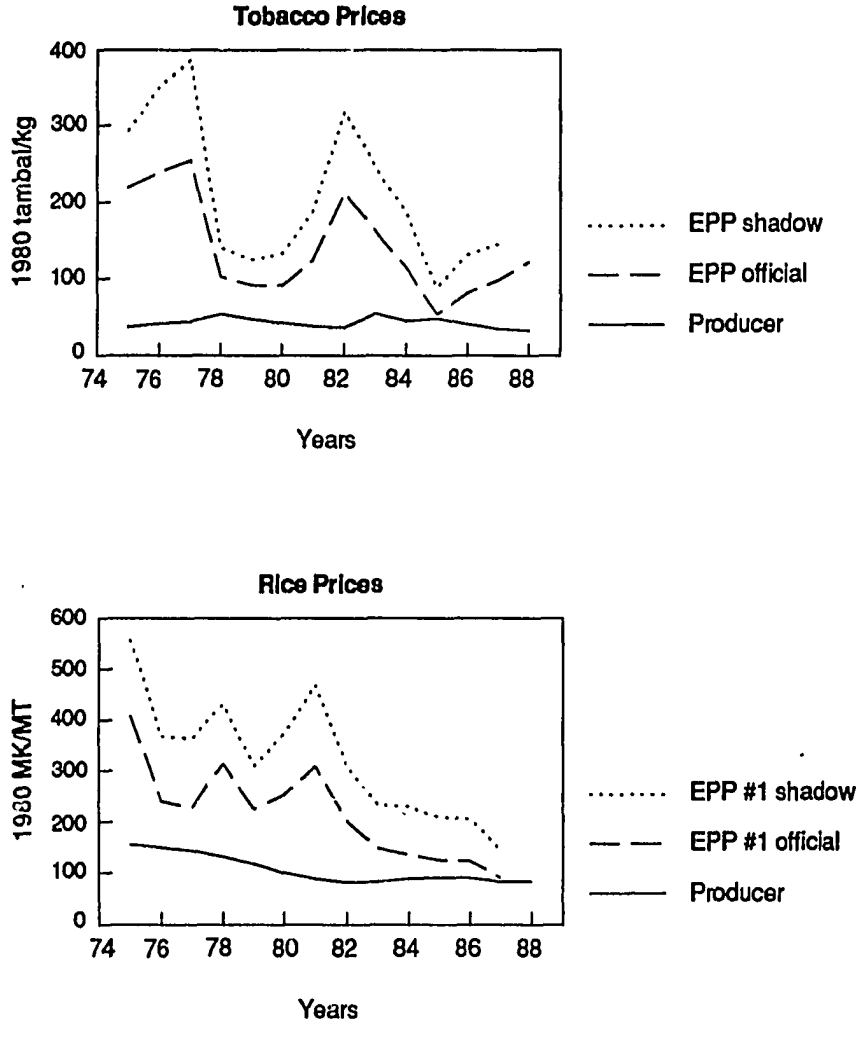
	Rice				Groundnuts	Tobacco	Tobacco	
	NPC (1) at Official Rate	NPC (2) at Official Rate	NPC (1) at Shadow Rate	NPC (2) at Shadow Rate	NPC at Official Rate	NPC at Shadow Rate	NPC at Official Rate	NPC at Shadow Rate
1975	0.38	...	0.28	...	1.96	1.41	0.17	0.13
1976	0.62	0.32	0.40	0.21	0.48	0.33	0.17	0.12
1977	0.63	0.57	0.39	0.36	0.36	0.23	0.17	0.11
1978	0.42	0.41	0.31	0.30	0.33	0.25	0.52	0.38
1979	0.53	0.34	0.38	0.25	0.54	0.40	0.52	0.38
1980	0.40	0.36	0.27	0.25	0.56	0.39	0.46	0.32
1981	0.29	0.28	0.19	0.18	0.37	0.25	0.31	0.20
1982	0.41	0.20	0.26	0.13	0.88	0.58	0.17	0.12
1983	0.56	0.30	0.35	0.20	0.92	0.60	0.34	0.22
1984	0.66	0.29	0.39	0.18	0.92	0.57	0.39	0.24
1985	0.73	0.39	0.44	0.24	1.42	0.88	0.89	0.55

Table 19 – Continued

1986	0.73	0.23	0.44	0.15	0.84	0.53	0.49	0.31
1987	0.91	0.21	0.58	0.14	1.05	0.70	0.35	0.24
1988	...	0.20	...	...	1.02	...	0.26	...

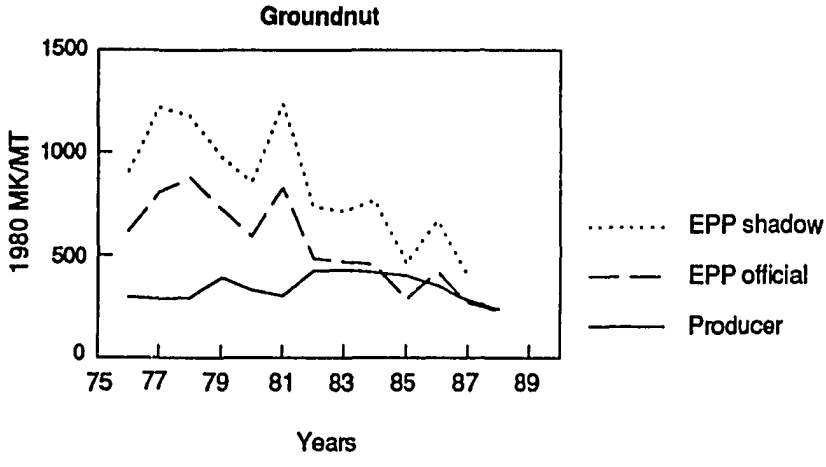
Sources: *Christiensen and Southnorth (1988) and Malawi Government Reports (1986 to 1990). Calculations of NPCs based on producer prices and estimated border prices as follows: Rice – Border price estimate (1) from data in "IMF International Financial Statistics" (IMF, 1986-1990); estimate (2) from data in "Annual Statement of External Trade" (Malawi Government, various years); Groundnuts – border price estimates from data in "Annual Statement" of External Trade (Malawi Government various years b).*

Figure 5 – Malawi: Producer Prices and Export Parity Prices Compared, 1975-1988



continued

Figure 5 (continued)



Sources and Notes: *See table 19.*

Thus the initial optimism regarding the success of pricing policy in reducing the rate of implicit taxation on smallholders (see, for example, Christiansen and Southworth 1988) may have been premature and misguided. Evidence from recent years indicates that real producer prices continue to be upwardly sticky. A sharp increase in the export parity price of tobacco, for example, since 1985 was not matched with a corresponding increase in producer prices (figure 5). In fact, while real export parity prices rose by MK683 per metric ton between 1985 and 1988, real producer prices fell by MK160 per metric ton and the NPC fell from 89 percent to 26 percent. Similarly for rice, estimate #2 based on Malawian trade data shows the real export parity price rising by MK195 per metric ton between 1985 and 1988, and the real producer price falling by approximately MK6 per metric ton in those years.[53] This represents an NPC decrease from 39 percent to 20 percent (table 19). Thus, pricing policy rules, per se, may not have undergone a lasting change during the past decade.

On the other hand, the government holds a secondary and countervailing policy objective, unrelated to adjustment, of stabilizing domestic prices. Therefore, although producer prices do not follow every sharp movement of international prices, this may not reflect bad policy implementation. Thus, the third observation evident from price data is that pricing policy has worked well to minimize the volatility of real producer prices. Despite their fluctuations, the domestic real prices of export crops have been more stable than world prices. To the extent that reducing uncertainty is an important element of promoting a dynamic agriculture, Malawi is to be commended for partially mitigating the risk faced by the farmer.

While producer prices may filter out price instability, in the absence of a longer time series it is not evident how closely the actual producer price levels through the 1980s will reflect the long-term trend lines of international commodity prices. In the case of groundnuts, for example, evidence shows EPP converging on the real producer price trend line since 1981 (figure 5). In the case of tobacco, it does not. This recent deviation of tobacco producer prices from rising world prices, though, may simply signal the unavoidable lag as-

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53 Estimate #2, in being based on data on from Malawian trade statistics, is presumably a more accurate indicator of actual revenue generated by Malawi given its export markets. The discrepancy between estimates #1 and #2 (namely, the higher value and volatility of EPP based on Malawian trade data over that based on international price data) is probably a function of the isolated markets to which Malawi exports (in Zambia and war-torn Mozambique) and the selected times at which it exports (upon the occurrence of unforeseen shortages). This discrepancy is further discussed in appendix A1.

sociated with discretionary policy. In fact, official policy has traditionally been to delay changing domestic prices until external trends are firmly established or stability returns after periods of market uncertainty (Muir 1982). This tradeoff between the dual policy objectives of price stability and border pricing is a delicate one. The Malawian experience seems to indicate that priority continues to lie with the former, even over the course of adjustment.

A fourth observation is that although these implicit tax levels were declining, estimates of such taxes at the official exchange rate consistently underestimate the magnitude of actual taxation as measured at the shadow exchange rate. This is because the former estimates capture only the direct component of taxation. Kwacha-denominated estimates of the world price converted at the official exchange rate, however, disregard the important indirect taxation of smallholders through an overvalued exchange rate.[54] Hence, figure 5 shows that the EPPs measured at the shadow exchange rate lie above those converted at the official exchange rate.[55] In 1985, for example, while the NPC for tobacco was 89 percent using the official exchange rate to convert world prices, use of a shadow rate (which more appropriately captures the true value of the kwacha) indicated an actual NPC of only 55 percent. Similarly for groundnuts, estimates based on the official exchange rate resulted in an NPC of 92 percent in 1984, but estimates based on the shadow exchange rate reveal an NPC of 57 percent.[56]

Distortions in maize producer prices. In addition to the pricing of export crops,

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54 The terms 'direct' and 'indirect' used here are in keeping with the terminology discussed in Krueger, Schiff, and Valdes (1988). However, the 'indirect effect' of Krueger, Schiff, and Valdes includes both distortions in the exchange rate and deviations in the ratio of prices of agricultural goods to those of nonagricultural goods that would exist in the absence of intervention. Here we are referring solely to the first component of KSV's indirect effect. At least one study (Dorosh and Valdes 1989) has shown that the second component, disregarded here, is in fact empirically small in magnitude.

55 The shadow exchange rate series for Malawi was computed using the methodology outlined in Krueger, Schiff, and Valdes (1988) and discussed in appendix A1.

56 It is interesting to note, moreover, that the margin of distortion between the official and shadow exchange rates has not been altered significantly between 1975 and 1988. Adjustment apparently has not brought official and shadow exchange rates any closer into alignment. The ratio of shadow to official exchange rate rose from 1.48 in 1981 to 1.57 in 1984 before falling back to 1.45 in 1987. The experience of exchange rate reform will be discussed in more detail later.

the pricing of maize is an essential issue in discussing both movements in production and the welfare of smallholder producers. Through the 1970s maize price policy focused on avoiding imports through the attainment of self-sufficiency. As stated in *DEVPOL* (Malawi Government 1971), it was considered necessary "to pay a price slightly above export-parity to elicit adequate supplies."

The adjustment program, as discussed with the World Bank, has focused on revising both the actual producer prices and the methodology for setting these prices. Although the thrust of the reform program in agriculture has been to shift relative crop prices in favor of export crops, maize prices have been increased several times over the course of the 1980s: by 67 percent in 1981/82, by 11 percent in 1983/84, by 37 percent in 1987/88, and by 44 percent in 1988/89.[57]

Several points can be noted about the producer price increase of maize. Some of these again raise questions as to the record of reform in attaining its objectives. First, as pointed out earlier, the real producer price of maize, as with those of export crops, has not fared well. In fact, after the price increase of 1982, real prices progressively *declined* from 8.94 tambala per kilogram to 4.62 tambala per kilogram in 1987, before rising to 5.22 tambala per kilogram in 1988 and 6.03 tambala per kilogram in 1989 (table 18). It is noteworthy that the 1988 price was below the 5.90 tambala per kilogram mark recorded in 1981, before the reform program commenced. Thus sellers of maize actually experienced a decline in cash income from maize sales through most of the decade.

In further assessing the degree to which adjustment has improved incentive prices for producers, it is also possible to treat maize as a traded good and examine parity price calculations, as with cash crops.[58] The markets in Zimbabwe, South Africa, and the United States of America were used as reference points for these calculations, although the former two are most relevant, as will be discussed below (figure 6 and table 20).[59] In general, in the last half of the 1970s and the early 1980s, Malawi was intermittently importing small quantities

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57 The 1980/81 increase of 67 percent represented a larger percentage gain in unit prices than experienced in the entire preceding decade. Much of the motivation for such drastic price reform on the part of the government was, admittedly, not for purposes of long-term structural adjustment alone. The country was still recovering from the short-term consequences of the 1980/81 drought and trying to resuscitate production and restock grain reserves.

58 As will be discussed below, the high costs of transport limit the potential partners with whom Malawi can trade profitably, such as Zambia, Zimbabwe, and South Africa.

59 The choice of Zimbabwe and South Africa was dictated by the availability of data from these two countries. Other maize trading partners, such as Zambia and Tanzania, did not have a reliable data series on market prices.

Table 20 – Malawi: Nominal Protection Coefficients for Maize Computed at Official and Shadow Exchange Rates for Three Reference Markets, 1974-1989

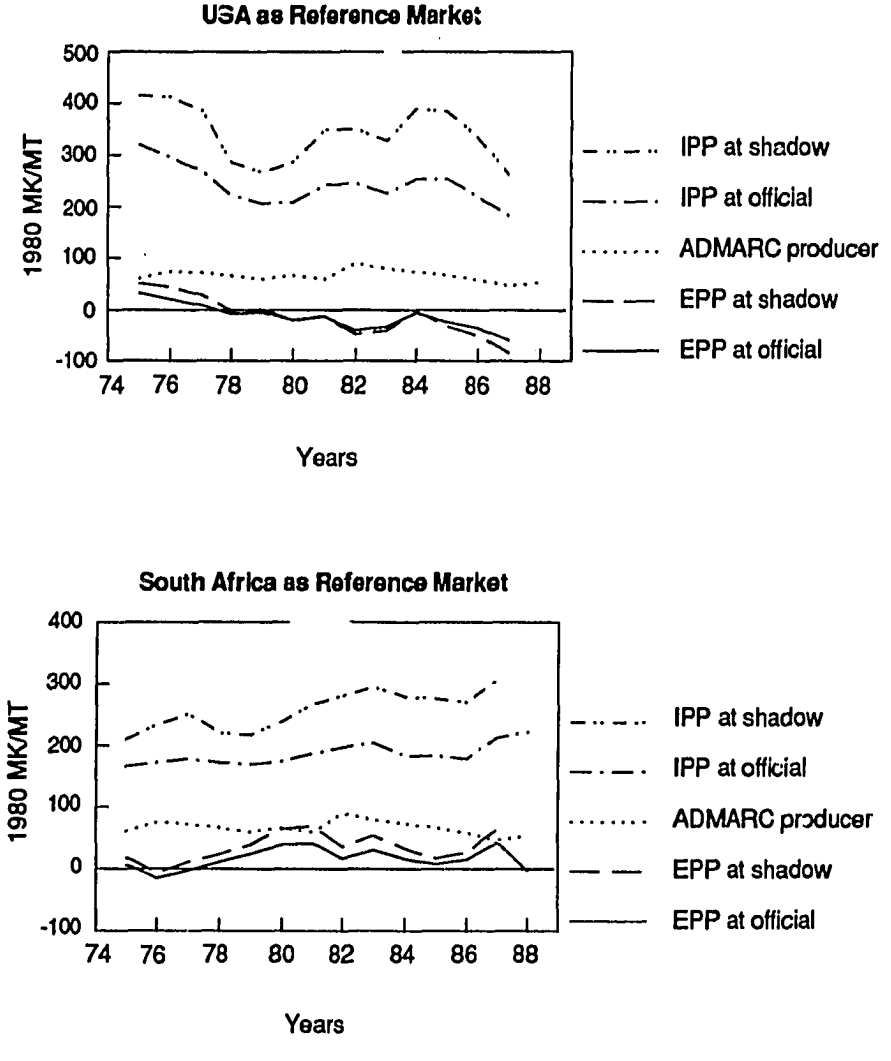
	USA		South Africa		Zimbabwe	
	Official	Shadow	Official	Shadow	Official	Shadow
	Nominal Protection Coefficient					
1974/75	1.88	1.17	9.04	3.35	1.85	1.15
1975/76	3.72	1.69	-4.97	-11.04	2.39	1.24
1976/77	8.08	2.50	-23.55	6.64	2.60	1.26
1977/78	-8.51	-40.13	6.00	2.83	4.18	2.22
1978/79	-12.66	83.98	2.47	1.52	2.93	1.75
1979/80	-3.19	-3.13	1.68	1.03	3.01	1.67
1980/81	-4.57	-5.12	1.44	0.86	1.37	0.83
1981/82	-2.25	-1.85	5.20	2.49	1.12	0.69
1982/83	-2.42	-1.96	2.60	1.48	1.92	1.14
1983/84	-10.63	-21.88	4.46	2.21	1.91	1.08
1984/85	-2.47	-2.11	9.02	3.87	2.08	1.20
1985/86	-1.63	-1.15	4.00	2.15	1.10	0.67
1986/87	-0.78	-0.55	1.10	0.73	1.07	0.71
1987/88	...	...	-16.66	...	3.50	...
1988/89	...	...	...	...	...	...

Sources: *Republic of South Africa (1988); Agricultural Marketing Authority, Zimbabwe (1984/85 and 1987/88); Christiansen and Southworth (1988); Malawi Government Economic Reports; IMF (various years a); Louis Bergen International (1986); IMF (1986-1990); Krueger, Schiff, and Valdes (1988); FAO (various years a); Kandoole et al. (undated).*

Notes: *Border prices used are export parity prices (EPPs). Methodology for computation of EPPs given in appendix A I.*

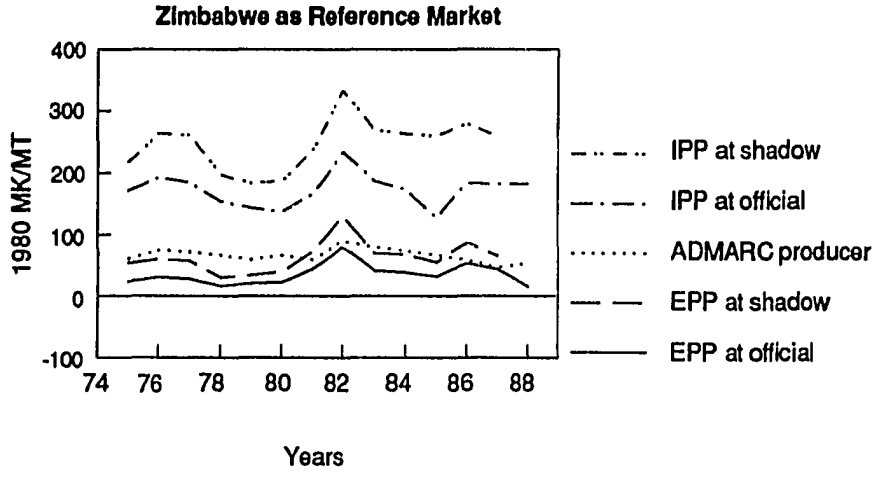
of maize. The domestic price was well below the IPP for this entire period, although it remained above the EPP through 1980, regardless of the market and whether the shadow exchange rate was employed. In 1981 and 1982, at the beginning of Malawi's economic reform program, the domestic producer price fell below the EPP employing the shadow exchange rate based on the Zimbabwe market; in 1981 it also fell below the EPP calculated rate using the shadow exchange rate and based on the South African market.

Figure 6 – Malawi: Domestic Maize Prices Relative to Export and Import Parity Prices Valued at Official and Shadow Exchange Rates, 1975-1988



continued

Figure 6 (continued)



Sources and Notes: *See Table 20.*

The ADMARC price always remains above the EPP when the official exchange rate is employed. It was noteworthy that in the early 1980s, production had fallen in Malawi causing it to import sizable amounts of maize. In the absence of intervention, therefore, prices would probably have risen close to import parity, implying that producers were being taxed significantly for these years.

In the more recent adjustment years between 1983 and 1987 Malawi has been exporting maize, implying that the EPP is the appropriate opportunity cost. Between 1983 and 1985 the NPC remained above unity, even using the shadow exchange rate. It fell below unity in 1986 and 1987 using Zimbabwe as the reference market. The same was true in 1987 if South Africa is used as the reference market. Overall, the real producer prices were below the EPP as measured at the shadow exchange rate and relative to Zimbabwe as a trading partner in four of the seven years in the 1980s for which data are available, while in the case of South Africa, the NPCs were less than unity in only two years. This evidence of implicit taxation disappears when the indirect effect of exchange rate overvaluation is not taken into account and if the official exchange rate is employed (table 20).

In contrast, EPPs based on international maize prices (as proxied by US yellow maize prices) have fallen, both in absolute terms and relative to Malawian producer prices, and are in fact negative since 1978. The growing wedge between the producer price and the EPP has largely been a function of two facts. First, between 1975 and 1985 the international real price of yellow maize fell by 40 percent. Secondly, the cost of transportation to and from Malawi has escalated during the 1980s due to the diversion of trade from the shortest rail routes to the coast via Mozambique, to overland routes and much further ports such as Durban.[60]

Caution should be taken in drawing unequivocal conclusions about levels of taxation or subsidization based on these export parity calculations. First, prices may be distorted in the reference markets used for calculating parity prices. Traditionally, South Africa has been the world's leading exporter of white maize, and prices have been considered to be determined according to supply and demand.[61] The insignificant differences between Zimbabwe prices and South

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60 IMF estimates (1989), as measured by the c.i.f. margin, show these costs to have grown by over 80 percent between 1978 and 1987. Other estimates put the increase as being much greater.

61 The discussion in Kingsbury (1989) suggests that the South Africa maize market may be the most appropriate indicator of the correct world price for maize for countries in the Southern African Development Coordination Conference (SADCC) region.

Africa prices do not appear to be systematic, which supports the contention that the Zimbabwe market is also an appropriate reference price. Nevertheless, to the extent that the prices in Zimbabwe and/or South Africa are subsidized, the export parity prices should be adjusted upward, and consequently the NPC will be lower and likely less than unity.

The second concern is relevant to any comparison of Malawi maize prices with f.o.b. Gulf prices. Specifically, comparisons made with yellow maize prices are likely to be inappropriate. The white and yellow varieties appear to represent two different markets. Long-term trend lines show that the prices of both commodities move relative to each other in a nonsystematic fashion[62] (Kingsbury 1989). This is further illustrated by the more recent 1986/87 data, showing that while subregional export parity prices of white maize rose above the Malawi producer price due to a regional maize shortage, the world price of yellow maize continued its decline.

Third, the analysis of nominal protection coefficients does not measure all policy-induced distortions that implicitly tax and/or subsidize producers. In particular, although the above discussion of parity price movements evaluated at the shadow exchange rate does take into account the large indirect taxation on producers due to the overvalued exchange rate, the distortionary effect of input subsidization/taxation has not been computed here. Calculation of effective rates of protection would especially warrant consideration of the subsidization of fertilizer costs to the smallholder. Incorporating this would reduce (increase) the level of taxation (subsidization) implied in any of the above figures.

Fourth, the above conclusions are based on the principles of border pricing, where the domestic price should correspond to the export parity price if the country is a net exporter and the import parity price if the country is a net importer. In the case of Malawi, where trade figures indicate that the country is marginally self-sufficient, fluctuating between being a net importer and exporter of maize, it can be argued that based on border pricing criteria, the correct price falls within the band between export and import parity.

The extreme differential between c.i.f. and f.o.b. due to high transport costs within the region and the prohibitive costs of marketing overseas, raises the question of whether maize really is a tradable good. It supports the suggestion that Malawi pursue a policy of self-sufficiency for maize. Storage, rather than

62 In other words, there is no fixed premium on white maize. Indeed, the price of yellow maize has often surpassed that of the white variety.

trade, would thus become the major means of stabilization. But regardless of whether trade or storage is more relied upon, considerable justification can be found for government policies that attempt to provide some stability to avoid dramatic price swings from output shortfalls to excesses in an environment with such a marked differential between export and import parity. The question arises, then, if maize is not tradable at the prevailing exchange rate, what is the correct average price, and what should be the floor price to be defended by ADMARC?

In theory the correct price would be determined by the intersection of supply and demand curves so that we are dealing with the prototypical closed economy. Thereafter, government can set price rules to limit fluctuations. Since no model is available to determine the point of intersection of these two curves, one relevant approach to determining a fair maize price involves either an analysis of domestic resource production costs for maize or information on other production costs. In that regard, although no time-series data are available, data from 1984/85 will enable a cost-based method of quantifying producer and consumer taxes and subsidies. In particular, the Ministry of Agriculture's *Production Cost Survey of Smallholder Farmers in Malawi* (Malawi Government 1987c) estimates the production costs for a kilogram of local maize in 1984/85 at 9 tambala per kilogram. The producer price, meanwhile, was 12.2 tambala per kilogram, implying a 3.2 tambala per kilogram margin for smallholders. Here too, the suggestion is that no tax exists on producers. The narrowness of the estimated margin, however, does not permit a strong conclusion in this regard. To the extent that producers are subsidized on the input side (eg, the 23 percent fertilizer subsidy registered that year), it should be noted that this margin may be reduced or even reversed. In addition, the value of land rent, which is not taken into account in these calculations, will also reduce or reverse the margin.

Within this context, we turn to an analysis of the impact of movement in prices on production, hectarage, and marketed surplus. This will provide some insights into the scope of price policy to raise output and, consequently, incomes in Malawi.

Production and availability. A primary reason for increasing price incentives was to increase production, especially of foreign exchange earning cash crops. Previous research on Malawi suggests considerable scope for price-oriented adjustment in bringing about a meaningful supply response. A study by Kinsey (1978) concluded that "farmers in Malawi do respond strongly to the incentive of financial reward and allocate their time and other resources accordingly, indicating that agricultural prices can function as a powerful policy instrument." This conclusion with respect to export crops is supported by a number of

Table 21 – Malawi: Smallholder Sector Maize Yields, 1983-1989

	Local	Composite	Hybrid	All Maize
	Metric Tons/Hectare			
1983/84	1.04	1.79	2.76	1.19
1984/85	1.03	1.75	3.11	1.18
1985/86	0.96	1.73	2.94	1.08
1986/87	0.95	1.64	2.71	1.02
1987/88	1.09	1.20	2.67	1.17
1988/89[a]	1.06	1.77	2.80	1.19

Sources: *Malawi Government (1989b).*

[a] *Estimate.*

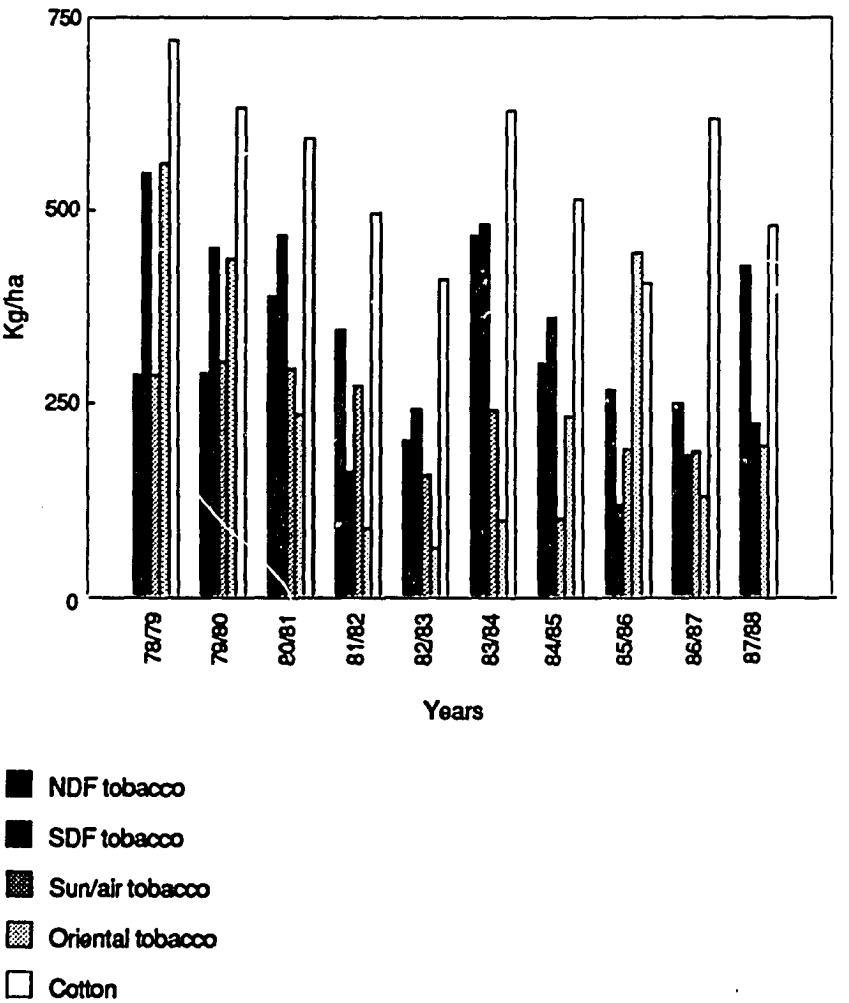
estimates.[63]

Several factors can explain the strong crop-specific supply responses in Malawi. For one, a price increase could result in increased production due to more intensive utilization of scarce resources. Since it is now economically viable to apply fertilizer and other technology that permits the intensification of production, such a response could even be greater. This too may increase wages and agricultural employment. As the section to follow discusses, though, concurrent increases in the price of fertilizer has largely precluded this possibility. Data from the Ministry of Agriculture, in fact, shows that productivity of maize production has not increased during the 1980s (table 21). Similarly, yields of smallholder export crops have stagnated (figure 7).

Second, supply responses may be due to the more extensive use of otherwise unutilized resources. A price increase that makes it more worthwhile to clear and bring marginal and as yet uncultivated land into production would be one such case. Such expansion of production through extensive means could also draw on surplus labor in the agricultural sector. In fact some expansion of land

63 Dean (1966) calculated the own-price elasticity of supply for tobacco in Malawi to be 0.48. Kirchner, Singh, and Squire (1985) put it at 0.69. The elasticity of supply for marketed surplus of groundnuts was estimated at 2.30. The elasticity for groundnut production was estimated at 0.69 by Kirchner, Singh, and Squire. The elasticity of supply for marketed surplus of cotton, meanwhile, was calculated at 2.36 by Colman and Garlett (1975) and for cotton production at 0.38 by Kirchner, Singh, and Squire.

Figure 7 – Malawi: Yields on Selected Smallholder Cash Crops, 1979 - 1988



Sources: *Malawi Government (1988c); Dickerman and Bloch (1989).*

hectarage under cultivation has occurred, although not to a large degree. Between 1982/83 and 1986/87 total land under cultivation grew at an annual average rate of 3 percent (table 22). To the extent that much of this may be marginal land, however, its productivity is somewhat questionable.

The supply response to the relative price increase of a crop is more likely caused by the simple reallocation of land. Increasing relative prices of cash crops may encourage smallholders, for example, to allocate more land to the production of groundnuts and less to the production of maize.[64] The hypothesis that high own-price supply elasticities are largely the result of the reallocation of agricultural resources among crops, rather than intensive or extensive agricultural growth, finds substantial support and has important implications.

The considerable substitution between crops is evident from an examination of data on hectarage trends, production, and ADMARC purchases, the latter being a rough proxy for marketed surplus. Existing data on hectarage trends (table 22) and crop production (figure 8) confirm an inverse relationship between the production of maize and the price of cash crops relative to that of maize.[65] Indeed, following the 1982 maize producer price increase, which lowered the relative price of extant crops (figure 9), maize production increased by 1 percent in 1982 and by 10 percent in 1983. Tobacco, cotton, and groundnuts meanwhile all registered sharp decreases in 1982. Between 1981 and 1983, hectarage planted to maize had increased while that planted to other crops decreased.

The subsequent increases in the relative prices of cash crops from 1983 through 1987, however, reversed this trend (figure 9). Specifically, in terms of relative prices, tobacco increased by 81 percent, groundnuts by 24 percent, cotton by 74 percent, and haricot beans by 119 percent. Maize production began to decline (figure 8). Aggregate maize production fell after 1984, recording a negative average rate of growth of 4.67 percent over the next three years. The production index for maize dropped by 3 percent, 4 percent, and 6 percent in 1985, 1986, and 1987, respectively. In 1986/87 maize production was at the lowest

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64 Estates could also reallocate land from other crops to groundnut and cotton, whose production by the estate sector has been permitted since 1983. Alternatively (and more applicable to a discussion of long-run elasticities of supply), because estates also face relative price changes on the same crops produced by smallholders, a transfer of land from the smallholder sector to the estate sector could occur. This phenomenon has an important bearing on the welfare of land-constrained and near-landless smallholders and perhaps on national food security.

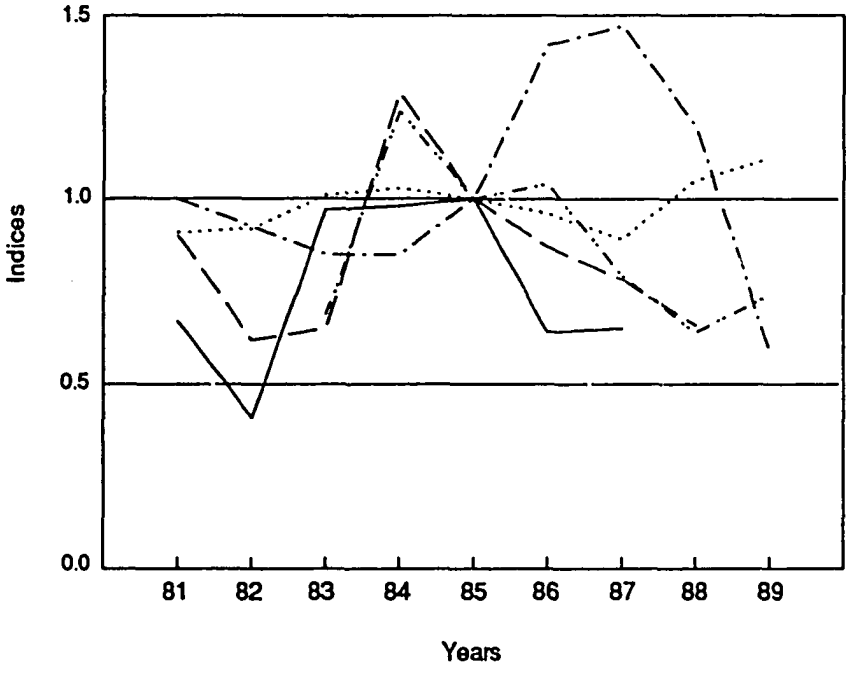
65 Kirchner, Singh, and Squire (1985) estimated negative cross-price elasticities of supply between maize and groundnuts (-0.25), rice (-0.22), cotton (-0.22), and tobacco (-0.26).

Table 22 – Malawi: Smallholder Land Cultivation, by Crop 1982-1989

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
	Hectarage						
Maize	1,169,402	1,182,601	1,144,853	1,193,275	1,182,415	1,215,200	1,274,400
Local	...	1,067,527	1,048,441	1,104,583	1,131,540	1,137,600	1,163,400
Composite	...	26,069	21,477	20,100	13,780	18,700	25,100
Hybrid	...	89,005	74,935	68,592	37,095	58,900	85,900
Rice	20,309	21,917	20,807	22,874	18,803	...	...
Groundnuts	146,314	144,935	135,966	176,293	209,938	...	...
Tobacco	27,587	44,999	46,939	38,045	39,872	...	...
Cotton	32,597	51,059	60,824	51,910	34,504	...	...
Cassava	59,351	81,497	80,262	72,904	63,174	...	...
Sorghum	22,649	21,302	32,725	32,059	30,626	...	...
Pulses	82,932	91,322	79,971	113,663	140,476	...	...
Millet	10,870	15,340	17,413	17,424	18,163	...	...
Sweet Potatos	...	21,340	22,717	22,447	25,698	...	...
Others	8,487	8,096	7,682	7,952	10,288	...	..
Total	**1,580,498**	**1,684,408**	**1,650,159**	**1,748,846**	**1,773,957**	...	...
	Number of Trees						
Cashew	55	12	12	6,546	24,103	...	...
Coffee	0	2	0	0	14,108	...	...

Source: *Ministry of Agriculture.*

Figure 8 – Malawi: Crop Production Indices, 1981 - 1989 (1985 = 1.00)



— · — · Groundnuts

····· Maize

— — Tobacco

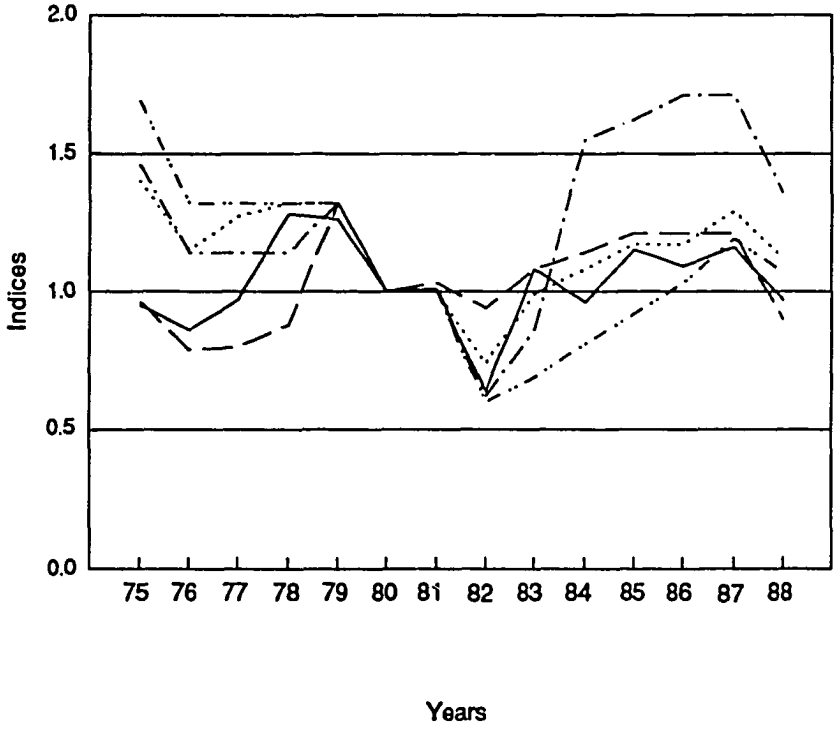
——— Cotton

— ·· — ·· Cassava

Sources: *Hawksley, Kaluwa and Kandoole (1989); Malawi Government (1989a and b); Kirchner, Singh and Squire (1985).*

Notes: *Tobacco is the sum of all smallholder varieties. Since 1987/88 figures were not available for the sun/air cured and Oriental varieties; they were assumed to have taken their average value for 1985/86-1986/87. In the absence of groundnut figure for 1982/83, the 1983/84 figure was used for that year. Groundnut figure for 1981/82 was estimated as average of 1980/81 and 1982/83 figures.*

Figure 9 – Malawi: Index of Price of Crop to Price of Maize, 1975 - 1988 (1980 = 1.00)



Sources: *Malawi Government Economic Reports; Christiansen and Southworth (1988); Harrigan (1988); World Bank (1986c).*

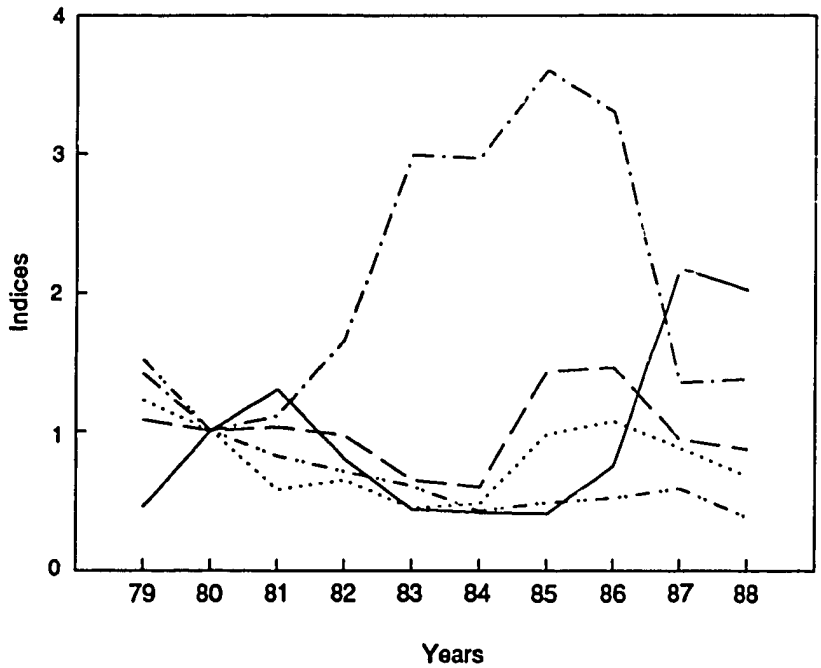
level recorded this decade, equal to the preadjustment level of 1980/81. This is particularly disconcerting given that the production of another important subsistence crop, cassava, was also declining during this period and that the production of millet and sorghum also fell between 1984/85 and 1986/87.

The hypothesis that this declining trend was partly due to the movement in relative prices leading to a reallocation of land is supported by the observation that between 1985 and 1987, decreased hectarage to maize corresponded with increases in hectarage of nonmaize crops (table 22). A closer look at production data shows that the decline in maize production appears to be principally attributed to the shift in resources toward groundnut production (figure 8). Over this period, in fact, the production of cotton and tobacco also decreased. The importance of the relative price of maize to groundnuts in dictating cropping patterns is corroborated by more recent developments. The increases in the relative price of maize and, consequently, in maize production since 1988 appear to have been enabled by a sharp downturn in groundnut production.[66] Groundnut production dropped 60 percent between 1987 and 1989, while maize production increased by 25 percent. While ADMARC had difficulty transporting the large amounts of maize produced that year to its storage depots, concern arose that the estimated 50 percent decline in groundnut production in 1989 would call for the import of cooking oil and a shortage of seed for the next season. Also noteworthy is that increased production of other staples, such as millet, sorghum, and cassava, was likewise associated with the downturn in groundnut production.

The trade-offs between maize and cash crops apparent in hectarage and production figures are also reflected in data on marketed surplus. ADMARC crop purchases have been highly responsive to movements in relative prices of cash crops to maize (figure 10). Following the initial sharp decline in the relative prices of cash crops due to the increases in nominal maize prices, ADMARC maize purchases increased by 63 percent between 1981 and 1983, while tobacco, groundnut, and cotton purchases fell by 22.4 percent, 66.1 percent, and 36.9 percent, respectively. The subsequent appreciation of relative cash crop prices, in accordance with the imperatives of the adjustment program, reversed this trend. The price of groundnuts, tobacco, cotton, and beans, relative to that of maize, had all surpassed their 1980 levels by 1984. As a result, by 1984 ADMARC

66 This is in face of the continued decline in smallholder production of tobacco that began in 1984.

Figure 10 – Malawi: ADMARC Crop Purchase Index, 1979 - 1988 (1980=1.00)



Rice
Maize
Tobacco
Cotton
Groundnut

Source: *Ministry of Agriculture as presented in Harrigan (1988).*

purchases of all these crops began to rise. The average index of ADMARC purchases of nonmaize crops[67] rose steadily from 1984 through 1987, led initially by sharp increases in tobacco and cotton purchases, and then by a rapid increase in the purchase of groundnuts. In tandem with this increase, and in conjunction with its own declining relative price over this period, ADMARC purchased 8 percent less maize in 1986 and 59 percent less in 1987.

Care must be taken in interpreting these ADMARC statistics, however. Specifically, three factors could obscure in this data the expected link between prices and production. First, not all produce is marketed. Marketed surplus is generally much more responsive to price than is actual production, reflecting that agricultural commodities are often produced and consumed at home if prices are considered too low. Higher prices in fact did not stimulate extra production as much as they reduced the amount of food produce consumed at home. The sharp increase in ADMARC purchases was largely due to a more than doubling of the percent of production sold to ADMARC (table23).[68] Higher producer prices may have increased the relative opportunity cost of home food storage, stimulating increased marketing of maize and higher incomes for producers. However, this trend could simply reflect the more binding cash constraint on smallholders in recent years. The increased marketing of maize may well have been resorted to so as to meet postharvest cash obligations. Overselling relative to household food could also explain increased commercialization. As a result, while large food stocks formed from marketed maize have given the impression of increased national food security, they may only have been disguising household food insecurity. The neglect of these points initially led to overly optimistic conclusions regarding the state of food security in 1982-83.

Second, yet unexplained by the above argument, the trade-off between maize and nonmaize commodities, could be attributed to a binding financial constraint on the part of ADMARC rather than to a binding resource constraint on the part of the Malawian agricultural sector. In other words the decrease in purchases of nonmaize commodities may have resulted from the lack of residual

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67 The index is composed of rice, cotton, tobacco, and groundnuts.

68 The 1982 price increase resulted in an 80 percent increase in ADMARC purchases (table 23) in contrast to the 13 percent response in production. This was largely due to an increase in the share of maize marketed. While on average only 7.6 percent of maize produced nationally was sold to ADMARC during the period between 1977 and 1980, this share jumped to 11 percent after the maize price increase of 1981/82 and to 21.2 percent after the maize price increase of 1983/84.

Table 23 – Malawi: Smallholder Maize Production and Sales to ADMARC, 1976-1988 (1,000 metric tons)

	Smallholder Production	Marketing Year	ADMARC Purchases	% of Production Sold to ADMARC
1976/77	1,321	1977/78	90	6.8
1977/78	1,428	1978/79	121	8.4
1978/79	1,393	1979/80	82	5.9
1979/80	1,198	1980/81	92	7.7
1980/81	1,237	1981/82	137	11.0
1981/82	1,244	1982/83	246	19.8
1982/83	1,369	1983/84	245	17.9
1983/84	1,398	1984/85	297	21.2
1984/85	1,355	1985/86	272	20.0
1985/86	1,295	1986/87	111	8.6
1986/87	1,211	1987/88	113	9.3
1987/88	1,427	1988/89	135[a]	9.5

Sources: *Ministry of Agriculture crop estimates and ADMARC purchase records from Harrigan (1988); 1987/88 production figures Department of Economic Planning and Development (1989).*

parastatal funds after ADMARC purchased the supply of maize offered at its increased purchase price.

Finally, one more important factor intervenes between production and total produce marketed to ADMARC. Parallel markets in Malawi effectively obscure the link between official price changes and the volume of produce marketed through official government channels. For example, with official ADMARC prices for pulses considerably lower than parallel market prices, it was not inconsistent to observe production rising as real official prices fell (Hawksley et al. 1989). In fact, the share of pulses exported by ADMARC reportedly represents less than two percent of the total (ibid.). Thus, the changes in relative prices between the parallel and official markets are also needed to fully understand the responses in production and marketed surplus channeled into each market.

The adjustment pricing policy to increase the relative price of export crops carries important food security implications, as demonstrated by this extensive

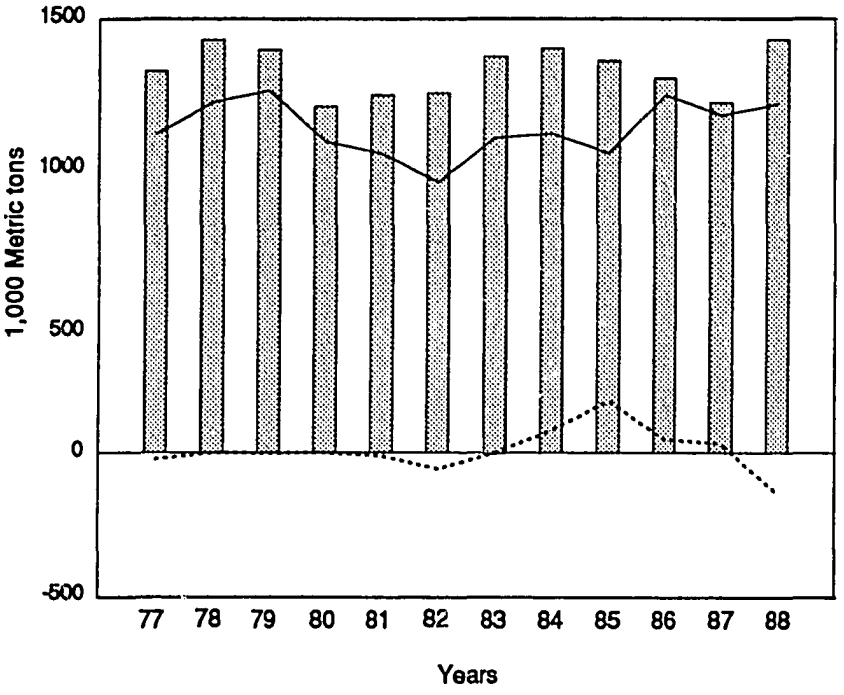
Table 24 – Malawi: Availability of Maize, 1967-1988

	Production	Implied Change in Stocks	Net Exports	Domestic Availability	Estimated Waste, Seed & Feed Use	Total Consumption	Production per Capita	Consumption per Capita
	10,000 MT						Kg/Capita	
1976/77	1,321	69	-21	1,273	171	1,102	245	204
1977/78	1,428	27	0	1,401	188	1,213	257	219
1978/79	1,393	-54	-1	1,448	194	1,253	244	220
1979/80	1,198	-45	0	1,243	167	1,076	204	183
1980/81	1,237	52	-11	1,196	160	1,036	204	183
1981/82	1,244	218	-56	1,082	145	937	200	150
1982/83	1,369	111	1	1,259	169	1,090	214	170
1983/84	1,398	46	76	1,276	171	1,105	212	168
1984/85	1,355	-24	180	1,199	161	1,038	200	153
1985/86	1,295	-180	46	1,429	192	1,238	185	177
1986/87	1,211	-171	32	1,350	181	1,169	168	162
1987/88	1,427	173	-140	1,394	187	1,207	193	163

Sources: *Harrigan (1988); Department of Economic Planning and Development (1989); Malawi Government (various years b); Pryor (1988); Reserve Bank of Malawi (1988).*

Note: *Food, seed, and waste calculated at 13.41 percent of total availability - the average nonfood consumption of maize for the years 1977 to 1986 as presented in FAO "Food Balance Sheets".*

Figure 11 – Malawi: Maize Production and Consumption, 1977 - 1988



Sources: *See table 24.*

substitution among crops. This was the case until 1988 when a sharp increase in maize prices occurred. First, falling relative prices of maize signified an alarming fall in per capita levels of food production between 1985 and 1987. Production of maize was estimated at 168 kilograms per capita in 1986/87, compared with 200 kilograms per capita in 1981/82 and 257 kilograms per capita in 1977/78 (table 24).

Second, after accounting for net exports, changes in stock levels, waste, and maize used for seed and feed, national food security as revealed by maize food consumption figures appears worse than initially shown by production data (table 24 and figure 11). By 1984/85 production had climbed to approximately 1.35 million metric tons, recovering partially from its drought-year level of 1.24 million metric tons in 1980/81. Aggregate maize available for consumption in 1984/85, however, remained at its 1980/81 level of 1.04 million metric tons.

The divergence between domestic production of maize and the availability of maize for domestic consumption rests principally with net exports of maize. Net exports had climbed from -11,000 metric tons in 1980/81 and-56,000 metric tons in 1981/82 (when maize was imported to contend with the drought) over 120,000 metric tons in 1983/84 and 1984/85 (figure 11). The increase in exports has several possible explanations. First, the maize shortage among neighboring countries in the subregion provided Malawi with the opportunity to export maize and, given its pressing balance-of-payments crisis, acquire desperately needed foreign exchange. Maize was thus exported in these years, though perhaps at an economic loss. Second, on the domestic front, demand for marketed maize may have been falling given the falling real per capita incomes and indications of diminished purchasing power among at least some of Malawi's lower income households. A third explanation for increased exports, also due to domestic demand factors, may have been an increase in the domestic price of maize.[69] These issues regarding movements in consumer price data will be discussed in more detail in the section to follow on maize consumer prices.

Increasing net exports from 1982 to 1985 and decreasing production from 1985 to 1987 have led to continued low levels of national per capita consumption during the adjustment period (table 24). Consumption fell from 220 kilograms per capita in 1978/79 to 171 and 150 kilograms per capita during the drought of 1980/81 and 1981/82. Since then it has fluctuated between 177 kilograms per capita and 153 kilograms per capita. Thus, in contrast to an average per capita

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69 Although real price increases were small, the increase in nominal prices may be of equal relevance, given that maize prices are heavily weighted in the CPI basket.

maize food availability of 206.5 kilograms during the preadjustment period from 1976/77 to 1979/80, per capita consumption had fallen to an average level of 166 kilograms during the postdrought adjustment period from 1982/83 to 1986/87. This corresponds to a per capita daily intake of 1,624 calories, well below the 2,200 calories often used as a recommended daily requirement for a typical household of two adults and three children. Of course, these figures on maize do not take into account the important role of cassava, milled rice, oils, fish, and groundnuts in the Malawian diet, for which consumption data are not available.

On a more positive note, the net impact of price reform on the export performance of the smallholder sector has been positive (table25).[70] However, in terms of national food security, the resulting increase in foreign exchange has not compensated for reduced food production that resulted from the shift in cropping patterns. While the switch to export crop production by the smallholder sector has meant reduced maize production, the increased generation of foreign exchange has not meant increased food imports.

In 1988, the government, recognizing the food crisis, increased the producer price of maize by 37 percent and again in 1989 by 44 percent. In so doing, the government appears to have effectively reversed, at least temporarily, pricing policy in place under the adjustment program that had aimed at appreciating the relative price of foreign exchange earning export crops (figure 9). The change was immediately reflected in increased maize production, which rose by almost 18 percent in one year. These gains were not, however, immediately reflected in per capita consumption figures. While partly due to Malawi's escalating population and to the evident restocking of depleted national grain reserves, indications that the magnitude of carry-over stocks was largely due to the inability of ADMARC to find a market for its maize highlights a more fundamental problem. While low per capita consumption figures persist, Malawians continue to lack the income to purchase maize from the market. Whether this production level will ultimately raise aggregate per capita consumption figures to their levels of the past decade remains to be seen. Even more important, though, is the issue of raising agricultural incomes and entitlements. The adjustment program does not appear to have made great inroads either in terms of raising smallholder

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70 Examining performance since 1983, when export crop pricing reform was actually undertaken, shows an impressive picture. Between 1983/84 and 1986/87 smallholder tobacco exports (in metric tons) increased by 22.6 percent. Smallholder groundnut exports increased by 523 percent over that period. Cotton lint exports, meanwhile, rose by 270 percent between 1982/83 and 1984/85. While these increases are noteworthy, their large magnitude in percentage terms is also due to the particularly depressed production levels recorded in the early 1980s.

Table 25 – Malawi: Exports of Smallholder Crops, 1980-1988

	Maize	Tobacco	Groundnuts	Cotton Lint	Rice
	Metric Tons				
1980/81	-11,169	18,273	25,556	2,994	9,822
1981/82	-56,063	10,936	11,121	1,031	8,061
1982/83	-1,153	8,551	7,166	500	3,097
1983/84	76,093	8,164	4,102	21	499
1984/85	179,565	14,525	1,305	1,851	1,310
1985/86	45,659	16,456	10,163	3,571	572
1986/87	32,019	10,014	25,553	...	...
1987/88	-140,000	...	...	...	...

Source: *Harrigan (1988).*

productivity or generating employment or higher wages. Thus, the jury is still out on both how to make agriculture more dynamic and whether doing so will raise rural incomes. It seems quite clear, however, that price-oriented adjustment, in isolation, should not be expected to result in major strides.

Consumption. Any discussion of the impact of price-related adjustment policies on consumers in Malawi obviously must focus on maize prices. Quite simply, the concern over consumer prices of maize arises because virtually all urban households, estate workers, and nearly 80 percent of all smallholders (Christiansen and Southworth 1988) are net purchasers of maize. Thus, higher maize consumer prices, regardless of the concurrent movements of producer prices, will carry widespread negative food security implications.

Prior to examining the actual movement of prices during adjustment, the first question to be asked is whether consumer prices have traditionally been subsidized and, if so, whether this has continued in recent years. Subsidies take two basic forms. The first, implicit subsidies, occur when the farmer must pay for low consumer prices. Implicit subsidies take forms such as government administration of prices and overvaluation of the currency. In that regard, noted above, official ADMARC producer prices, especially when evaluated at the shadow exchange rate, have hovered close to export parity, rather than import parity. This indicates a greater concern with moderating consumer prices than raising incentives to farmers. Nonetheless, there is no strong evidence that large

and sustained implicit consumer subsidies were paid by the farmer either before or after the beginning of adjustment.

Although farmers are not being heavily taxed in order to keep consumer prices low, the consumer in Malawi is benefitting from an explicit subsidy. The Treasury has paid to drive a wedge between the farmgate and market price. In particular, the explicit subsidy is revealed by the fact that the markup between ADMARC producer and consumer prices has been insufficient to cover all the costs of product transformation, transportation, and storage (table26).[71] The shortfall between the actual ADMARC consumer price and the estimated breakeven price has ranged in real terms from MK15.35 to MK62.28 per metric ton between 1980 and1988.[72] Upon applying this rate to ADMARC sales volumes, which ranged between 86,000 and 267,000 metric tons annually, the total subsidy is shown to vary between 2.25 and 9.77 million 1980 MK. Fluctuating between 0.22 and 0.94 percent of real GDP over this period, the explicit maize subsidy has constituted a significant drain on government resources, ranging between 0.74 and 3.19 percent of total government expenditure between 1980 and 1988.[73]

It is difficult to discern a clear trend in the subsidy rate through the 1980s. Nevertheless, the evidence indicates that no lasting decline in the rate over the adjustment period has occurred. The subsidy rate, measured in 1980 MK per metric ton, fell by 75 percent after the large producer price increase of 1982 but then commenced to increase. Although it fell again in 1986, by 1988 the rate was at MK/metric tons 62.28, back to its peak level of the decade. At close to 3 percent in 1987 and 1988, the subsidy as a percentage of total expenditure was

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71 The subsidy element of ADMARC's operations partially reflects the policies of pan-territorial pricing, implying that the size of the subsidy is greater in more remote areas of the country. But of equal importance are the seasonal price stabilization policies that have been adopted. The costs of intertemporal arbitrage are quite high in Malawi, given the interest charges on capital coupled with the costs of building storage facilities and expected postharvest losses.

72 The breakeven price is calculated in Kandoole et al. (undated) as the sum of the following costs: producer price, selling expenses, marketing, depot and storage, bags, twine and hessian, grading, crop transport, fumigation, insurance, seed and seed distribution, net administration, and finance charges.

73 Few African countries have data on explicit consumer food subsidies to serve as a comparison. One exception is Zambia, where in 1982 the subsidy represented 0.44 percent of GDP or 1.21 percent of total expenditure. Among those south asian countries renowned for their large subsidy programs, the value of the subsidy was 0.63, 0.48, and 1.16 percent of GDP in Bangladesh, Pakistan, and Sri Lanka respectively, in 1985, or 3.78, 4.11, and 2.77 percent of total expenditure (Pinstrup-Andersen, Jaramillo, and Stewart 1987).

Table 26 – Malawi: ADMARC Maize Subsidy, 1980-1988

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Subsidy (1980 MK) per MT	55.40	57.32	67.76	16.72	31.83	38.93	15.35	49.31	62.28
Quantity of ADMARC sales (MT)	136,849	95,821	84,212	134,885	174,678	115,460	246,860	198,108	102,399
Total subsidy (MK)	7,581,435	6,151,708	7,018,228	3,134,727	9,284,136	8,315,429	7,995,795	25,785,699	20,407,097
Total subsidy (1980 MK)	7,581,435	5,492,597	5,705,876	2,255,200	5,559,363	4,494,827	3,789,476	9,768,826	6,377,218
Subsidy as percent of GDP	0.75%	0.56%	0.56%	0.22%	0.54%	0.43%	0.36%	0.94%	0.55%
Subsidy as percent of total expenditure	2.45%	1.66%	2.17%	0.74%	1.98%	1.54%	1.35%	3.19%	2.87%

Sources: *Kandoole et al. (undated); Reserve Bank of Malawi (1987 and 1988).*

also at its highest recorded level for the decade.

Pricing policy's apparent lack of impact on the subsidy rate as of 1988 is not surprising. While real producer prices had dropped by 1.4 tambala per kilogram between 1980 and 1988, real administered consumer prices had fallen by 1.5 tambala per kilogram. As of 1988, moreover, no significant measures had been put into place to reduce ADMARC's marketing costs. The closure of ADMARC marketing outposts as part of privatization efforts, in reducing marketing costs and the subsidy element inherent in pan-territorial pricing, can be expected to somewhat effect the net marketing subsidy rate. As will be discussed, though, it remains to be seen whether this element of the reform program will be fully implemented and whether, moreover, it will lead to actual reductions in the observable subsidy rate.

Perhaps the more relevant food security concern is the actual movement of real official consumer prices since the beginning of adjustment. An examination of ADMARC nominal consumer prices reveals that they have risen at a faster rate since the commencement of the adjustment program than in the preceding period. This partially reflected and partially contributed to the higher rate of inflation. The average annual rate of increase of ADMARC nominal consumer prices was 19.7 from 1984 to 1989, compared with 8.7 percent from 1976 to 1983 (table 27). This largely reflected the sharp 55.6 percent price increase in 1984 (which rectified the fiscally disastrous situation extant for two years in which the producer price lay above the consumer price), although nominal prices have increased in every year since.

This evidence that the government continues to drive a wedge between producer and consumer prices, however, does not guarantee food security for the poor. In order to make such a determination, we next turn to the movement of real official consumer prices. They generally declined in the second half of the 1980s, following a sharp increase between 1983 and 1984. Thus, adjustment does not appear to have raised real prices of the predominant staple food in Malawi. However, because the commodity basket that comprises the CPI is heavily weighted toward maize, a more useful approach to looking at the impact of prices on food security than relying on nominal or real changes is to determine how wages have moved relative to prices. In the case of Malawi, data on actual wages received by workers in urban, let alone rural, areas are not collected. We are left, therefore, examining minimum wage figures, with all the usual limitations and caveats (figure 12).

Evidence shows that real official consumer prices, deflated by the official minimum wage rather than the CPI, witnessed a dramatic increase from 1983 through 1988 (with the exception of 1987). After a sizable increase in minimum

Table 27 – Malawi: Maize Consumer Prices, 1974-1989

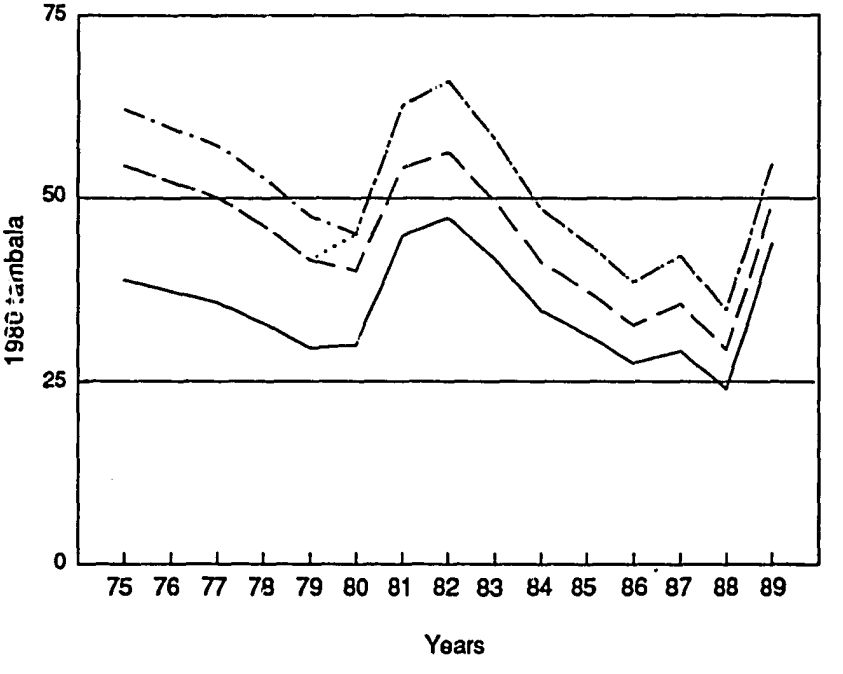
	Blantyre market	Lilongwe market	ADMARC consumer	Blantyre market	Lilongwe market	ADMARC consumer
	Nominal Tambala/Kg			Real Tambala/Kg		
1974/75	...	...	4.96	...	...	7.70
1975/76	9.46	7.25	6.55	14.08	10.79	9.75
1976/77	10.21	8.09	6.55	14.59	11.56	9.36
1977/78	9.11	7.89	6.55	12.00	10.40	8.63
1978/79	9.37	7.88	6.55	11.09	9.33	7.75
1979/80	12.52	7.43	9.00	12.52	7.43	9.00
1980/81	15.06	9.39	9.00	13.47	8.40	8.05
1981/82	17.25	13.85	9.00	14.05	11.28	7.33
1982/83	17.47	15.06	9.00	12.53	10.80	6.46
1983/84	19.09	18.93	14.00	11.41	11.32	8.37
1984/85	19.40	20.21	15.60	10.49	10.93	8.44
1985/86	19.25	19.83	16.50	9.13	9.41	7.83
1986/87	24.80	24.13	20.00	9.39	9.14	7.58
1987/88	27.32	29.11	24.00	8.54	9.10	7.50
1988/89	31.58	32.00	25.00	7.93	8.04	6.28

Sources: *Christiansen and Southworth (1988); Kingsbury (1989).*

wages relative to maize prices in the early 1980s, both in urban and rural areas, increases in administered minimum wages did not keep pace with administered maize consumer prices from 1983 to 1988.[74] Come 1988, therefore, minimum wage earners were worse off than at any other point since the adjustment

74 The urban series is deflated by the minimum wage index for Blantyre; the rural series is deflated by the minimum wage index for "other areas" listed by the NSO.

Figure 12 – Malawi: Real Minimum Wages 1975 - 1989



Source: *World Bank (1986c); Malawi Government (1988a)*

program was undertaken. In real terms, computed in this fashion, consumers were paying for maize in 1988 approximately double the price they paid in 1983. Put more explicitly, it would have taken the head of a rural household 14 days of work per month to feed a family of five that month in 1983. In 1988 he/she had to find 29 days of work at the minimum wage for the same amount of food (figure 13).[75]

From 1983 to 1988, Malawi's nutritionally vulnerable households probably suffered shortfalls in both income and food. To the extent that income was not in fact buoyed by increased real prices of export crop production, as discussed above, and that employment was unavailable to the poor at wages above the administered minimum, it is likely that food entitlements fell among the poor during this period.

This deteriorating situation led the government to take strong, food-security-minded policy actions in 1988 and 1989. Minimum wages were increased by approximately 95 percent in urban areas and 126 percent in rural areas. Consequently, real official consumer prices of maize, deflated by the wage index, dropped to their preadjustment levels of close to 5 tambala per kilogram in urban areas and 4.5 tambala per kilogram in rural areas. In 1989, therefore, 13 days of work at the going minimum wage would have fed a farmer's family of five during a given month.

The above discussion has focused solely on the movements of official consumer prices for maize. However, just as critical to understanding the welfare of consumers in Malawi is an examination of the extremely important unofficial or retail market for maize in the country. Between the years 1977 and 1987, an average of only 18 percent of all maize produced was purchased by ADMARC. Not all the remaining 72 percent was consumed at home. Rather, Malawi has historically had active market places where maize is exchanged outside ADMARC channels. In addition, a sizable portion of ADMARC maize is resold by private traders in local markets. While unofficial markets continue to expand in the face of liberalization, trends associated with these markets are vague due to the lack of consistent and reliable data.[76] Nevertheless, current data does

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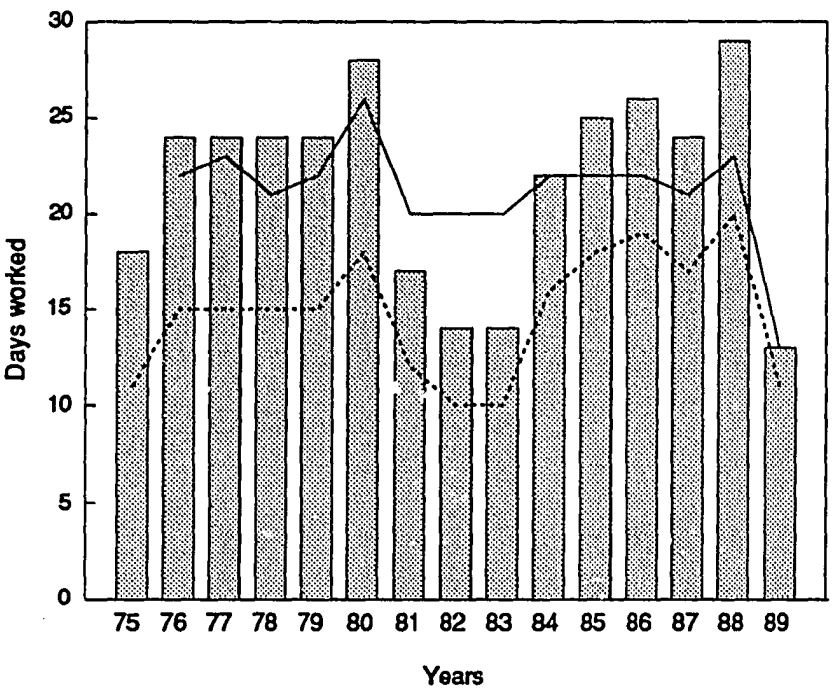
75 This simply assumes a minimum caloric requirement of 2,200 calories per day per person and employs the standard content factor of 3,570 calories per kilogram of maize. It translates into a monthly maize requirement of 92 kilograms to satisfy the subsistence requirements for a family of five.

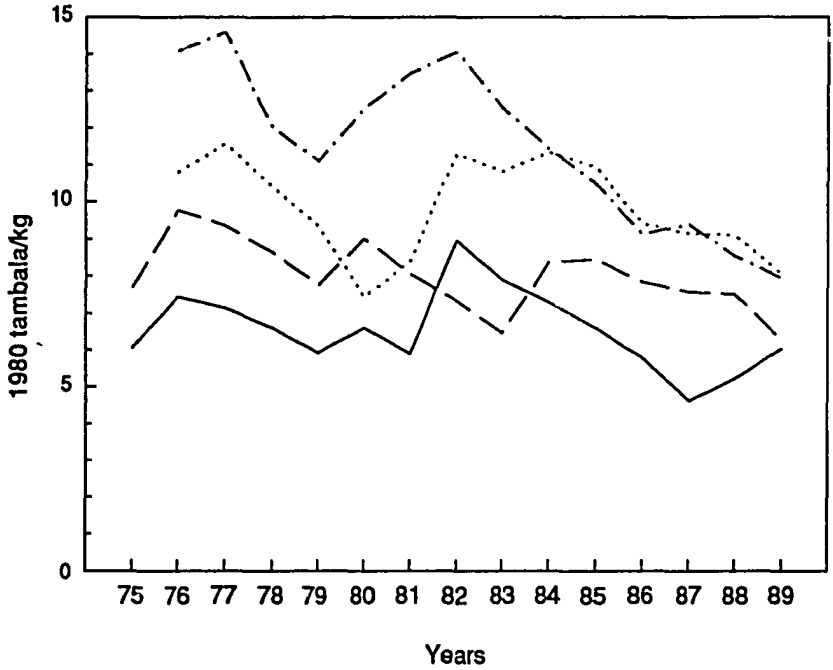
76 For example, current time series data on maize retail prices are limited only to urban markets (Blantyre and Lilongwe since 1975 and Zomba and Mzuzu since 1984).

Figure 13 – Malawi: Number of Days Work at Minimum Wage to Buy Subsistence Quantity of Maize, 1975 - 1989



Sources: *World Bank, 1988c; Malawi Government (1988a and 1987a).*

Figure 14 – Malawi: Maize Consumer Prices, 1975 - 1989



point toward several tentative conclusions that enhance the picture of the country's maize consumer market and the country's maize-consuming poor.

First, the open market retail price has been higher than the ADMARC (official) consumer price (figure 14) in every year since 1975 except 1979, when the Lilongwe retail price dipped below the ADMARC price. Thus, between 1983 and 1989, for example, the Lilongwe retail price for maize fluctuated between 120 and 167 percent of the ADMARC consumer price (table 27).

The significant differential between unofficial and official consumer prices has three possible explanations. First and foremost, the markup could simply reflect the actual and unsubsidized retail margin corresponding to costs associated with transportation and marketing, as well as those associated with marketing maize to consumers in smaller quantities than marketed by ADMARC. Also contributing to the higher price on the open market is that due to shortages of maize at the official price and due to the apparent early discouragement of trading activities (especially by non-African entrepreneurs), a parallel market has developed. Associated with this is the possibility of speculation among traders. This would effectively raise prices in the thinner parallel market, especially during the preharvest season, over and above what they would have been without any direct marketing role.

The plight of consumers who are actually purchasing at the retail price, rather than at the official price, would actually be worse than initially indicated above. For example, the wage-deflated retail price of maize was close to 12 tambala per kilogram in 1988 in Lilongwe, in contrast to the peaking ADMARC consumer price of 10 tambala per kilogram. Rather than 20 days of work at the minimum wage, an urban worker would actually have to work 24 days to feed his five-person family if he were purchasing at the retail rather than at the official price (figure 13).

It should be noted, though, that while the consumer's plight is actually worse at every point in time if he always bought on the retail rather than official market, it would not have deteriorated as severely over the 1983 to 1988 period as it would have for one who only bought from official channels. As discussed, the real official price of maize (deflated by the Blantyre minimum wage) increased by 94.6 percent over this period. However, the real Blantyre retail price increased by only 14.1 percent. Clearly, however, to the extent that consumers are increasingly relying on the retail market over the official market and switching their purchases from the official to the retail channels because of adjustment policies over this period, their welfare would have deteriorated significantly.

Another point to note with regard to recorded retail prices is the initial divergence between retail prices in different urban areas (figure 14). Maize

prices in Blantyre averaged 25 percent above those in Lilongwe until 1981, which indicates a lack of market integration. Given that the presented prices are averages, this phenomenon points to the possibility of more marketing activity by ADMARC in Lilongwe, the capital. It is interesting to note the progressive convergence of the two urban retail prices beginning in 1981. In 1980 the difference in the price of a kilogram of maize in Blantyre and Lilongwe was 5.09 tambala; in 1984 the difference between the two retail prices was 0.09 tambala (deflated to 1980 values). The two prices have then remained close to identical between 1984 and 1986. Another observation based on this annual data is that between 1984 and 1989, the gap between real ADMARC official prices and real urban retail prices closed by approximately 53 percent. The convergence in these prices indicates more effective market integration and that official prices are moving closer to their scarcity value, although the exact cause of this convergence is still not clear and warrants closer analysis.[77]

Third, monthly data reveals the extent of seasonal price instability in Malawi (figure 15). These off-season price increases are likely a good reflection of the costs of intertemporal arbitrage, reinforcing the earlier discussion concerning the temporal subsidization of prices by ADMARC. More importantly, it reveals ADMARC's inability to guarantee the minimum consumer price, especially in the preharvest season. The average retail price in July 1988, at 24.4 tambala per kilogram, was almost equal to the constant 1988/89 ADMARC consumer price of 24.0 tambala per kilogram. By January 1989, however, the average retail price had increased to 36 tambala per kilogram, over 144 percent of the official consumer price.

It is also noteworthy that the amplitude of seasonal price fluctuations actually increased from 1984 to 1988 (figure 15). The ratio of peak to trough price increased from 1.39 in 1984/85 to 1.63 in 1985/86. After dipping to 1.48 in 1986/87, the ratio jumped to 1.93 in 1987/88. This phenomenon is explained by several factors. First, the general decrease in maize production over this period caused the national maize shortage that is most evident in preharvest prices when aggregate annual stocks are depleted. Second, over this period the percent of production sold to ADMARC also fell. From 21.2 percent in 1983/84, it was

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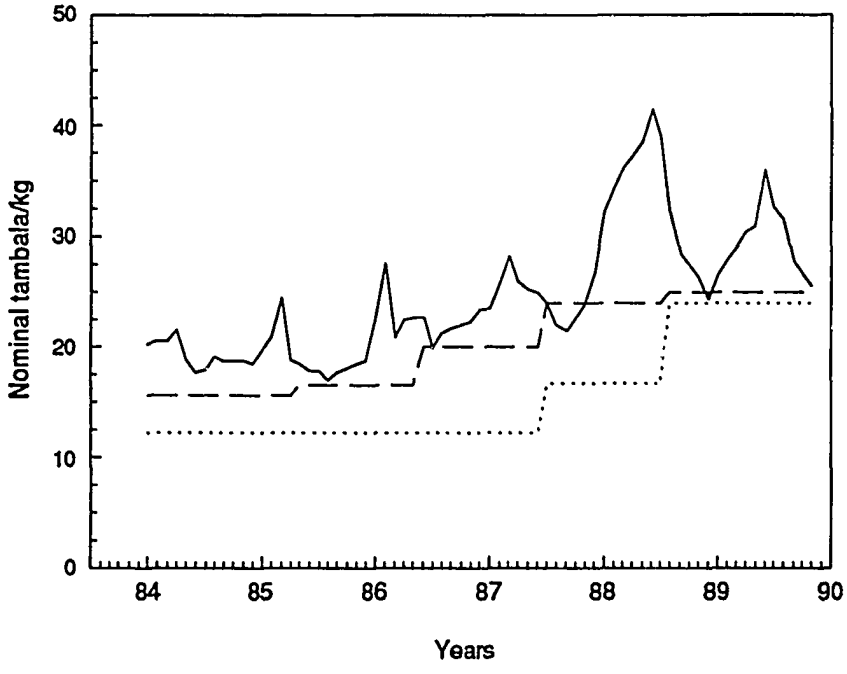
77 One explanation would be increased market participation by private traders that would have reduced the thinness of the maize market. This may be true even though the privatization program itself did not commence in earnest until 1986/87. In fact, a survey of traders (Mkwezalamba 1989) reveals a number of private traders operating before the 1987 policy change. This discrepancy with regard to timing, however, still leaves some unanswered questions regarding the causes of this phenomenon.

Figure 15 – Malawi: Maize Prices Showing Seasonal Fluctuations, 1984 - 1989



Source: *Malawi Government (various years); Malawi Government Economic Reports.*

down to 8.6 percent by 1985/86. ADMARC's price stabilizing and supporting role is expected to have been undermined to the extent that it was unable to acquire the necessary stocks to execute its mandate. A third, related factor also exacerbated the amplification of seasonal prices that year. The privatization of trading in 1987 appears to have diverted maize purchases away from ADMARC. ADMARC purchases of smallholder agricultural produce declined by 55.3 percent between the second quarter of 1987 and the second quarter of 1988 (Mkwezalamba 1989). Moreover, in the Lilongwe ADD more produce is now marketed through private trading channels than through official ADMARC channels (ibid.). It has been argued (Harrigan 1988) that this factor also prevented an adequate accumulation of ADMARC maize stocks and weakened the parastatal's ability to stabilize prices. With production dropping to its lowest point of the decade, all these factors came to a head in 1987/88, when seasonal prices reached their peak for the decade.

The magnitude of the seasonal fluctuations by and large seem in accordance with the expected costs of intertemporal arbitrage and are in fact lower than those observed among many commodity markets in sub-Saharan Africa (Sahn and Delgado 1989). Nonetheless, given that demand is clearly spilling over to the unofficial market during the period of highest demand, to the extent that the lowest income smallholders are compelled to sell (postharvest) at low prices and buy (preharvest) at high prices, they are the most negatively affected by seasonal fluctuations in maize prices.

Several reasons exist for hypothesizing the limited smallholder access to ADMARC prices. First, the poorest smallholders are often unable or unwilling to buy in the quantities that ADMARC maize is packaged and sold. Second, these smallholders are the least able to travel (both in terms of time and financial cost as well as access to mode of transportation) to distant ADMARC distribution sites.[78] In the Lilongwe ADD, for example, the cost of hiring an ox cart to make the average round trip journey of 15 kilometers to the closest ADMARC buying/selling point was prohibitive for many recently surveyed farmers (Mkwezalamba 1989). Third, given recent efforts at privatization (discussed below), many ADMARC outposts in the more remote markets, serving mainly

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78 The average distances to the closest ADMARC buying/selling point is 3.63 kilometers within MZADD, 10.2 kilometers within BLADD, and 7.53 kilometers within LADD according to a recent survey (Mkwezalamba 1989).

smallholders, have closed. Fourth, there are strong indications that ADMARC outposts may be supply constrained in periods of peak demand.[79] In fact, anytime ADMARC is either sold out or rationing maize, the poorer smallholders are least likely to find access to maize at the official price. According to a recent marketing survey"most of the farmers reportedly buying food crops pointed to the unavailability of food crops such as maize at ADMARC markets and buying/selling points" as among their most severe problems (Mkwezalamba 1989).

In addition, there is evidence that the poorest smallholders are in fact compelled to sell early and buy back later at much higher prices. This overselling behavior is partly caused by the pressing cash flow problem smallholders face immediately postharvest.[80]Consequently, smallholder food stocks are more likely to run out in the pre-harvest period, leaving the purchase of maize, even at high prices, as the only option for food procurement. This points to another reason why farmers often sell to private traders rather than ADMARC. Given the cash-driven need to sell early, farmers find that ADMARC markets open too late in the season to be of service to them (ibid.).

In sum, the evolution of consumer prices during adjustment in Malawi provides some evidence that efforts at policy reform have contributed to the food security problem. Although the explicit subsidy on the official maize market continues, spiralling inflation, with no commensurate wage increase in the mid-1980s, suggested there was a transitory decline in consumer purchasing power. This situation was reversed in 1989. These conclusions, however, do not take into account the prominent role of the parallel retail market. As highlighted earlier, the increase in nominal free market prices during adjustment have been considerably lower than that of administered prices, suggesting that poor consumers have not been hurt as much as indicated by official price data. This conclusion is tentative, given that the share of purchasers on the official and parallel markets are not known, either in the pre- or postadjustment era.

Nonetheless, the data indicate the need for policy attention to chronic household food insecurity in general and seasonal food insecurity in particular. While the need for concern is quite obvious, how to respond is less clear. It is sometimes argued that intertemporal savings would enable households to cope with the high seasonal prices that would prevail without intervention. The

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79 This could be for any of several reasons: ADMARC producer prices that are too low, an ADMARC budget which has reached its limit, or a national maize supply that is low.

80 See Harrigan (1988) and the section to follow on the fertilizer subsidy removal program.

inability of many households to correctly anticipate price increases and their lack of access to rural savings institutions provide further impetus for according priority to credit infrastructure and access to such institutions by the poor.

In addition, the immediate need to fulfill calorie requirements during the preharvest season commends considering consumption credits or transfer schemes during this period in order to address production constraints and permit households to cultivate their land, rather than forcing them to search for low wage labor opportunities in order to provide cash to feed the family. Access to such credit would also enable farmers to purchase agricultural inputs during periods that correspond to seasonal shortages of food and income.

In addition, there appears to be a need for other intervention to protect the vulnerable in the preharvest season. In particular, a second focus of policy makers ought to be on measures that aid the rural population by improving the efficiency of markets rather than on untargeted subsidies, which are inevitably implied by price stabilization. Strengthening collection and dissemination of information, transport and marketing infrastructure, and opportunities for private traders, such as access to credit, should be given priority. For example, improved infrastructure will assist in reducing household level food insecurity by integrating markets and decreasing the transportation cost component of retail prices while allowing for the quicker movement of supplies.

Third, the identification of new agricultural technologies and farming systems, as well as the encouragement of productive and remunerative nonfarm activities, can also be expected to help farmers cope with the higher preharvest prices. Fourth, to complement this indirect role, targeted transfers to households requiring special assistance should also be contemplated. They too are a superior alternative to the untargeted subsidy that price stabilization and pan-territorial pricing have created.

Fertilizer Subsidy Removal

Another integral component of the planned agricultural sector reform in Malawi has been the fertilizer subsidy removal program (FSRP). The marketing and pricing of fertilizer in the smallholder sector is, as always, under the direct control of the Ministry of Agriculture and ADMARC. Unlike the estate sector, which purchases its fertilizers primarily through Optichem at market-determined prices, the government has set up the smallholder farmers' fertilizer revolving fund (SFFRF), working in conjunction with ADMARC and the ADDs not only to supply fertilizer to the smallholder, but to achieve a variety of related social and economic objectives. The key element of achieving those social objectives is subsidizing the price of smallholder fertilizer, ostensibly to encourage use of fertilizer with the objective of raising agricultural output of maize,

the dominant smallholder crop.

In 1983, under SAL II, the government committed itself to the FSRP – a program for the gradual but complete removal of this subsidy. Commencing with USAID support for the FSRP in 1985, when the World Bank and the government were negotiating SAL III, the program stipulated a reduction of the subsidy rate to 22.6 percent in 1985/86. In 1986/87 the subsidy was targeted to decline to 17 percent, with 10 percent of all imported fertilizer to be high-analysis varieties (HAF), such as DAP and urea, to soften possible adverse effects of subsidy removal. The program further stipulated that by 1987/88 the subsidy was to be down to 12 percent and the HAF up to 25 percent. Complete removal of the subsidy was scheduled for 1988/89, with 40 percent of imports to be HAF.

Justifications. FSRP was instituted primarily because the subsidy had been a major cause of ADMARC's financial troubles. It required large portions of a limited government budget. FSRP was thus an important component of the policy package aimed at rectifying Malawi's fiscal imbalance.

In addition, a number of other economic arguments commend the removal of the fertilizer subsidy. First, any subsidy creates a distortion. Underpricing fertilizer relative to its true economic cost will, in theory, result in an overallocation of resources to its use. This could translate into the overproduction of fertilizer-intensive crops relative to other crops, beyond the point where marginal returns to production equal true marginal costs. Some have argued that this policy, coupled with strong extension efforts to promote the production of hybrid maize, may have distorted production incentives away from more remunerative and less fertilizer-intensive (and hence less costly) cash crops.

Second, subsidized fertilizer, targeted specifically to smallholders, has been leaked to the estate sector, defeating its original purpose. The subsidy in this case partially accrues to the estate sector in the form of fertilizer priced below the Optichem price and partially accrues to smallholders as the cash value of a portion of the margin between the subsidized price and the Optichem price. If the intention is to aid smallholders, it is arguable that a direct cash transfer for the value of the entire subsidy would be more appropriate.

Third, the claim that the demand for fertilizer is relatively inelastic with respect to price serves as the basis for a number of arguments in favor of subsidy removal. To amplify, two very different lines of reasoning can be constructed to argue that the fertilizer price is inelastic. On the one hand, fertilizer can be viewed as a critical input making such a large contribution to productivity that demand would not be expected to vary substantially with price given access to credit. As a consequence, reducing the subsidy level will not result in a sizable decline in intake or a loss in productivity. On the other hand, a very different

argument claims that the fertilizer subsidy may not induce sizable increases in application in the smallholder sector given countervailing tastes, preferences, and quality differences between crops. These may affect production decisions on lines other than yield criteria alone. Indeed, even though hybrid maize responds most favorably to fertilizer, it has often been asserted that smallholders as consumers show marked preference for the local variety. It is felt that the hybrid variety has a higher labor requirement in food preparation. If a shortage of labor were indeed a constraint to the preparation of food, then it may well be a factor in the determination of cropping patterns. Also, the local variety is said to command an advantage over hybrid maize in ease of storage and length of shelf life under rural conditions. Preferences on these counts, in implying a lower responsiveness of agricultural productivity to a fertilizer subsidy, imply a small negative response in the quantity of fertilizer demanded and thus in productivity with removal.

Fourth, this argument for removing the subsidy is further reinforced on the basis of distributional considerations. Small farms use limited amounts of fertilizer, and removing the subsidy will therefore have only a marginal effect on their production. While 55 percent of all Malawian smallholder landholdings are less than 1 hectare in size, constituting over 27 percent of land cultivated by the smallholder sector, this subset uses less than 5 percent of all fertilizer applied within the sector (table 28). Similarly, 86 percent of all Malawian smallholder landholdings are less than 2 hectares in size and account for 65 percent of all land cultivated within the smallholder sector. Yet these holdings apply only 32 percent of all fertilizer used by the smallholder sector. This is less than the amount of fertilizer used by the 4 percent of all smallholdings that are 3 hectares and greater in size. The adverse effect of removing the subsidy on the relatively larger smallholder farms may have second-round negative impacts in terms of reducing labor demand and employment. However, they will likely be more than offset by the gains that arise from the reallocation of resources to other, more remunerative crops.

Fifth and perhaps most important is the argument that smallholder fertilizer inputs are quantity constrained by a combination of the subsidy rate and the budget allocation to the subsidy. This suggests that access to fertilizer can be broadened if the quantity rationing, a corollary of the subsidy scheme, is eliminated.

FSRP implementation: Fertilizer prices and the fertilizer subsidy. We begin our analysis of the appropriateness and effectiveness of the FSRP with an assessment of the actual trend in fertilizer prices. In particular, estimating the level and trend of the net fiscal subsidy and the actual subsidy rate of fertilizer per unit value in

Malawi will allow us to speak to the arguments laid out above. Initially, however, it is interesting to see whether in fact the FSRP accomplished its stated rationales.

Our examination of whether the program has achieved its fiscal objectives is addressed in two ways. We look first at the de facto net subsidy as indicated by figures on actual government and treasury subvention. This gives us direct insight into the major impetus for the FSRP given above, the extent to which the subsidy and the evolution of the FSRP affected the drain on fiscal resources. Second we can look in more detail at the marginal cost of marketed fertilizer in Malawi as compared to its marketed price. This will provide a clearer indication of the degree to which prices deviated from actual marginal costs and, hence, of the cost of the subsidy in terms of a deviation from border prices and the supposed efficiency criterion they imply.

Table 29 presents figures on the net subsidy needed annually to cover the SFFRF's financial deficit. The figures show that the FSRP stemmed the drain on the Treasury only marginally. After rising from MK7.03 million in 1983/84 to MK7.94 million in 1985/86, the SFFRF trading deficit fell slightly to MK7.32 million in 1986/87. In 1987/88, though, it increased to MK9.48 million. Then, with the formal termination of the FSRP, the trading deficit more than doubled to MK20.95 million in 1988/89. This trend was somewhat tempered by rapidly growing interest earned by the SFFRF funds on deposit in the reserve bank. As a result, the actual net subsidy required from the treasury rose to MK7.30 million, or 0.33 percent of GDP, in 1985/86 before falling to MK5.98 million, or 0.22 percent of GDP, in 1986/87. Despite the more than doubling of interest payments received from the funds on deposit in 1987/88, the net required subsidy began to increase in that year, rising to MK6.55 million, 0.18 percent of GDP. The dramatic escalation of the trading deficit in 1988/89, furthermore, indicates that the treasury subvention would have been much higher in this past year. The numbers thus reveal that the FSRP made little headway in meeting one of its primary objectives.

With regard to the second objective, a clearer picture of changes in the level of economic distortion due to FSRP emerges when the subsidy rate on fertilizer is calculated as the deviation of the administered market price from the delivered to market cost. This more disaggregated examination of costs also permits some discussion of the sources of increasing cost and the obvious failure of the FSRP to achieve its objectives.

The aggregate subsidy rate, defined as the weighted average of the difference between the sale price and the delivered to market costs of fertilizer where the weights are the shares of the different types of fertilizer, indicates that in the year

Table 28 – Malawi: Fertilizer Use, by Holding Size, 1984/85

Holding Size (1)	Percentage Smallholder Cultivated Area by Size of Holding (2)	Mean Holding Size (3)	Fertilizer Use (4)	Percentage of Smallholder Fertilizer Use by Size of Holding (5)	Fertilizer Use by Mean Holding per Category (6)
Hectare	Percent	Hectare	Kg/Ha	Percent	Kilogram
< 0.50	6.20	0.31	6.18	0.63	1.92
0.50 - 0.99	20.90	0.74	12.44	4.26	9.21
1.00 - 1.49	21.30	1.23	33.12	11.56	40.74
1.50 - 1.99	16.30	1.71	59.16	15.80	101.16
2.00 - 2.49	12.20	2.22	84.74	16.94	188.12
2.50 - 2.99	8.30	2.73	113.59	15.45	310.10
>= 3.00	14.80	4.00	145.82	35.36	583.28

Source: *Kandoole (1990).*

Note: *Fertilizer uptake by holding size data collected from extension participants. Column (5) is computed as the share by holding size of [Column (2) x Column (4)]. Column (6) is computed as [Column (3) x Column (4)].*

Table 29 – Malawi: Fertilizer Subsidy, 1983-1989

	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
	Metric Tons					
Total quantity purchased/donated	55,231	66,994	70,925	63,341	82,361	82,882
Total quantity sold	57,009	69,222	63,977	67,303	73,500	...
	Malawi Kwacha					
Delivered-to-mkt cost of quantity sold	23,085,603	30,048,115	32,893,214	34,809,936	47,993,593	70,674,566
Sales value (MK)	16,051,370	22,313,580	24,949,060	27,484,430	38,508,540	49,719,740
SFRF trading deficit	7,034,233	7,734,535	7,944,154	7,325,506	9,485,053	20,954,826
Net interest received	94,961	471.768	639,892	1,347,284	2,937,079	...
Net subsidy required	6,939,272	7,262,767	7,304,262	5,978,222	6,547,974	...
	Percentages					
Net subsidy as a % of budget deficit	5.06	6.24	7.91	2.75	-9.59	...
Net subsidy as a % of GDP	0.41	0.37	0.33	0.22	0.18	...
Aggregate fertilizer subsidy rate	30.47	25.74	24.15	21.04	19.76	29.65
SFFRF target subsidy rate	...	...	22.60	17.00	12.00	0.00

Sources: *See appendix A II.*

Note: *The "net required subsidy" is derived by subtracting sales revenue for a given year (determined by multiplying the quantity of fertilizer purchased by the sales price to farmers) from the cost of delivering to the market the quantity of fertilizer sold that year. The "delivery to market cost" is the cost of all fertilizer (both purchased and donated) sold to smallholders nationally in a given year at the going c.i.f. cost that year, plus customs levy, depot and storage costs, internal transport charges, and rebagging costs. We refer to the difference between the sales revenue and cost of delivery to the market as the trading deficit. From this trading deficit is subtracted the net interest earned by SFFRF on accumulated funds on deposit with the Reserve Bank of Malawi to arrive at the net subsidy. For fertilizer subsidy computations, refer to Appendix a II.*

before FSRP went into effect, the subsidy rate dropped from 30.47 percent to 25.74 percent. Then, for the first three years of the FSRP, the subsidy rate continued to decline: to 24.15 percent in 1985/86, 21.04 percent in 1986/87, and 19.76 percent in 1987/88 (table 29). Reluctant to pass on exogenously escalating costs to smallholders, however, the government felt compelled to abandon the FSRP in1987. This policy slippage is evident in the numbers. During 1988/89, the subsidy rate shot back up to 29.65, its original pre-FSRP level of1983/84.[81]

Inasmuch as the FSRP did contribute to lower subsidy rates when it was in place, it appears to have been partially effective in meeting its objectives. It is interesting to note, however, that for the three years during which the aggregate subsidy rate declined, the calculated rates are above the targeted subsidy rates for each year. Of course, the 50 percent increase in the subsidy rate in 1988/89 reversed any progress noted in the previous years.

The failure of the aggregate level of the subsidy to reach its target level of reduction and its dramatic escalation in both real and nominal terms in 1988/89, however, should not be construed as a bad faith attempt of the government to pass on a higher share of the cost of fertilizer to the smallholders. A perusal of fertilizer prices during the past few years amply illustrated that the nominal price paid by consumers of fertilizer has increased dramatically since the adjustment program commenced and the FSRP was implemented (see appendix AII). Between 1983/84 and 1988/89, the price of CAN increased at an annual average rate of 14.76 percent, the price of 20:20:0 by 17.84 percent, and that of S/A by 18.03 percent. Since their introduction in 1986/87, furthermore, Urea and DAP increased in price at annual average rates of 7.48 percent and 20.39 percent, respectively. In evaluating these numbers, however, it must be remembered that the rate of inflation in 1987 and 1988 was greater than 20 percent.

The FSRP failed to achieve a sustained decline in the aggregate subsidy, despite the price increases passed on to the smallholder. The explanation for this seeming contradiction is found once again in the exogenous factors that continue to buffet Malawi's economy. To amplify, the most important reason for the failure to achieve the targeted reductions in fertilizer costs, despite significant nominal price increases, is the escalating freight costs of importing fertilizer. In three of the last five years the regional and internal costs of transporting a ton of fertilizer has exceeded its f.o.r. cost. While freight cost data

81 Moreover, in 1988/89 the customs levy was no longer included as a cost component to fertilizer, the government having evidently withdrawn the levy on fertilizer. This would imply an even greater transfer of resources away from the government as a result.

is not readily available for the period prior to the effective closure of the Mozambican rail routes, it is noteworthy that the MK per metric ton freight cost through Nacala was recently estimated at MK 87 per metric ton, in contrast to the MK 296 per metric ton cost via Durban and the MK 396 per metric ton charge through Dar-es-Salaam (IFDC 1989). In other words, present rail costs may be 3 to 4 times those of a decade ago, when lines through Mozambique were open. Although recent nominal time-series figures reflect the continued increasing trend (appendix A II), the average annual rate of growth of nominal regional plus internal freight charges has remained below the concurrent rate of inflation.

Freight charges have not been the only source of the increased cost of fertilizer to Malawi. By 1988 the kwacha had been devalued by close to 82 percent of its 1984 value. Compounded with rising world prices of fertilizer, this translated into higher kwacha costs f.o.r. The f.o.r. cost per metric ton of CAN, for example, rose by 124 percent between 1984/85 and 1988/89. Other costs also contributed to the increasing cost of fertilizer. For example, the decision to provide fertilizer in smaller bags in order to improve its access to smallholders meant additional rebagging costs domestically.[82]

As pointed out earlier, however, a secondary objective of the FSRP was to encourage the switching of demand from low analysis fertilizer (LAF) to the high analysis variety (HAF). Surprisingly, our analysis indicates that the subsidy to the low-analysis S/A increased in every year through 1986/87, despite the stated objective of shifting use away from LAF varieties (appendix A II). In effect this policy was not really incorporated into the incentive structure until 1987/88, when the price of S/A was increased by 28 percent, effectively resulting in a negative subsidy, or a tax. However, with an increase in the world price of S/A the situation reverted to a positive subsidy rate once again in 1988/89. Meanwhile, Urea and DAP have experienced the most significant increases in their subsidy rates since their introduction in 1986/87. This is consistent with the government's intention of promoting these HAF varieties. The subsidy on urea had increased from 7.92 percent to 30.85 percent between 1986/87 and 1988/89, while that of DAP rose from 21.99 percent to 30.43 percent over the same period. The subsidy on 20:20:0 too has steadily increased since 1983/84. This latter variety is now being replaced by two varieties (23:21:0 + 4s and 23:23:0 + 4s), which include more nitrogen and phosphate as well as some sulfur to which the Malawian soil responds well. Finally, while the subsidy on CAN declined slightly during the period in which FSRP was in effect, it was higher in 1988/89 than it

82 In 1987/88 this additional cost alone was approximately MK437,325.

had been in the past five years. Thus, differential subsidy rates have helped precipitate the shift toward HAF varieties. However, supply factors, rather than demand factors, have probably been most important in explaining the increased share of HAF uptake. The government has biased its procurements and donations toward HAF and thus dictated national supply in this regard (appendix A II).

The impact of increased fertilizer prices on smallholders. Thus, the fertilizer subsidy removal program was only one factor pushing up the cost of fertilizer prices in the 1980s. Yet it is through the intervening price variable that the FSRP and the other factors discussed above have directly affected smallholders. Given that some of the justifications for the FSRP focused specifically on this link between prices and smallholder production, and, furthermore, that the special focus of this paper is on the welfare and poverty effects of policy, we now address the effect of increased fertilizer prices on smallholders.

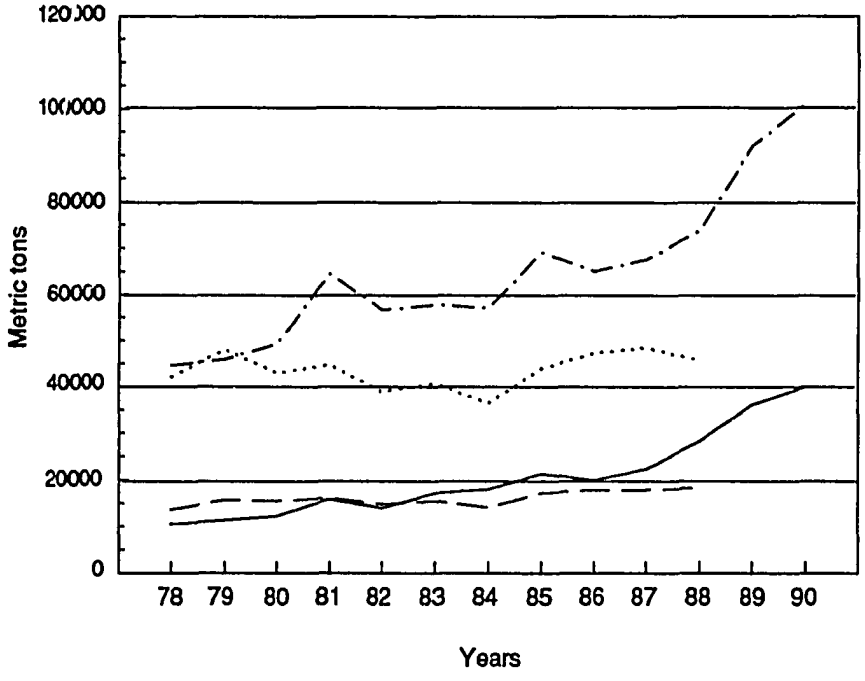
As discussed above, a common defense for the removal of the fertilizer subsidy has been that the demand for fertilizer may be relatively inelastic with respect to price changes. An issue of paramount interest, therefore, is an assessment of how responsive fertilizer uptake has been to these price increases. Contrary to expectations and in keeping with demand being inelastic, figure 16 reveals that fertilizer uptake in the smallholder sector has been *increasing* with price increases since the initiation of the FSRP. Fertilizer uptake has risen every year since 1985, averaging an annual growth rate of 7.11 percent. Given the larger quantities of high-analysis fertilizer in the uptake, this translates into an even more exaggerated upward trend in the uptake of nutrients.[83] The average annual growth rate of nutrient uptake over the same period was 12.89 percent.[84]

How is this apparent paradox to be reconciled? To commence with, one needs to account for output price increases that, within the context of structural adjustment, occurred concomitantly with the fertilizer price increase. The real price of fertilizer for our purposes may be deflated by the producer price of the prominent, fertilizer-using, smallholder crops. The most important indicator is the ratio of fertilizer to maize prices. After falling dramatically from 1978/79 to

83 'Nutrients' here refers to nitrogen, phosphate, and potash.

84 To the extent that these amounts are really supplemented by cheaper fertilizer smuggled in from Zambia—a pervasive phenomenon (IFDC 1989)—actual uptake in the smallholder sector may be even larger.

Figure 16 – Malawi: Fertilizer Utilization, 1978 - 1990



Sources: *International Fertilizer Development Center (1989); Atukorala et al. (1990).*

Note: *Nutrients included are nitrogen, phosphate and potash.*

1981/82, this index rose steadily until 1986/87. By then it was 27 percent higher than it was prior to the initiation of the FSRP two years earlier. However, it is noteworthy that given the increase in maize producer prices in 1987/88 and 1988/89, as well as the reestablishment of a high subsidy rate on fertilizer, the ratio has dropped in these last two years.[85] As for other crops, between 1984/85 and 1987/88, the real price of fertilizer had risen as measured by the fertilizer/tobacco index ratios (table 30). In 1987/88 the smallholder fertilizer/tobacco price ratio was higher than it had ever been since the mid-1970s and 40 percent higher than in 1984/85, prior to the initiation of the FSRP. The fertilizer/rice price ratio was 5 percent higher in 1988/89 than it was in 1984/85, although in general it remained quite steady throughout the 1980s.

The generally increasing prices of fertilizer throughout the 1980s, coupled with the rising prices of fertilizer relative to farmgate prices between 1983/84 and 1986/87, does not readily explain the increasing application of fertilizer. Therefore, we next go beyond simply examining fertilizer prices relative to product prices and look at the value:cost ratio (VCR), a more appropriate metric by which to gauge the incentive structure faced by smallholders. The VCR is calculated as the incremental output per kilogram of nutrient divided by the value of incremental cost per kilogram of nutrient. Maize, being the dominant crop, is used as the reference output. VCRs for both local and hybrid maize are presented in figure 17.

The value:cost ratios for local maize using LAF reveals that increasing maize prices have generally not compensated for the increasing nutrient prices. The VCR has in fact steadily declined from its value of 3.28 in 1981/82 to a low of 1.71 in 1986/87, before rising marginally in 1987/88 and 1988/89 as a result of maize price increases in those years. Since the initiation of the FSRP after 1984/85, the ratio has averaged 1.93. This level is below the ratio of 2.00 to 3.00 generally thought to be required to encourage farmers to invest in fertilizer (FAO and IFDC 1989). Not only have VCRs been falling for local maize during the time in which fertilizer utilization was increasing, but they apparently even fell below this threshold minimum.

In contrast, hybrid maize using LAF, whose yield level is much more responsive to nutrient uptake than the local variety, has fared better in this regard. However, while hybrid maize did not record a ratio below 2.90 over this period and has had VCRs averaging 3.29 since 1984/85, it too suffered a VCR decline between 1981/82 and 1986/87. These figures once again do not explain the

85 In 1988/89, in fact, it recorded a level lower than that recorded in 1984/85.

Table 30 – Malawi: Price Index of Rice, Tobacco, and Maize Relative to Price Index of Fertilizer, 1976-1989

	Fertilizer/Rice	Fertilizer/Tobacco	Fertilizer/Maize
76/77	0.83	1.41	1.20
77/78	0.83	1.07	1.20
78/79	0.83	1.08	1.20
79/80	0.83	1.04	0.91
80/81	1.00	1.23	1.09
81/82	1.02	1.19	0.67
82/83	1.17	0.93	0.88
83/84	0.99	1.04	0.87
84/85	1.00	1.00	1.00
85/86	1.08	1.27	1.21
86/87	0.98	1.25	1.27
87/88	1.03	1.40	1.19
88/89	1.05	...	0.95

Sources: Christiansen and Southworth (1988); International Fertilizer Development Center (1989); Malawi Government Economic Report.

general increase in smallholder fertilizer utilization observed between 1983/84 and 1986/87. However, the availability of high-analysis fertilizer as well as higher maize prices that contributed to sharply rising VCRs for both local and hybrid maize since 1986/87 are consistent with the increased uptake since that time.[86]

While the observed, yet unexpected, negative correlation prior to 1986/87 between fertilizer:maize VCRs and fertilizer uptake cannot be fully explained, several possible theories may be put forth. First, the phenomenon of increased fertilizer uptake may be a reflection of the rationing of fertilizer, as the demand exceeds the supply of fertilizer to the smallholder sector at the subsidized price.

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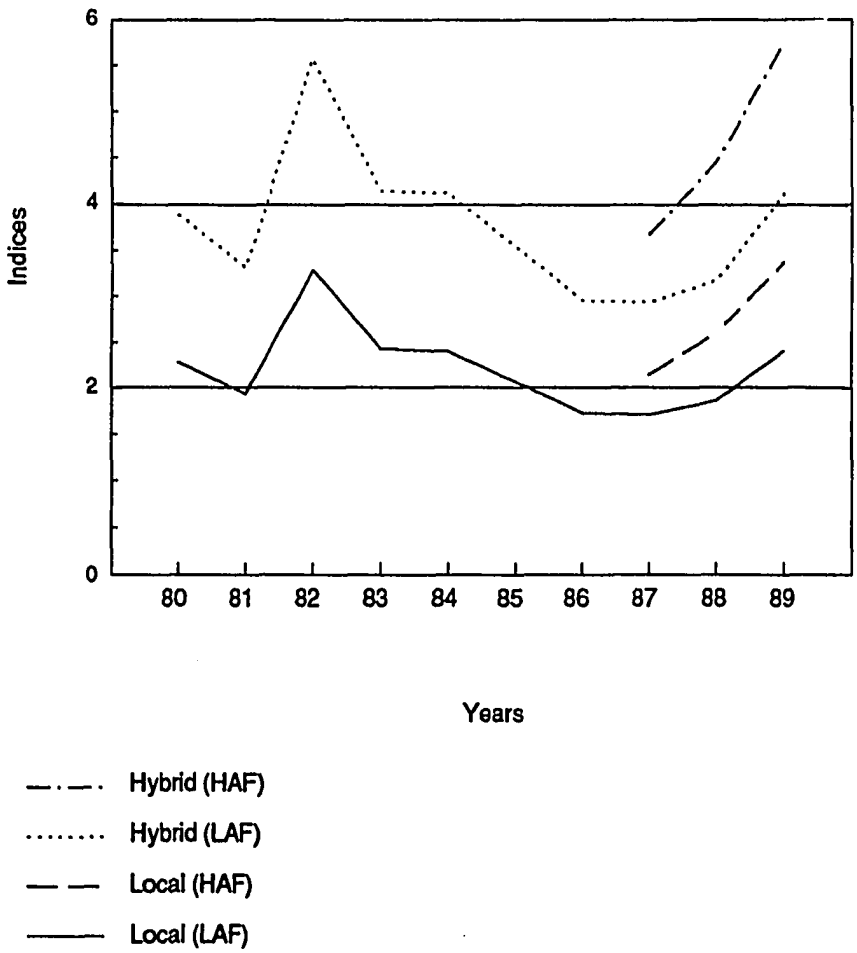
86 Hybrid maize taking high-analysis fertilizer (since 1986/87) recorded VCRs averaging 4.62. The attractiveness of the HAF varieties are also evident in the VCR for local maize using these fertilizers since 1986/87. The value:cost ratio in this case has averaged 2.7.

Figure 17 – Malawi: Maize: Fertilizer Value: Cost Ratios (VCR), 1980 - 1989



Source: *International Fertilizer Development Center (1989).*

Aggregate uptake of fertilizer by smallholders is dictated partially by governmental decisions and related financial constraints that limit fertilizer imports and aggregate supply. The total availability of foreign exchange, the government's allocation of foreign exchange for the purchase of smallholder fertilizer, and the prospect of obtaining additional fertilizer in the form of aid all are important determinants of fertilizer supply and the degree of rationing. To the extent that the uptake was quantity constrained, the large increase in the quantity of fertilizer available nationally (quantity purchased and donated) from 55,231 metric tons in 1983/84 to 82,361 metric tons in 1987/88 (table 29) goes a long way toward explaining the increased uptake.

A salient question is that of who receives the rents associated with the rationing of subsidized fertilizer. Indications are that the larger farmers working on customary lands, who have better access to credit, are generally the ones responsible for the uptake of most of the fertilizer, and most affected by quantity rationing. Moreover, relaxing supply constraints and the consequent increase in national uptake would have to be explained by an increased uptake by these specific groups, rather than by poorer smallholders. That is, the seasonal cash constraint and inaccessibility to credit of the poorest farmers suggest that it is unlikely that increased fertilizer uptake benefitted this group.

Of course, the alternative explanation for the figures presented above is that farmers cultivating customary lands were initially demand-, rather than supply-constrained, and that subsequent to the beginning of policy reform demand constraints have been relaxed. In particular, if smallholders' access to credit has improved, the increase in fertilizer utilization by this group would still be consistent with increased prices, especially given the high prevailing VCRs. The same is the case if smallholders currently have access to technology complementary to fertilizer use that they did not have earlier. There is no evidence, however, that these demand constraints have been significantly relaxed over the past five years. Moreover, those smallholders with larger holdings, collateral, and wealth would likely have increased access to both new credit and new technology if these constraints have actually been relaxed. Once again, this would imply that the vast majority of farmers, those with holdings of less than 0.5 hectare, would not have been the ultimate destination of the observed increase in fertilizer uptake.

Consistent with and in addition to the above arguments is the possibility that the higher fertilizer utilization rates in the face of declining maize:fertilizer VCRs have been due to an increased application of fertilizer by smallholders to nonmaize crops. In fact, the early realization of reducing the size of the subsidy, in contributing to fertilizer price increases, reduced gross margins on maize

sales. Robert R. Nathan Associates (1987) reports declining profitability of all fertilized maize relative to several cash crops. While in 1981/82 gross margins (in MK/ha) were greater in absolute terms for both hybrid and composite maize as compared to beans, rice, groundnuts, and tobacco, by 1986/87 the gross margins for each of these crops surpassed those of both maize varieties. This change helps to explain the move away from cultivation of hybrid maize as a cash crop and toward the cultivation of local maize for pure subsistence purposes since 1984/85.[87] Hectarage devoted to hybrid production, in fact, declined by 58 percent between 1983/84 and 1986/87 (table 22),[88] although marketed shares of maize since 1985 have also declined. This scenario of switching to local maize from hybrid maize is especially likely given smallholder preferences for local maize and the observed behavioral tendency for smallholders to first satisfy subsistence demands before producing cash crops for the market.[89] This decrease in hectarage devoted to hybrid maize has meant a move to other, potentially less fertilizer intensive cash crops. To this degree, instead of fulfilling its stated objective of increasing the commercialization of agriculture, the FSRP may have simply caused a shift away from hybrid maize as a cash crop to other cash crops. In so doing, to the extent that FSRP initially contributed to fertilizer price increases it may actually have tempered the commercialization of Malawi's agricultural sector.

Finally, the observed increase in uptake of fertilizer and nutrients in the face of declining VCRs relative to maize also points to the possibility of increased leakage to the estate sector despite the moderate and temporary reduction in subsidy rates between 1983/84 and 1987/88. Indeed, several factors, including a conjunction of those presented above, may lead one to believe that the increased observed uptake of fertilizer may ultimately be directed to improving yields of export crops not only in the smallholder sector but also in the estate sector.

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87 Several other factors also diminished the attractiveness of hybrid as a cash crop over this period. One of these, for example, was the difficulty in storing hybrid stocks that, when joined with ADMARC's delay in purchasing stocks, often resulted in waste.

88 It is also noteworthy that, with the decline in the fertilizer/maize price index ratio and the sharp rise in the VCR of hybrid maize given the recent increases in maize price, hectarage devoted to maize has risen once again. The 1987/88 hectarage figures show hybrid hectarage rising by 59 percent over the previous year (MOA).

89 The decreasing hectarage to hybrid would also be consistent with the story that better off smallholders who are using more fertilizer and are producing maize for the market require less land to produce the same amount of marketable maize given higher yields. This still presumes a behavioral preference for local maize to provide for subsistence needs.

To amplify, coupled with the evidence that poorer smallholders may not have been participating in the increased uptake is evidence that the estate sector continues to siphon off large amounts of subsidized fertilizer. Whether or not this leakage increased when the FSRP was implemented, though, is an open question. To the extent that a supply constraint was more binding for estates than for poorer smallholders, such an increase may well have occurred.

The leakage phenomenon can be readily understood in noting that ADMARC's (subsidized) fertilizer selling price is between 25 and 51 percent less than Optichem's selling price for comparable products (IFDC 1989). To the extent that such leakage occurs, smallholders are gaining a direct cash benefit, albeit less than the value of the entire subsidy because of the transaction costs involved in the resale.

Estimates of the extent of leakage vary. The Ministry of Agriculture estimates the amount of leakage at 17 to 19 percent of the total annual fertilizer sales to the smallholder sector. Other sources have estimated the magnitude of the illicit trade at 25 to 35 percent of the fertilizer intended for the smallholder sector (Robert R. Nathan Associates 1987). More recently, one ADD official claimed that up to 50 percent of ADMARC fertilizer sales in his district ended up in the estate sector[90] (IFDC 1989). A recent survey found that 59.1 of sampled estates obtained some fertilizer from ADMARC (Mkandawire, Jaffee, and Bertoli 1990). Although it is unclear whether leakage increased or decreased with a reduction in the subsidy rate and an increase in the smallholder price of fertilizer, it is evident that the phenomenon continues to be prominent. Given other constraints to smallholder uptake of fertilizer, in fact, a reduction in the subsidy rate may not translate into as large a reduction in fertilizer leakage as may initially have been argued.

In summary, then, the removal of the fertilizer subsidy made little headway before the FSRP dissolved. Subsidy levels decreased briefly but are now back to their original high levels as measured by both the level of fiscal drain and by the wedge between administered market prices for fertilizer and their true economic cost to Malawi. In other words, two of FSRP's primary objectives met with scant success. Fertilizer prices, meanwhile, are higher now than ever before, mainly due to the increased costs of transportation and marketing. In conjunc-

90 Indeed, the gap between the amount of ADMARC sales to the smallholder sector and Optichem's fertilizer sales to the estate sector has generally grown throughout the 1980s. Optichem sales to estates slowed considerably after 1985/86 in terms of weight and nutrient uptake and commenced falling in 1987/88. This is despite a general increase in hectarage under the estate sector and an increase in estate sector output over this period.

tion with increases in the price of output, this has meant a decline in the VCR of maize through 1986/87, which must have had negative income effects for maize producers using fertilizer. Subsequent increases in the price of maize have since led to rising VCRs for 1987/88 and 1988/89, as well as to a decline in the fertilizer:maize price index ratio. This presumably is favorable to the increased uptake of fertilizer among all smallholders. The switch to HAF has also had a positive effect on nutrient uptake.

The observed increase in fertilizer uptake in the face of increases in absolute and relative fertilizer prices, as well as declining VCRs prior to 1986/87, is most likely attributable to the relaxing of supply and demand constraints and to the continued leakage of fertilizer to the estate sector. Each of these factors is likely to have had distributional implications that did not work in the favor of increasing yields among the smallest and poorest of smallholders. Moreover, this is consistent with hectarage data that, taken together, points to increased use of fertilizer in export crop production (in both the smallholder and estate sectors) and possibly decreased use of fertilizer in food crop production. This phenomenon, one argument in favor of the removal of the subsidy, would have important food security implications in the short run and aggregate land nutrient implications in the longer run. Indications that maize productivity may have declined over this period suggests the need for a closer examination of this issue.

Clearly, the link between higher fertilizer prices and the welfare of the poor are complex and conflicting. On the one hand, it seems quite likely that many of the poorest households do not use fertilizer, suggesting that the subsidy benefits better off smallholders and the estates to which the fertilizer is leaked. On the other hand, to the extent that the poor are net consumers of maize, suppliers of labor to larger farms and estates, and engaged in other activities with strong links to agriculture, the subsidy may indirectly benefit their welfare by lowering prices and raising labor demand, wages, and the related off-farm employment multipliers. However, until we at least have a better understanding of the behavioral characteristics of households (eg, the price elasticity of demand for fertilizer) and markets (eg, the rural labor market), it will be difficult to clearly ascertain how much and for whom fertilizer should be subsidized.

Privatization of Agricultural Marketing

An important facet of agricultural reform in Malawi has been the privatization of agricultural marketing. This has essentially referred to two related agendas. The first was to rescue ADMARC from financial crisis. An elimination of cost ineffective marketing (for example, in very sparsely populated parts of the country) was viewed as essential for ADMARC to pay for itself. A discussion of measures taken to attain this objective and their success in doing so is

presented in appendix B on ADMARC's reform.

The second rationale for the privatization of agricultural marketing is the standard one within the context of structural adjustment: allowing private traders to operate. It is hoped that private trade will drive up producer prices of crops. Eliminating pan-territorial pricing and allowing prices to rise seasonally in accordance with storage costs will result in prices that more accurately reflect their true value.

To the extent that the poor are likely to deplete their stocks well before the next harvest and, consequently, to actively buy when prices reach their seasonal peak, and to the extent that the rural poor are located in more remote areas without infrastructure, they stand to lose more by the cutback in ADMARC purchasing and distribution. This, of course, is predicated on the poor having access to the rationed official consumer price offered by ADMARC. However, the extent to which prices paid will actually increase is still unclear because the share of maize purchased on the parallel market is not known. Furthermore, the participation of private traders in a competitive marketing and distribution environment is expected to increase the efficiency of crop procurement and distribution. Finally, a larger role for private traders would be expected to improve service in terms both of having someone for producers to sell to whenever they want to and of reducing scarcity premiums that occur in thin parallel markets.

In terms of actual policy action on this count, reform has fallen far short of intention. The original plan was to close all ADMARC markets with insufficient volume to pay for their operation. Using 60 tons annual throughput as the cutoff point, 190 of a total of over 1200 ADMARC outposts were selected for closure in 1987. In practice, fewer markets appear to have actually shut down, and several new ones were added in the north. As a result, the net reduction in ADMARC markets as of 1988 was estimated at about 125. The reduction represented less than 15 percent of all ADMARC markets and a decline in only 3 percent of the volume of ADMARC's total trade. Moreover, it still left ADMARC with a larger rural network than two years earlier.[91] In addition, while private traders were intended to play an increased role in marketing, policy fell short of promoting an unrestricted private sector and thus facilitating this transition. Government restrictions limited private sector trading to specified market sites, specified days of the week, and specified hours of the day, contradictory to the spirit of liberalization. The rationing of trading licenses and their consequent distribution

91 These estimates are extracted from Christiansen and Southworth (1988).

at a price has also hindered legitimate entry while increasing costs. Nonetheless, over 200 licenses had been issued by 1989, and it is expected that many unlicensed traders continue to operate.

Marketing reform in Malawi is thus limited in extent and in history, and information on its progress is sparse. Yet Malawi's short experience with privatization raises some important issues and concerns about the adverse effects on smallholders of even this limited experience with marketing reform. First, marketing reform, like the increases in the price of fertilizer, may have contributed to an inappropriate or suboptimal cropping pattern in the short run. It has been argued that the liberalization of the grain market was too rapid, resulting in private traders being unprepared to respond quickly enough (with needed transport and storage facilities) to the need to move marketed grain upon the closing of ADMARC purchasing sites (Christiansen and Stackhouse 1987).

These concerns find support in the low number of licenses issued to traders, coupled with perceptions such as that traders do not have the storage facilities to preserve the grain that they buy (ibid.). Clearly, the only way traders would buy grain, knowing that they would have to bear the burden of risk of spoilage, is if the costs get passed on to the consumer. But the lack of storage, transportation, and credit infrastructure will more likely prove effective barriers to entry and efficient operation of traders.

On the one hand, the limitations of the private sector in responding to the dismantling of ADMARC implies a food security risk to those producers who were seeking to sell maize and now would have to travel long distances to do so.[92] On the other hand, the observed move to groundnuts and local maize could partly be the result of this factor. A better established market for groundnuts already existed (Harrigan 1988), and both crops require less in terms of storage technology. Similarly, the shift to the more risky cash crops that would have brought higher incomes may not have occurred due to the uncertainty of poor smallholders that they could rely on ADMARC as a seller of last resort. Once again, cropping patterns may not have responded to prices as much as to market inefficiencies. Indeed, in the face of other existing constraints, the removal of certain price distortions does not automatically guarantee efficiency or net

92 Christiansen and Stackhouse (1987) report anecdotal evidence of producers travelling long distances to ADMARC depots in urban areas to sell their produce. Many of these households are expected to be poor since, as was discussed previously, even households in the lowest expenditure group sell a portion of their production after the harvest, only to buy back later in the agricultural calendar.

welfare gains. The end result, by implication, is that rural households (especially the poorer among them) may not have gained to the extent expected.

In order to mitigate the probable adverse consequences of privatization as a result of private traders not stepping in to provide for an efficient and competitive market in all seasons and in all regions, ADMARC has an important role in fulfilling three related functions. In order to oversee national food security, ADMARC was originally entrusted with the building and maintenance of the strategic grain reserve. ADMARC also has an important role in price stabilization. Finally, ADMARC is viewed as the buyer and seller of last resort.

On one count, if ADMARC does cut back on these functions, it does so at the risk that no institution will replace it, especially with respect to its role as the buyer and seller of last resort of both outputs and inputs such as fertilizer. The potential localized implications of ADMARC's shutdown are disconcerting.[93] Particularly in remote areas with limited infrastructure, poor harvests may quickly lead to localized maize shortages.[94] Resulting prohibitive prices could lead to severe household food insecurity. Delaying the closing of ADMARC outposts, or identifying alternative distribution means in the remoter areas, will preclude undue hardships for smallholders. On the second count, meanwhile, the parallel existence of a private marketing channel, which is not married to pan-territorial consumer pricing and can offer higher producer prices, has also resulted in a siphoning of grain from the state owned channels. This prevents and/or raises the costs of ADMARC purchasing the stocks necessary to ensure national food security, to undertake price stabilization measures, and to intervene as a seller of last resort.

On a third count, ADMARC's involvement in these development functions raises its costs without increasing revenues. The contradiction between this fact and ADMARC's mandate to operate on a cost-effective commercial basis is discussed in appendix B. These conflicts between liberalization and a continued role for ADMARC in grain marketing should be recognized and addressed in order to ensure the success and viability of liberalization of domestic marketing arrangements. In other words, government cannot simply end all involvement

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93 Evans (1989) reports that in Phalombe, for example, where landholdings are highly fragmented and hence food insecurity high, ADMARC had closed 17 of 24 market points. This, however, should not be construed as indicative of the rate of market closings that have occurred elsewhere.

94 Such was the case, for example, in Mulanje following the poor harvest of 1986/87 (Department of Economic Planning and Development 1989).

in marketing activities. Instead emphasis should shift from direct action to indirect intervention to promote and facilitate the activities of the private sector.

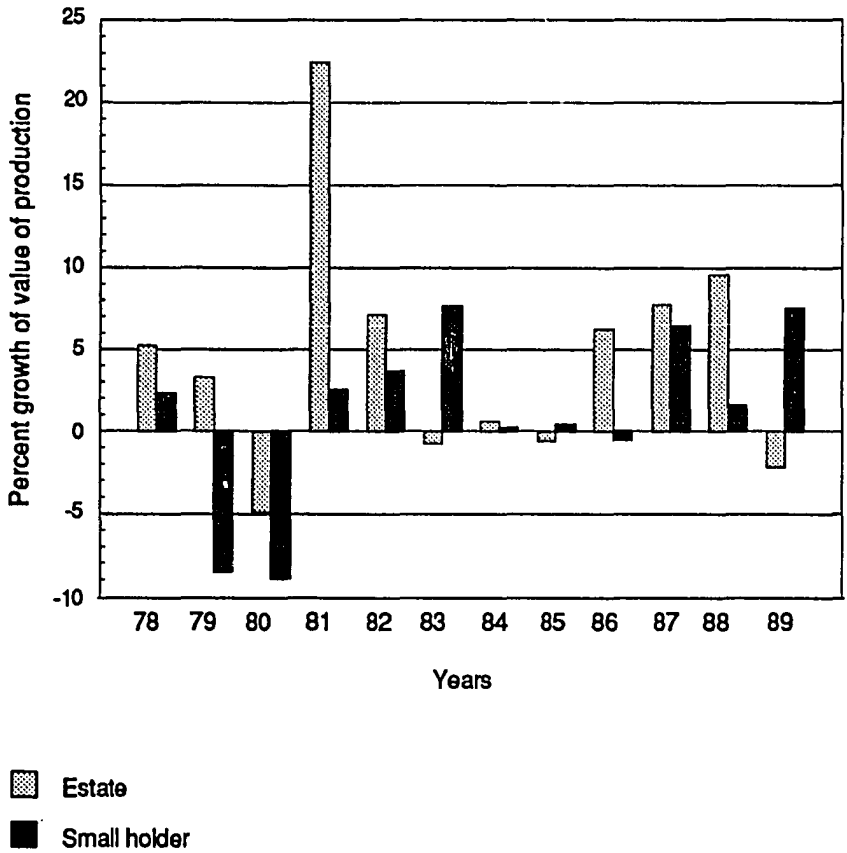
Finally, with regard to the welfare effects of privatization, the traders themselves are rarely discussed. Indeed, little is known about them: who they are or what they did prior to becoming traders. One thing, though, is clear. The higher price margin that consumers may be paying traders as a result of privatization (which likely represent true marginal costs of marketing rather than marginal costs plus a monopolistic rent) is not a measure of net loss to societal welfare. Privatization will not only reduce the fiscal deficit but, in all likelihood, will create employment and increase income to traders. Because some of these benefits are going to low-income individuals, privatization has an added welfare benefit to the poor as an aggregate group. (This would be true also inasmuch as trading is often undertaken by previously disenfranchised ethnic minorities.) However, efforts should be made, such as promoting access to credit and making licensing of traders inexpensive and less discriminatory in practice, to ensure this occupation is not limited to higher income individuals.

Estate Sector Reforms

The reform program aimed at fostering growth in smallholder agriculture from the following three sources: (1) the more extensive cultivation of land, (2) the more intensive cultivation of land, and (3) the switching toward remunerative crops that are tradable on the world market. Because lower income agriculture households have by and large been unable to partake of any aggregate growth through these channels, the question arises of whether Malawi's export-oriented estate sector has represented a better escape from poverty for low-income rural households. The effect of government policy with regard to this issue has two dimensions: its direct effect through the promotion of estate employment and income generation on the rural poor, and its indirect effect through the policy rules it imposes on smallholder agriculture, which distinguish between smallholder and estate agriculture.

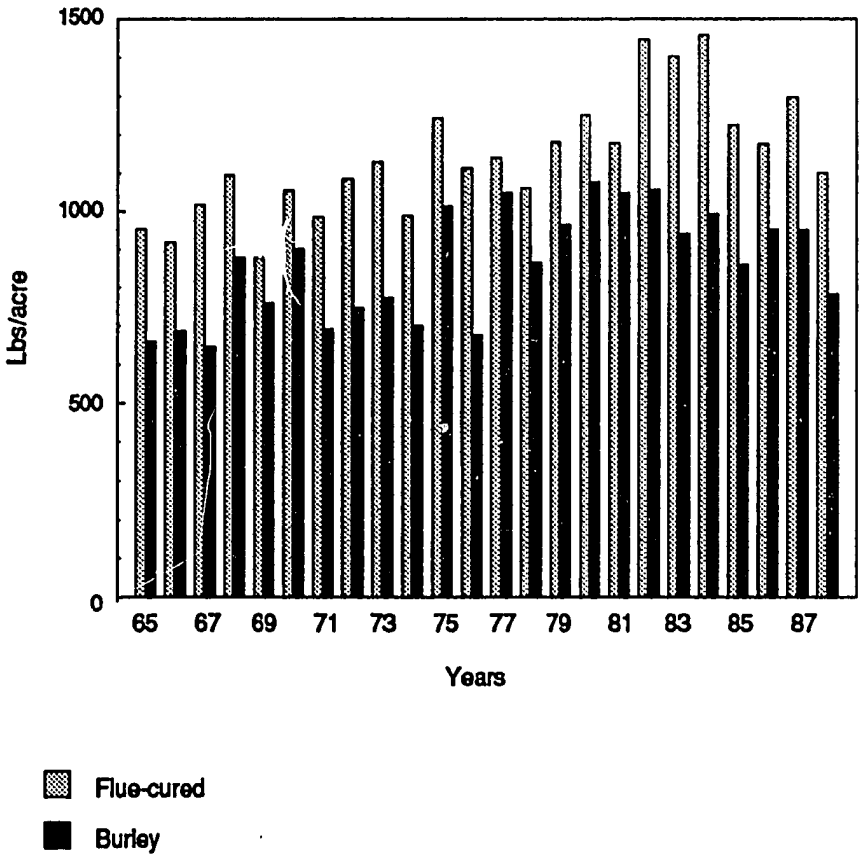
Concerning the direct effects, as indicated in figure 18, the estate sector has outperformed the smallholder sector during most of the past decade, despite reform's focus on increasing the dynamism of smallholder agriculture and the lack of emphasis on structural change in estate agriculture. The numbers of both

Figure 18 – Malawi: Growth of Smallholder and Estate Sectors Compared, 1978-1989



Source: *Reserve Bank of Malawi (1987 and 1988); Malawi Government Economic Reports.*

Figure 19 – Malawi: Estate Tobacco Average Yields per Acre, 1965 - 1988



***Source:** Malawi Government (1988a and c); Dickerman and Bloch (1989).*

wage laborers and tenants working on the estates has shown marked increases during Malawi's adjustment (see table 3), illustrating the importance of this sector in providing employment for the rural poor.[95] Nonetheless, the statistics suggest that the number of workers on estates remains small relative to the magnitude of employment in the smallholder sector (table 3). Likewise, the data presented earlier in figure 1 paint a troubling picture of wage stagnation. This latter observation finds three explanations. First, the government has continued to maintain a policy of low minimum wages, which is the primary factor that influences the closely corresponding agricultural wage. Second, the opportunity cost of time of the rural labor force has been kept low as a partial consequence of the taxation of smallholder crops discussed earlier. Third, the stagnation of the productivity of estates (figure 19), despite favored-sector status whereby estate managers receive world prices for their tobacco, has also contributed to stagnant wages.

A more complete understanding of the pattern of estate agriculture outpacing the growth rate of the smallholder sector, and the large number of low-wage jobs being created in the former, can be obtained by noting that a significant proportion of the growth in output and employment in the estate sector is attributable to the expansion of leasehold land. The 1985 estimates of acreage in estates was 691,000 (World Bank 1987a). The most recent estimates suggest that the current number of estates is approximately 14,700, and the area covered by estates is approximately 843,000 hectares. In 1979 there were only about 1,200 estates covering approximately 300,000 hectares (Mkandawire, Jaffee, and Bertoli 1990).

In exploring the underlying reasons for the growth of land under leasehold estates, we also find explanation for the failure of smallholder agriculture not only with regard to increasing intensiveness of land cultivation, but also with respect to the failure to switch to cultivation of the most remunerative crops. In particular, the prohibition until recently against smallholders producing burley and flue-cured tobacco, coupled with the implicit level of taxation on those cash crops that are permitted, has effectively reduced the growth potential and lowered the returns to labor on smallholder plots. Restrictions imposed on smallholders concerning crop choice and related government policies that in practice maintain low land rental values and labor costs for estates, prevent

95 This increase is also reflected in the data that show a declining growth rate of males working year round as peasant farmers, while the rate of female workers in the smallholder sector has grown dramatically (Christiansen and Kydd 1987b).

smallholders from seeking out their comparative advantage and encourage the alienation of land to the estates. This process of land shifting from smallholders to estates continues to impede growth in the smallholder lands. In particular, as population growth continues unabated, the land alienated during the past decade will not be available to the next generation of smallholder households.

The implied detrimental effects of the above observations on smallholders, however, must be tempered to the extent that new estate owners were previously progressive smallholders who have been able to register their lands as estates. There is in fact recent evidence that many new estates (especially those of less than 30 hectares, ie, 71 percent of the estates registered in the 1980s) are converted large, or combined, smallholder farms (Mkandawire, Jaffee, and Bertoli 1990). In light of this evidence it would appear that many of those who were originally smallholders and have currently obtained leases would have benefitted from the expansion of the estate sector. Leases would permit these farmers to circumvent the detrimental effects of production and other restrictions imposed on the smallholder sector and access more inputs as well as higher output prices. While this phenomenon thus points to the fact that some smallholders may have partaken, through ownership, in the gains of estate expansion, it raises the question as to which smallholders these are. The phenomenon may not be wealth-neutral. It is probable, as a recent survey appears to indicate, that these progressive smallholders were in fact those who initially had larger smallholdings or a larger stock of other assets (ibid.). Clearly this group of 'graduated smallholders' requires greater study.

While the estate sector has grown considerably in land area, productivity has been low. Although the tobacco yields on the estates are considerably higher than for smallholders, a simple comparison of burley and flue-cured yields with those of smallholder tobacco has limited meaning. First, the differences in yields are a function of the type of tobacco grown, namely of the prohibition against smallholders growing burley and flue-cured tobacco.[96] Second, in contrast to estate managers, smallholders growing sun- and air-cured tobaccos do not generally apply fertilizer for reasons alluded to earlier.

A third, albeit less well-substantiated, reason for the lower yields on smallholder tobacco is that labor inputs may be lower for smallholder tobacco production than for estate production (Lele and Agarwal 1989). This assertion

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96 Because both estates and smallholders were permitted to produce fire-cured tobacco, some evidence exists that the yields of the former were two to three times higher in the late 1960s and early 1970s, although the difference was eroded considerably by 1980.

conflicts with the observations from land-scarce Asia that labor inputs are inversely proportional to holding size. A number of reasons can be posited for this divergence. For example, smallholders do not gain access to the credit, both for inputs and consumption, that is available to tenants working on estates. Similarly, seasonal labor bottlenecks will likely occur during transplanting and harvesting for smallholders who are either producing maize or are induced to work as agricultural laborers when maize stocks are low and seasonal wages are high.[97] Finally, and most compelling, however, is that the ratio of product to input prices is higher for estate producers, encouraging them to be more input intensive.[98]

Despite these factors, estimates still suggest higher domestic retail costs (DRC) for estate producers as a whole as compared to smallholders (Lele and Agarwal 1989).[99] But in any event, there is no reason to prefer estate to smallholder production on the grounds of efficiency. In fact, despite Malawi's strategy of relying on the estate sector as both an engine of national growth and a provider of foreign exchange and fiscal resources for the alleviation of poverty, the data on yields in figure 19 indicate that it has not lived up to its expectations of being a highly productive and dynamic sector.[100]

The large portions of underutilized estate lands are another indication of the disappointing performance of the estate sector (Mkandawire and Phiri 1987, World Bank 1987a). This is especially so for the largescale estates (greater than 100 hectares) where cropping intensities average 23 percent, and over one-third of estates cultivating less than 15 percent of their land (Mkandawire, Jaffee, and Bertoli 1990). On estates of between 30 and 100 hectares, cropping intensity was also low, at 28 percent. This conclusion stands even upon accounting for the

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97 Similarly, Lele and Agarwal (1989) have argued that the smallholder places priority on maize cultivation to ensure survival, resulting in a reduction of labor inputs into tobacco, compared to estates, where managers will attempt to base hiring decisions solely on efficiency grounds. Of course, the smallholder can hire in ganyu labor during seasonal bottlenecks, which calls into question the strength of this assertion.

98 A fifth hypothesis, difficult to substantiate, is that estates are more productive because they occupy better land.

99 In light of the aforementioned observation that many new estates appear to be larger smallholdings that have recently been registered as estates, it would be instructive and important from a policy perspective to examine the DRCs of this subgroup alone.

100 Among the other estate crops, tea and sugar yields increased only slightly, the former increasing from 1,298 lbs/acre in 1973 to 1,903 lbs/acre in 1988, while the latter rose from 9,708 lbs/acre in 1973 to 10,505 lbs/acre in 1988 (Malawi Government, various years c and 1989a).

optimal fallow period for tobacco of two to three years. Underutilized burley estates, however, are often in the less populated areas of the north and central regions, where labor to land ratios are lower. But even so, nonutilized estates lands are an indication of market failure.

First, land rental values in Malawi are not related to land productivity. Land rents paid by estates are often well below the economic value of land. In addition, the fixed value of MK10 per hectare does not vary with the potential or actual productivity of land. Moreover, these rents are often not even collected (World Bank 1987a). The design and enforcement of an appropriate land rent or land tax structure for the estate sector is imperative to prevent land from being viewed as a costless asset rather than the factor of production (with an opportunity cost) that it is. Such a policy is imperative if the estate sector is to increase its utilization of land and thereby the utilization of labor required to address rural poverty concerns.

Second, the above observation on differential regional population densities also sheds light on why estate lands in the central region might be underutilized. Currently there appear to be labor shortages on estates in the central region while nearly landless farmers in the south create a labor surplus. The solution to a labor shortage lies in working to make labor markets clear. To begin with, information and infrastructure to lower job search and related transaction costs are needed. Costs now are quite high because workers rarely relocate permanently, and travel is expensive. Such seasonal migration reflects the limited growing season for tobacco, the inaccessibility of estate land for subsistence maize cultivation, the risk of losing one's own customary holding upon prolonged absence, and the generally poor working conditions and lack of long-term contracts. Encouraging tenants to produce maize for their own consumption and sale on unused land would promote labor mobility. So would the construction of housing on or near estates. In addition, the pull of estates as a destination for potential migrants needs to be bolstered through better defined and less exploitive tenancy contracts and through better wages. The latter would be supported by the increase in implicit wages to a more competitive smallholder sector, as discussed above. Furthermore, longterm security of tenants in the central region would be enhanced by the registration of smallholdings presently being cultivated. Pursuing these strategies would increase utilization and productivity of both land and labor on the estate sector, essential for the generation of higher levels of rural employments and incomes.

Third, underutilization of estates is also due to the problems of slow start up. This is evident in areas like Kusungu. With a large proportion of estate leases only taken in the last decade, land lies idle as lease applications are reviewed

and capital for estate development is procured. While one justification for converting customary to leasehold land was to direct land rights toward those with the financial capacity to maximize productivity, in Malawi we are apparently presented with an irony. Many leases have been issued to civil servants and others who have enough money to obtain a lease, but not enough financial or managerial capacity to do anything with it. Indeed, contrary to the theory that underutilization of estates may simply be due to a lack of labor, it may rather be due to problems with absentee landlords and the lack of managerial capacity. A recent estate survey found that "most estate managers [are] well versed in the basic cultural practices required to grow a tobacco crop, but not well equipped to handle more general farm management problems" (Mkandawire, Jaffee, and Bertoli 1990).

Fourth, the low investment and consequent low productivity on estate land may be a function of the insecurity of tenure of tenants rather than that of the leaseholder. Indeed there is a need to reform the system of sharecropping where tenants growing burley tobacco assume all the risk, a situation that is not conducive to technological change.

Fifth, the low pay and poor working conditions, along with absentee ownership and minimal estate management, contribute to the high turnover rate of tenants, a problem identified as serious both by owners and managers (Nankumba 1990). This and the high implicit credit costs associated with utilizing inputs are disincentives for tenants to cultivate intensively or to invest in their tenancy holdings. Here again, improved terms for tenancy and the removal of certain exploitive practices can be expected to assist productivity and improve the plight of the tenants by lessening turnover and fostering investments on their plots.[101]

Sixth, the limits set by the allocated tobacco quota, as well as shortages of capital and transportation constraints, are also cited by estate owners as reasons for low productivity and low levels of land utilization. The detrimental effect of tobacco quotas on land utilization is evident in the fact that several estate owners admitted to registering land as estates simply to access an additional quota, having no intention actually to develop the estate (Mkandawire, Jaffee, and Bertoli 1990).

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101 It would be particularly instructive to examine the productivity of tenants relative to those of smallholders on the same sized plots. If in fact production restrictions were removed so that smallholders and tenants were growing the same crops, one might well find that the smallholder formula works better than the tenancy one in terms of productivity. The policy implications in this case are either the revision of tenancy arrangements as discussed above, a reversal toward customary tenure, or increased registration of smallholder plots.

In sum, a dynamic innovative estate agriculture has failed to result, despite the clear advantages of favorable output prices, access to credit, access to land at low prices, and access to a pool of labor whose supply price has been depressed by the taxation of the smallholder sector. Moreover, the de facto adjustment policies of the 1980s have failed to address this favoring of the estate sector at the expense of smallholders.

The failure to generate increased productivity in either sector, as well as the failure to alleviate poverty, suggests the need to reconsider the constraints that enforce the dualism between the sectors. In particular, policy measures to improve the performance and equity between the sectors need careful consideration. Such policies include (1) the raising and/or rationalizing of leasehold land rent, including the promotion of policies that further encourage the development of a land market; (2) the enforcement of land covenants that presently apply to leaseholds; (3) the imposition of a moratorium on land alienation; (4) the further reduction of the taxation of smallholder crops and elimination of the remaining restrictions barring production of profitable export crops on customary land (which will have the effect of raising the returns to their labor and consequently the supply price of workers on estates); (5) the elimination of the setting of a maximum price that is paid to tenants for burley and its replacement with a minimum price to better ensure fairness in valuing output; (6) the promotion of equitable contracts for tenants working on estates and encouragement of other improvements, such as the provision of basic medical services on estates, to reduce the high rate of tenant turnover; (7) the imposition of greater penalties to estate holders who default on loans; (8) the revamping of the process of allocating burley quotas through a mechanism such as an auction or through performance-based criteria; and (9) the provision of greater public inputs into export-oriented agriculture in order to address structural difficulties, such as the lack of skilled managers and inadequate transport and processing facilities that have impaired estate performance.

The common thread running through these recommendations is that policy must address the inequities and inefficiencies that emanate from artificially low costs of local factor inputs (ie, land, labor, and capital) to estates. Doing so will not only provide an opportunity for factor use to reflect their scarcity value, but will also improve equity in the distribution of agricultural value added. It will remove the rents accruing to privileged estate owners who get access to low-priced land alienated from the customary sector, access to low-priced labor because of the high level of taxation of smallholders, and access to cheap credit due to the negative real interest rates that have prevailed. This, coupled with increased public investment in agriculture, will foster more efficient production methods and greater equity as well.

REFORM AND THE INDUSTRIAL AND SERVICE SECTORS

Overview

The effect of the adjustment program on the industrial and service sectors is even more difficult to assess than its effect on agriculture. However, a brief examination of some available aggregate data do not indicate that the response has been as one might predict, or desire. Therefore, we begin this section with a brief discussion of the industrial and service sectors, and follow it with a more lengthy discussion of the employment and earning experience and potential of these sectors.

Industrial sector. Malawi's industrial sector is characterized by high concentration ratios that suggest both the exacerbation of inefficiencies and the development of monopoly rents. For example, 8 of 21 subsectors at the three-digit level ISIC classification have less than three firms (World Bank 1988a). This high ratio is partly explained by concentration in ownership. Public conglomerates, such as Press Holdings, the Malawian Development Corporation (MDC), and ADMARC, together with branch operations of multinational enterprises, owned either privately or jointly with the public enterprises, form the hub of the manufacturing sector. Press, ADMARC, and MDC not only hold a large part of total equity, but they also have close ties with the financial sector. The latter two own 80 percent of the National Bank of Malawi and 70 percent of the Commercial Bank of Malawi (ibid.). High concentration of formal industry is not only true of ownership but also of geographical location. Anecdotal evidence indicates that the manufacturing sector is biased towards a few, large, urban-based operations. Yet it should be noted that many of these statistics probably underestimate the role and magnitude of rural manufacturing and small-scale enterprise, due to the lack of a comprehensive national registry of such ventures.

The industrial sector's growth rate dropped in the early 1980s, and the sector's share declined. The industrial sector's annual rate of growth averaged 7 percent in the 1970s, but dropped to slightly greater than 1 percent between 1980 and 1987 (table 31). Growth has since accelerated to an average 7 percent between 1988 and 1990, and the industrial sector's share of GDP is close to 20 percent of GDP, as in the late 1970s.

Among the policy-related factors influencing the evolution of industrial production are the price liberalization measures undertaken in this sector, as in agriculture, to promote production. However, the extent of the liberalization program within the industrial sector (in terms of both numbers of goods and

Table 31 – Malawi: GDP and Rate of Growth, by Three Major Sectors, 1978-1990

Year	Gross Domestic Product	Agriculture Domestic Product	Industrial Domestic Product	Services Domestic Product	GDP Growth Rate	ADP Growth Rate	IDP Growth Rate	SDP Growth Rate
	MK Million at 1978 Factor Cost				Percentages			
1978	742.50	294.90	143.50	304.10	...	...	...	...
1979	767.30	304.10	144.40	318.80	3.34	3.12	0.63	4.83
1980	764.40	284.20	146.50	333.70	-0.38	-6.54	1.45	4.67
1981	724.30	261.00	142.20	321.10	-5.25	-8.16	-2.94	-3.78
1982	744.90	277.60	142.40	324.90	2.84	6.36	0.14	1.18
1983	771.70	289.90	147.00	334.30	3.53	4.43	3.23	2.89
1984	805.50	306.50	146.30	352.70	4.45	5.73	-0.48	5.50
1985	841.40	308.00	157.40	376.00	4.46	0.49	7.59	6.61
1986	850.60	309.90	154.60	386.10	1.09	0.62	-1.78	2.69
1987	868.20	312.50	156.90	398.80	2.07	0.84	1.49	3.29
1988	896.80	318.70	168.40	409.70	3.29	1.98	7.33	2.73
1989	935.40	329.70	181.90	423.80	4.30	3.45	8.02	3.44
1990	979.20	346.50	192.20	440.50	4.68	5.10	5.66	3.94

Source: *Reserve Bank of Malawi (1987 and 1988); Malawi Government (1990).*

Note: *Service has been calculated as a residual and has been debited "unallocable finance charges."*

extent of price decontrol) is unclear, given available data. For example, as of 1988 the prices of several items, such as petroleum products and vehicle spare parts, had not been liberalized. They are the specific focus of the new industrial trade policy adjustment program. Also, inasmuch as output, rather than input, prices have not been liberalized, the potential gains in terms of production have not been completely captured. On the other hand, if it is specifically input prices that have yet to be freed, it is expected that further industrial contraction may result.[102]

Exchange rate and trade policies are perhaps most important in explaining the poor performance of Malawi's industrial sector in the early 1980s. Nominal exchange rate devaluations, restrictive trade policies, and the imposition of quotas for the allocation of foreign exchange (all to be discussed in greater detail in the section to follow) hurt an industrial sector that relies on foreign inputs but markets its products domestically. Indeed, the production process in Malawi is heavily dependent on the external sector. Two-thirds of raw material inputs are imported, and there are few inter-industry domestic linkages (World Bank 1988a). Hence, the increased costs of production due to progressive devaluations of the exchange rate and foreign exchange restrictions have slowed industrial production. Moreover, the potential gain from devaluation through an expansion in exports has been inapplicable to Malawi's industrial sector. With a domestic resource cost ratio of about 1.2, the sector exports only 3 percent of its total sales (ibid.). The production of import substituting products and the processing of agricultural products representing a large fraction of output, the industrial sector caters primarily to the domestic market. With food, beverages and textiles accounting for two-thirds of total product (ibid.), Malawian consumers have faced a contraction in output from the domestic industrial sector and the pass-through of increased costs of production.

In the context of the sectoral adjustment program, the government has committed to revising the Industrial Development Act. Specifically, action will be taken to eliminate a provision requiring investors to apply for industrial licenses before making any investment in this sector while permitting certain producers exclusive monopoly rights for a five-year period. The elimination of this provision is expected to increase competition, but it is too early to assess its actual effects. However, this measure alone is unlikely to rectify the imperfect nature of competition in Malawi's industrial sector, which may have helped to temper the responsiveness of output to price liberalization.

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102 This assumes that controlled prices lie below their free market prices.

Service sector. The service sector in Malawi is dominated by government services and by retail and wholesale distribution. Each contributes over 27 percent of the sectoral GDP. Transportation and finance come next, and each make a contribution of between 13 percent and 14 percent. Housing and other services equally account for the remaining share.

During the recent period of adjustment-related macroeconomic management, the service sector experienced significant growth. Between 1982 and 1988 the sector grew, both in absolute terms and relative to other economic sectors (figure 20), at an average annual rate of 3.6 percent. As a result, the sector's share of GDP increased progressively, climbing from 31 percent in 1960, to 35 percent in 1967, to over 45 percent in 1988.

This is somewhat puzzling. The traditional structural adjustment package of macro policies pursued by the government should theoretically have raised the relative share of the traded goods sector (namely, agriculture and industry) by liberalizing the prices of traded goods. Instead, the shares of both agriculture and industry have lost ground to the services sector, raising questions about the effectiveness of recent policy, or at least about its implementation in Malawi.[103] The apparent paradox indicates a need to investigate the composition, trend, and dynamics behind each of the major sectoral components in much greater depth.

Employment and Earnings

The industrial and service sectors can represent an important source of employment and earnings for Malawi's low-income populations. For urban low-income households, as well as for marginalized agricultural households, wage earnings from manufacturing, small-scale enterprise, and formal industry (in either urban or rural areas) may be a sole or supplementary source of income. This is particularly true in Malawi, where, as discussed above, the pressure on agricultural land has been increasing. We thus turn to a discussion of available statistics on employment and earnings in these sectors, examining both formal sector macro-data on wages and employment and survey data on the contribution of small-scale enterprise and manufacturing to income opportunities for lower-income households.

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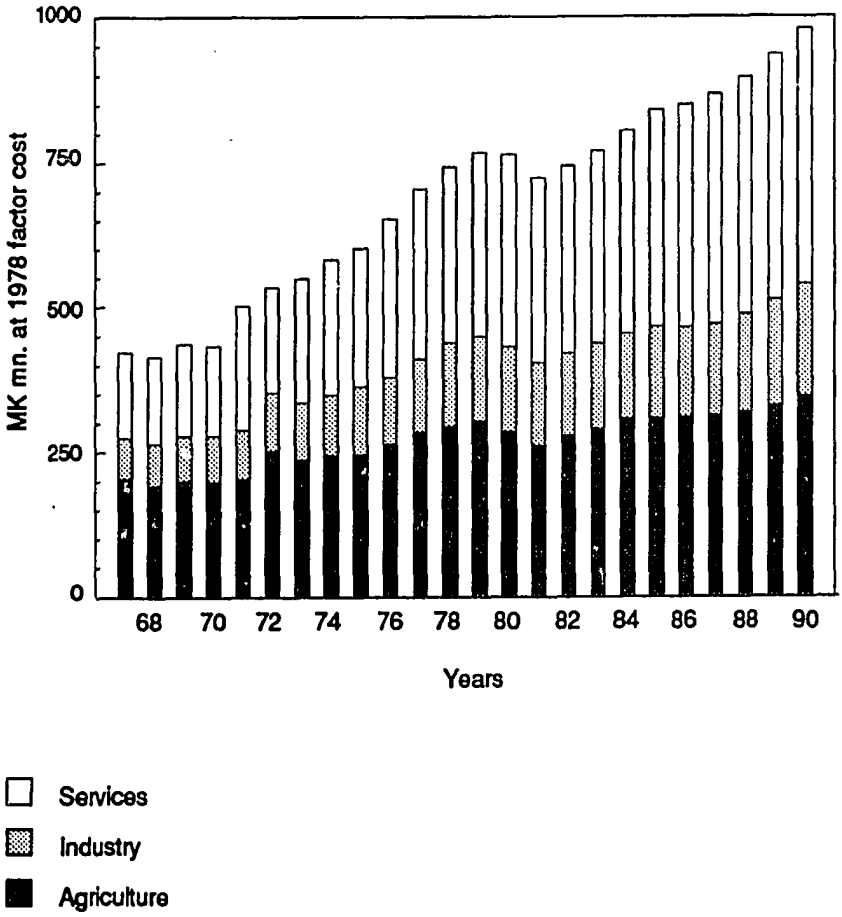
103 There are two possible explanations. First, government sector growth, surfacing here in the service sector account, has not been bridled by policy to the extent desired. Second, due to exogenous factors, domestic transportation services have increased.

Figure 20 – Malawi: GDP by Service, Industry, and Agriculture Sectors, 1967 - 1990



Source: *Reserve Bank of Malawi (1987 and 1988); Malawi Government Economic Reports.*

Formal industrial and service sectors. Statistics reveal that employment fell in both the industrial and services sectors during the recession of 1980 to 1982, but then rose in both sectors until 1988 (table 32). Between 1982 and 1986, the number of people formally employed in the industrial sector increased from 60,400 to 101,480. This increase was due specifically to higher employment in manufacturing. Within the service sector, employment rose from 103,800 to 140,890. Approximately sixty percent of this increase was due to a rise in employment in the wholesale and retail trade subsector. It is interesting to note that the share of the formal labor force in agriculture fell slightly between 1982 and 1984 before rising again between 1986 and 1988. On the whole, employment shares by sector have not changed dramatically over the course of the decade. Given the extent of data problems in sub-Saharan Africa, however, one must be skeptical as to whether these statistics accurately reflect actual employment in Malawi. Moreover, while showing increases in the number of those employed, the available statistics do not report the evolution of unemployment in the country. These and other aspects of the labor market in Malawi require a more detailed analysis.

While employment statistics paint an uncertain but possibly positive picture of changes in wage-earning opportunities outside agriculture, available information on changes in wage rates during most of the 1980s were less reassuring. An examination of statutory minimal wage rates in the face of inflation, which by 1987 had risen to an annual rate of over 25 percent, point to the extreme vulnerability of low-income wage earners. Indeed, this risk of real income erosion is borne out by data on statutory minimum wages in Malawi through 1988. As was seen in figure 12, real minimum wages declined throughout the 1970s, were pushed back to the levels of the early 1970s as a result of the nominal wage increases of 1980-83, but then have continued to drop through 1988 (except in 1987).[104]

This decline in real wages is also evident upon examination of the average real wage per subsector found in formal employment and earning data from the reserve bank (1987).[105] Between 1982 and 1985 a decline in average real wages was experienced in both the industrial and service sectors (figure 1), as well as

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104 The food security implications of this wage erosion were discussed in the context of consumer price changes for maize.

105 The picture of dramatically rising employment and falling real wages is noteworthy. While this brings into question the reliability of the data, it is nonetheless not implausible, as nominal wages did increase quite rapidly, but not enough to keep pace with inflation.

in both the private and public sectors. This corresponds to the fall in the administered minimum real wage over the same period. Within the industrial sector this fall in real wages appears to have been most drastic in the manufacturing subsector. Between the public and the private sector, real wages dropped the most in the latter.

Civil servants have also seen a deterioration in average real salaries since the beginning of austerity measures connected with adjustment, although the effects have been tempered by nominal salary increases in this subsector. On aggregate, the index of civil service salaries increased by only 80 percent between 1980 and 1987, compared to a 170 percent increase in the cost of living index during that period (Roe and Johnston 1988). Moreover, indications are that, due to nominal salary increases being regressive, the fall in real income has especially hurt the lower paid civil servants.

Recognizing the large scale erosion of real earnings among minimum wage earners, the government increased administered wage rates substantially in 1989. The real wage rate increased by 57 percent in Blantyre, Lilongwe, and Mzuzu and by 81.6 percent in rural areas. To the extent that minimum wages effectively act as a floor, this move would be expected to have a dramatic positive impact on earnings. Given Malawi's increasing inflation rate, however, the risk of wage erosion, especially among Malawi's urban poor, will persist unless adjustments are made to nominal rates on a more frequent annual basis.

Informal and small-scale enterprise sector. Unfortunately, the above discussion cannot tell the whole story, especially given that the relationship between statutory wages and those actually received by workers in private enterprises has been shown to be unpredictable in other countries. Moreover, poorer households may be able to protect themselves from declining real wages in the formal sector by participating in the informal sector, where wages have little, if any, relationship to administered wage levels.

Not enough is known about Malawi's informal sector and, in particular, how policy reform measures bring about new economic opportunities for small-scale entrepreneurs. It appears, however, that the informal sector remains smaller in Malawi than elsewhere in Africa. The limited data also raise doubts as to how important informal sector activity is to the urban poor and whether liberalization of markets and moves toward privatization offer any real potential for generating employment opportunities for the poor. The 1977 population census, for example, shows that most participants in the informal sector are well educated and that 85 percent of them are based in rural areas. Yet the census may be expected to underestimate the extent of participation, particularly of the urban poor. To the extent that people participate in the parallel market or want to hide their

Table 32 – Malawi: Numbers Employed, by Sector, 1968-1988

	Agriculture			Industrial				Service					Totals		
	Agri-culture	Mining	Total Agri-culture	Man-ufact-uring	Utilities	Con-structio n	Total Indus-trial	Whole -sale & Retail Trade	Trans-port and Com-munica tion	Fi-nance and Busi-ness	Com-mun. and Pers. Ser-vices	Total Ser-vices	Private Sector	Govern -ment Sector	Total
	1,000 Persons														
1968	42.20	0.50	42.70	21.20	1.50	15.30	38.00	9.40	8.20	0.90	37.40	55.90	89.60	44.90	134.50
1969	48.30	0.80	49.10	17.70	1.50	17.40	36.60	11.00	8.40	1.10	40.30	60.80	99.90	46.60	146.50
1970	53.70	0.50	54.20	19.50	1.70	18.50	39.70	12.30	8.50	1.20	43.40	65.40	110.10	49.20	159.30
1971	57.40	0.60	58.00	21.70	2.20	17.70	41.60	13.80	9.20	1.40	48.30	72.70	119.40	52.80	172.20
1972	63.70	0.80	64.50	23.10	2.40	18.20	43.70	15.80	9.80	1.40	54.10	81.10	130.50	59.00	189.50
1973	76.30	0.70	77.00	25.70	2.90	21.10	49.70	18.40	10.40	1.90	57.90	88.60	150.10	65.20	215.30
1974	80.40	0.80	81.20	26.80	2.50	22.80	52.10	20.90	11.40	2.30	59.00	93.60	160.50	66.40	226.90
1975	93.00	0.90	93.90	31.40	2.70	21.10	55.20	19.90	11.90	2.80	61.20	95.80	176.20	68.50	244.70
1976	103.90	1.10	105.00	36.00	3.00	21.10	60.10	20.70	12.90	3.40	61.90	98.90	194.00	70.10	264.10
1977	154.70	0.60	155.30	33.50	2.80	23.30	59.60	25.20	16.60	6.60	45.50	93.90	240.20	68.60	308.80
1978	168.90	0.60	169.50	35.80	2.90	31.60	70.30	27.50	17.80	6.80	47.40	99.50	271.30	68.00	339.30
1979	182.30	0.60	182.90	37.10	3.50	33.40	74.00	28.30	18.40	8.40	48.10	103.20	290.40	69.60	360.00
1980	181.10	0.60	181.70	39.70	4.00	32.70	76.40	26.30	17.20	12.10	53.60	109.20	290.90	76.40	367.30
1981	157.20	0.60	157.80	35.40	4.10	24.70	64.20	23.60	17.00	10.60	54.60	105.80	251.50	76.10	327.60

1982	158.10	0.60	158.70	31.40	4.30	24.70	60.40	21.80	16.70	10.00	55.30	103.80	249.30	77.20	326.50
1983	197.20	0.50	197.70	47.60	5.40	23.40	76.40	24.80	21.80	11.20	55.30	113.10	307.50	80.00	387.50
1984	177.70	0.30	178.00	49.20	4.90	25.90	80.00	31.70	22.00	11.50	57.60	122.80	301.70	79.10	380.80
1985	189.30	0.30	189.60	59.90	4.50	23.10	87.50	38.60	23.90	12.70	57.00	132.20	328.60	80.70	409.30
1986	185.14	0.31	185.45	68.00	4.68	28.80	101.48	38.47	26.31	13.03	63.08	140.89	343.55	84.29	427.83
1987	179.85	0.30	180.14	49.63	5.52	30.71	85.85	34.35	24.61	12.79	69.64	141.40	316.36	91.03	407.39
1988	197.84	0.29	198.13	53.68	5.20	31.47	90.35	35.02	25.18	12.78	66.67	139.64	342.22	86.90	429.12

Sources: *Pre-1978, World Bank (1982); post-1978, Reserve Bank of Malawi (1987 and 1988); 1987 and 1988, Malawi Government (1990).*

income for taxation purposes, they would not reveal their participation in this sector. Moreover, the census counted the number of self-employed and may have been undercounted as a result. In fact, indications are that even if the urban poor did participate in the informal sector, it would not be their primary source of income and is probably an activity they would engage in only part time or irregularly. The majority of enterprises that are not recorded in official employment statistics are in fact one-person operations, according to one report (World Bank 1988c).

There is, however, further evidence of the participation of the urban poor in the informal sector. In Blantyre, for example, as much as 15 percent of the income of those making between MK20 and MK40 a month is reported to have come from "profit," "household enterprise," and "other cash income." Between 7 and 8 percent of all households making less than MK40 report "household enterprise" and "profit" as their predominant source of income. Much of that income is presumably generated from the informal sector. The structural adjustment programs implemented in Malawi since 1980 probably increased the importance of informal sector activity as an income source for the poor. The extent to which this has in fact occurred and to which it may have helped maintain real cash incomes of the poor is an important empirical issue. It stresses the importance of gathering current data on actual wages, labor participation rates, and employment.

In the absence of better data, however, two surveys conducted in the past decade give some insight into the pervasiveness of small-scale enterprise in Malawi.[106] A study by Ettema (1984) analyzes a survey that sampled rural and urban enterprises with assets of up to MK25,000. A subsequent study by the READI team looked at small and medium scale businesses, in rural and urban areas, that employed less than 20 people each (Malawi/USAID 1987). Bearing in mind the sampling rules employed by the respective studies, it is possible to uncover the actual identity of the rural entrepreneur, the extent to which rural nonfarm enterprises may generate income and employment, and some factors constraining the development of this sector.

Small-scale entrepreneurs are predominantly middle-aged and tend to have many dependents. Over 50 percent of all entrepreneurs are between the ages of

106 There continues to be confusion in the use of the term 'informal sector.' Often it is used simply to refer to unrecorded economic activity. Since much of this activity is undertaken by small-scale entrepreneurs, the discussion that follows on small-scale enterprise also gives one an initial reading on what might be the nature of the informal sector in Malawi.

30 and 49. Over 50 percent of the READI sample, moreover, had between 6 to 10 dependents, even though only 8 percent of the firms had more than one relative in its work force. The meaning of this data is unclear. At first it might seem to reinforce the suspicion that small-scale ventures are a reaction to income shortfalls of large households with smallholdings. However, as has been the experience elsewhere in Africa, it is equally possible that large households are the result of the higher incomes that may come with such entrepreneurial activity.

Most small-scale entrepreneurs, moreover, are men. The Ettema study finds that only 12 percent of all entrepreneurs are women, and only 7 percent of the READI survey's sample were women. There may be several reasons for this. One is that women, in getting less credit and lower wages, are less capable of independently generating the cash savings necessary to start such enterprises. A second possible explanation is that most female-headed households in Malawi are relatively small and have higher dependency ratios. To that extent, these households may be among the few with an actual labor shortage, especially given the competing demands on women's time with regard to their roles as mothers. Third, given the important role of women in agriculture, for economic or discriminatory reasons, it may be that the male in a household, who is engaged in both nonfarm enterprise and subsistence agriculture, would control the entrepreneurial activities. This raises the important question of whether women in such situations have equal access to the cash so generated, or whether the male, in generating the income, has first claim to the use of this cash income/surplus. If the allocation rules and marginal propensities for income in the form of goods produced for own consumption are different from those for cash income, a shift in the proportion of income derived from cash sources may result not only in a fall in the nutritional status of less privileged household members, but perhaps even in a fall in food intake amongst all household members.

While conjecture about intrahousehold decision making and allocation is of interest, a series of more fundamental questions need to be posed first. To what extent are smallholders rural entrepreneurs and vice versa? Is entrepreneurship in Malawi generally engaged in to supplement income from another occupation (implying interesting time substitution relationships)? Or are entrepreneurs a group unto themselves that needs to be studied independently? Anecdotal evidence points to pervasive smallholder participation in small-scale entrepreneurship. However, as many as 80 percent of the READI survey respondents were full-time business people. This could reflect division of labor within a smallholder household (where one member is designated the entrepreneurial task). Or it could reflect a sampling bias. The READI sample does include medium scale businesses in urban areas. It has been noted in another study that these surveys probably undercount those very people that

engage in informal sector activities for only several months a year.[107] Nonetheless, Ettema's sample does reveal a sizable subset of smallholder/entrepreneurs. Between 39 and 86 percent (depending on the district) of those sampled were supported by a second activity, normally subsistence agriculture.

The relationship between these activities is clearly important, especially in the attempt to gauge the impact of policy changes on smallholders. Welfare losses due to the effect of a policy package on one activity may, theoretically, be compensated for by income gains in a secondary, substitute activity. Obviously this would depend on the prospects of increased employment and income in the secondary activity, in this case small-scale enterprise. It would also depend on the accessibility of the secondary activity to the group in question. We address each of these issues in turn.

Self-employment is especially relevant to the smallholder who is able to engage in small-scale, home based activities but lacks the capital to operate a slightly larger business that requires the hiring of additional labor. The Ettema study reveals that over 75 percent of those in small-scale enterprise are self-employed.[108] They are generally engaged in the production of baskets, mats, pots, beer, and traditional metal-work. One would expect smallholders to rely on such activities for supplemental nonagricultural, nonwage income. In addition to this first category of activities that are almost all run by one person and require very little expenditure for inputs, a second category can be distinguished. Activities such as tailoring, tinsmithing, baking, and service trades (eg, repairing), rarely require additional employment and appear to have only a slightly higher cost structure.

A second relevant aspect of the relationship between smallholder and

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107 The same source cites, for example, the case of the estimated 15,240 people who were involved, part time, in small-scale brick making in 1978 (World Bank 1988c).

108 Seventy-eight percent of those sampled in the Ettema study were self-employed. Only 40 percent of the enterprises sampled by the READI study, however, were one-person operations (68 percent of those in the north, 31 percent of those in the central region, and 33 percent of those in the south). The differences between the two studies is largely due to differences in scale of businesses sampled. Ettema's sample was limited to businesses with assets of less than MK2,500. READI seems to have captured a sample of bigger businesses in placing no limit, upon sampling, on the firm's financial capital, but only on the size of its labor force (less than 20).

entrepreneur is the creation of wage employment within the small-enterprise sector. Ettema's study reveals that, on average, only 0.38 people were employed per business. However, once again, the propensity to employ is predicated on the kind of enterprise. For example, the third category of activities, comprised of maize-milling, carpentry, brickmaking, garage, and welding businesses, tends to employ more than one other person, on average. Furthermore, variation in employment generation varies by region.[109] The READI sample, which found an average of 1.5 employees per enterprise nationally, revealed interesting regional variations in the size of the labor force and the proportion employed in rural areas (table 33).[110]

Piecing the picture together, one still gets widely disparate estimates of the magnitude of the small-scale enterprise sector nationally. (Once again, this is probably due largely to definitional differences.) For example, the 1977 census counted 84,341 self-employed people, excluding those in agricultural occupations and natural resource exploitation such as fishing. The Ettema study presents a much lower figure, estimating that 25,000 people nationally are involved in small-scale industry (eg, manufacturing, processing, assembly, and servicing activities). The READI study, meanwhile, estimates the existence of 182,000 small- and medium-scale enterprises nationally, with an average of 2.5 employed (including the owner-entrepreneur). Seventy-eight percent of these employees were working in rural based enterprises in 1985. It was also estimated that 52 percent of the labor force outside the subsistence sector that year, or 12 percent of the total labor force, was occupied in (rural and urban) small- and medium-scale enterprise and the informal sector. These percentages are almost identical to the percentage of the labor force employed in large-scale, formal-sector employment.[111]

There is conflicting evidence as to the magnitude of potential income generation for the smallholder through small-scale enterprise, both with respect to the

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109 This could partly reflect different types of business activities by region.

110 While there appears to have been scope for rural enterprise development in the north, it is apparently of the craft and service production type that does not demand much additional labor. On the other hand, probably reflecting a difference in type of productive activity, the central and southern regions, housing larger proportions of enterprises to commence with, hire more wage labor.

111 Forty-eight percent of employment outside the subsistence agriculture sector and 11 percent of the total labor force.

Table 33 – Malawi: Regional Distribution of Urban and Rural Enterprises, by Size of Workforce

	Size of Labor Force				Total
	0	1	2-4	5+	
	Percentages				
North					
Urban	48	16	16	20	100
Rural	68	10	18	5	100
Central					
Urban	39	19	31	11	100
Rural	31	21	34	15	100
South					
Urban	40	14	19	27	100
Rural	33	17	32	18	100

Source: *Malawi Government/USAID (1987).*

entrepreneur and the wage laborer. According to Ettema, monthly earnings in the dry season in activities such as the production of pots, mats, and beer, for example, are normally less than MK20. The monthly turnover for the second category of activities such as tailoring, banking, and service trades, which also have a large number of self-employed, varies from MK21 to MK47. Presumably, some of that goes toward the cost of inputs, lowering the profit level. On the basis of these numbers, the median monthly wage income was found to be MK21, and most of those below the median to be earning between MK15 and MK19. Thus, 75 percent earn a wage of at least MK15 a month.[112] However, this figure probably overstates earnings from these sources among average smallholders.

Actual average cash incomes in rural areas are higher. Indeed, average total monthly cash income per smallholder was estimated at MK11.4 in 1981 (Ettema 1984, p. 492) and the total average monthly cash income from agricultural sources at only MK2 nationally for smallholders with holdings of less than 0.7 hectare (Centre for Social Research 1988).[113] Data on small-scale enterprise,

112 This is upon excluding those employees, presumably apprentices and/or relatives (28 percent of total) who do not get paid.

113 Income from agricultural sources includes income from food sales, cash crops, and livestock.

although sparse, shows that income from this source, be it through self-employment or wage labor, could go far in supplementing the cash income of rural smallholders. Furthermore, it provides a credible explanation for the tenuous link between holding size and nutritional status observed in section II of this paper. In Malawi, apparently, nonfarm sources of cash income must be carefully monitored, as they probably account for an important element of the livelihood of many small farmers. This is corroborated by a recent survey of smallholders in Liwonda, where Peters and Herrera (1989) highlight the sources of off-farm income of a group of rural households (figure 21).

As promising as these facts may be, several factors constrain the development of small-scale rural enterprise and its accessibility to the poor in Malawi. First, both surveys reveal that while start-up costs can be quite low, personal savings are the primary source for initial investment in enterprise. Indeed, 68 percent of all enterprises in Ettema's sample spent less than MK50 on start-up tools and other equipment.[114] Yet only 9 percent had access to any funds other than their own cash savings. The absence of credit for investment in small-scale enterprise is a serious barrier to entry for the average smallholder, who would have difficulty generating enough cash savings to start such a venture. Entrepreneurs overwhelmingly cite lack of access to credit as a major constraint to both the establishment of an enterprise and the expansion of existing businesses. However, past experiences with credit schemes for small-scale enterprises have generally not been very satisfactory. Nonetheless, policy measures that expand the availability of and access to credit will certainly have a positive effect on potential and existing entrepreneurs.

Also cited as constraints to the development of these enterprises are the shortage of needed inputs and the lack of demand for products. If such constraints exist, one wonders whether recent policy changes in this regard, following from adjustment, have reduced these constraints. These issues remain to be examined in further research.

Policies aimed at market liberalization, by reducing controls and licenses for example, offer the prospect for addressing impediments to the activities of traders and entrepreneurs. Similarly, the removal of administered prices has the potential for raising small-scale entrepreneurial activity. The questions remain, however, as to how much these factors interfere with the development of the

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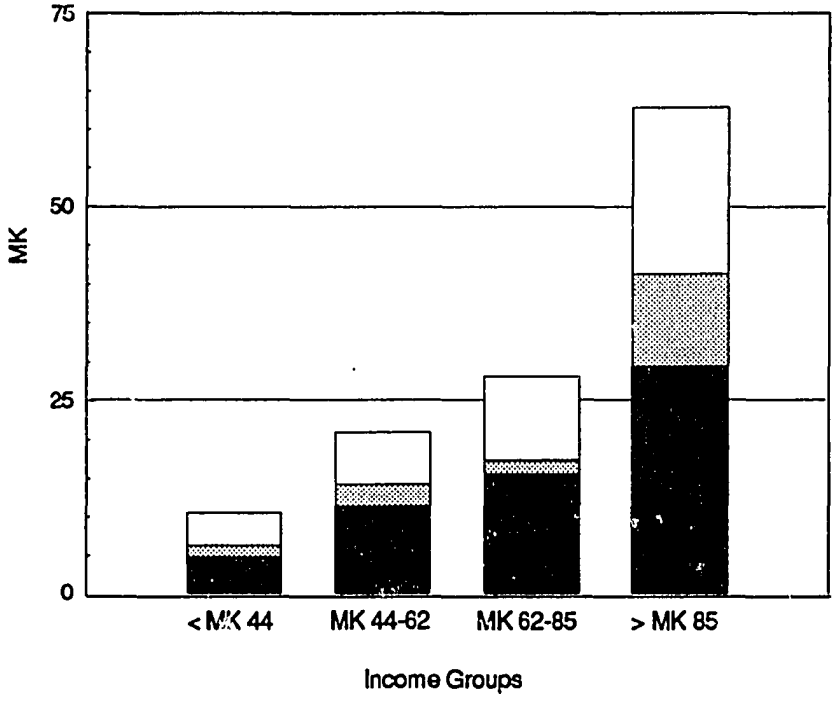
114 Ettema excluded entrepreneurs with assets greater than MK25,000, whereas the READI survey did not. Nonetheless, 75 percent of the enterprises sampled in the READI survey started with less than MK1,000.

Figure 21 – Malawi: Per Capita Off-Farm Income Types by Per Capita Income Quartile



Source: *Peters and Herrera (1989).*

sector and whether policy reform will reduce these constraints and encourage measures such as credit schemes that foster growth of small-scale enterprises and off-farm employment generation.

THE EXTERNAL SECTOR AND EXTERNAL BALANCE

The external factors that shocked the Malawian economy from the late 1970s through 1981 continued to dictate the course of the country's external sector throughout the 1980s. Exogenous fluctuations in the international prices of Malawi's imports and exports remain a significant explanatory factor in accounting for changes in Malawi's balance of payments. Moreover, the increasing cost of transportation, due to the ongoing war in Mozambique, continues to be a motivating cause of persisting current account deficits.

Several policy measures undertaken in reaction to crisis have also affected the evolution of Malawi's external sector. The Malawi Government has altered its management of the exchange rate by both changing the kwacha's peg and undertaking a number of discretionary devaluations since 1981. It has also increased the producer price of cash crops in order to promote exports. In a more reactive vein, given the development of foreign exchange shortages, the government instituted a number of measures to restrict imports and the allocation of foreign exchange. The influx of SAL-related monies has been related to the implementation of adjustment policies and important in countering large current account deficits. These and other aspects of the evolution of the Malawian external economy since 1981 are the subject of this section.

Evolution of Balance of Payments

The prominent imbalance on the external account, having materialized by 1981 (see section 3) became evident in large current account and overall balance

deficits, and continued to plague Malawi through 1983 (table 34). In 1982 and 1983 the current account deficit, excluding official transfers, remained at levels in excess of 10 percent of GDP. The deficit continued to reflect a large negative trade balance resulting primarily from the growing costs of transportation.[115] Also contributing to the deteriorating current account balance was the net outflow of factor and nonfactor services. Interest payments on Malawi's debt, accumulated in large amounts at commercial terms during the period from 1978 to 1981 and approached one-fifth of total export revenue in 1983.

The large current account deficit was only partly moderated by a positive balance on the capital account in 1982, and even less so in 1983.[116] The gross inflow of capital was tempered by outflows to amortize debt. As a result, the overall balance in both years was negative, amounting to 4.5 percent of GDP in 1982 and 7.2 percent of GDP in 1983.[117]

The external account experienced a significant improvement in 1984. Several factors accounted for the turnaround. First, Malawi experienced a marginal improvement in its terms of trade despite the long-term secular deterioration in this measure that has been observed both before and after adjustment (table 16).[118] Second, even though the c.i.f. margin continued to rise, reaching 40 percent of the total cost of imports, total imports c.i.f. actually fell. The value of nonmaize imports f.o.b. fell 16 percent, and the quantum index for imports (table 16) dropped 20 percent. This restriction of imports (relative to by then probably

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115 Landlocked Malawi's gradual loss of access to the coast, with the closure of rail lines, meant that the average distance to seaports had risen from 800 to 3,500 kilometers since the 1970s. This meant that the c.i.f. margin had escalated to 35 percent of total import costs.

116 Capital inflow continued to take the form of loans to the government amounting to over SDR 60 million in each year. In 1982 almost 20 percent of this amount was SAL related. Private capital inflow had also increased.

117 During this period, in order to meet the deficit, in addition to securing IMF purchases, the government drastically ran down its reserves. After depleting reserves by SDR 25.4 million in 1982, the reserve bank had an end of period official reserve stock of foreign exchange equal to only four weeks of (nonmaize c.i.f.) imports. With the critical loss of liquidity, Malawi was forced to negotiate debt relief. Rescheduling agreements with the London and Paris Club bilateral lenders settled over two-thirds of Malawi's overall balance of payments deficit in 1983.

118 Led by a 64 percent increase in the export price index of tea and a 3 percent increase in the export price index of sugar, the aggregate terms of trade appreciated by 4.4 percent between 1983 and 1984. The 34 percent increase in export value was also the result of the movement of tobacco and sugar stocks out of the country.

already compressed levels) represents a primary reactive policy measure with which Malawi has been battling its chronic balance of payments problems in the 1980s. Third, private transfers including remittances from Malawian workers overseas continued to augment the current account. Fourth, with the signing of SAL II, Malawi enjoyed a one-shot capital inflow of SDR 52 million. Fifth, for the third year in a row Malawi rescheduled debt, garnering relief amounting to SDR 23 million. As a result of these factors, in 1984 Malawi experienced a surplus on its overall balance of payments account, enabling the country to restock its gross official reserves.

The gains did not persist, however. In 1985 external accounts began another slide. Even the 15 percent devaluation of the kwacha did not prevent a sharp downturn in the terms of trade.[119] Expansionary monetary and fiscal policy, including large expenditure on security-related items and on establishing the strategic grain reserve, exacerbated the current account deficit by pushing aggregate demand. With SAL-related disbursements and debt relief having dropped off by 1985, Malawi once again was forced to deplete its official reserves.

The balance of payments situation worsened in 1986. Import compression continued to characterize the merchandise trade balance and contributed to the general economic stall. Nonmaize imports dropped 22 percent from the previous year. Interest payments continued to dominate the services account and, at a value of SDR 44.4 million, swamped the continued inflow of private transfers, which amounted to SDR 21.6 million. The salient factor in 1986, though, was the negative balance on the capital account. The deterioration came despite an SDR 63.9 million inflow of SAL-related funds and has been attributed to large debt servicing payments and to short-term, unidentified capital outflows.[120]

As a result, in 1986, the overall balance reached SDR -67 million or -6.4 percent of GDP. Again, reserves were almost completely depleted in order to finance this deficit. With foreign exchange reserves amounting to less than one month's worth of imports, Malawian authorities imposed quantitative restrictions on the allocation of foreign exchange. Still unable to bridge the gap, the

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119 International tea prices plummeted. The export price index for tea fell by close to 60 percent in the next two years; that of tobacco dropped by 10 percent; and the aggregate terms of trade declined by 25 percent.

120 This has been said to include a large expenditure on security-related imports (World Bank 1988d).

Table 34 – Malawi: Balance of Payments, 1982-1988

	1982	1983	1984	1985	1986	1987	Est. 1988
	Millions of SDRs						
Current Balance	**-115.4**	**-124.9**	**-16.2**	**-95.3**	**-63.8**	**-46.0**	**-89.4**
Trade balance	-59.8	-58.7	44.7	-36.3	-7.3	-13.5	-82.5
Exports, f.o.b.	217.1	230.3	308.0	246.2	211.6	215.4	224.2
Imports, c.i.f.	-276.9	-289.9	-263.3	-282.5	-218.9	-228.9	-306.7
Non-maize imports, f.o.b.	-179.9	-188.0	-158.0	-169.4	-131.4	-134.0	-169.2
c.i.f. margin	-97.1	-100.9	-105.3	-113.1	-87.6	-89.3	-112.8
Maize imports, c.i.f.	...	...	...	...	...	-5.6	-24.7
Services and private transfers	-55.6	-66.2	-60.9	-59.0	-56.6	-36.2	-27.5
Nonfactor services	-10.2	-14.0	-21.7	-17.2	-18.4	-7.4	-9.3
Receipts	21.2	22.0	26.4	26.0	19.0	17.5	19.4
Payments	-31.4	-35.9	-48.1	-43.2	-37.4	-24.9	-28.6
Factor services	-63.6	-60.0	-54.4	-52.1	-50.4	-44.0	-41.7
Receipts	1.4	1.3	3.6	5.4	2.8	2.5	5.1
Payments	-65.0	-61.2	-58.0	-57.5	-53.2	-46.5	-46.8
Interest	-38.5	-41.4	-43.3	-44.1	-44.4	-39.0	-38.7
Other	-10.9	-19.8	-14.6	-13.4	-8.8	-7.5	-8.2
Private transfers	18.2	7.7	15.3	10.3	12.2	15.2	23.5

Receipts	28.7	22.5	26.5	21.2	21.6	26.6	34.7
Payments	-10.6	-14.7	-11.3	-10.9	-9.3	-11.3	-11.2
Capital account	**67.1**	**42.5**	**58.4**	**49.6**	**-3.2**	**90.0**	**51.8**
Long-term net	37.8	34.6	59.7	42.0	60.1	76.6	117.7
Government transfers	32.9	27.6	33.8	24.1	24.9	67.4	...
Credit	33.8	28.6	25.7	26.0	26.5	25.5	69.3
SAL-related grants	...	...	...	...	9.3	6.4	44.3
Grants for maize	...	...	...	...	...	3.7	20.5
Debit	-0.9	-1.0	-1.9	-1.8	-1.6	-2.2	-1.9
Government loans	20.3	22.0	51.1	27.4	40.5	49.0	39.1
Credit	61.5	60.8	90.5	62.0	89.6	86.2	82.0
SAL-related loans	18.1	...	52.0	7.7	63.9	40.8	30.4
Debit	-41.2	-38.8	-39.4	-34.6	-49.1	-37.2	-42.91[a]
Public enterprises	-18.4	-28.4	-12.9	-15.2	-9.3	3.6	8.7
Credit	6.9	0.7	0.7	0.7	0.2	9.0	13.9
Debit	-25.2	-29.1	-13.6	-22.2	-9.5	-5.4	-5.1
Private sector	3.0	13.5	-2.3	5.6	3.9	0.7	2.4
Credit	11.0	19.5	6.7	9.9	11.6	4.8	6.51[a]
Debit	-8.0	-6.1	-9.0	-4.2	-7.6	-4.1	-4.1
Short-term and unidentified	29.3	7.9	-1.3	7.6	-63.2	13.4	34.2

Table 34 — Continued

Table 34 — Continued

	1982	1983	1984	1985	1986	1987	Est. 1988
	Millions of SDRs						
Overall balance	**-48.3**	**-82.3**	**42.2**	**-45.7**	**-67.0**	**44.0**	**62.4**
Financing	**48.3**	**82.3**	**-42.2**	**45.7**	**67.0**	**-44.0**	**-62.4**
Official net foreign assets (increase -)	31.4	27.0	-65.2	39.0	20.8	-34.8	-74.9
Gross official reserves (increase -)	25.4	7.7	-45.2	18.2	24.1	-18.7	-73.0
IMF purchases	14.7	34.2	37.8	23.0	...	...	9.3
IMF repurchases	-12.6	-10.3	-20.4	-16.0	-20.6	-23.6	-19.9
Change to other liabilities, net	3.9	-4.6	-37.4	13.8	17.3	7.5	-0.6
Change in arrears	...	...	...	...	43.8	-9.7	-34.1
Import related	...	...	...	...	43.8	-26.4	-17.4
Debt service-related	...	...	...	...	...	16.71[a]	-16.7
Debt relief	16.9	55.3	23.0	6.7	2.4	0.4	46.7
MEMORANDUM ITEMS							
Current account (percent of GDP)							
Excluding official transfers and emergency maize imports	-10.6	-10.9	-1.4	-8.2	-6.1	-4.8	-8.3
Including official transfers	-7.7	-8.5	0.6	-6.1	-4.6	-2.4	-2.1
Overall balance (percent of GDP)	-4.5	-7.2	3.6	-3.9	-6.4	4.6	5.8

Gross official reserves							
End-period stock	20.5	12.8	58.0	39.8	15.7	34.4	107.4
In weeks of c.i.f. non-maize imports	3.9	2.3	11.5	7.3	3.7	1.8	4.6
C.i.f. margin (in percent of c.i.f. imports)	35.0	35.0	40.0	40.0	40.0	40.0	40.0

Sources: *IMF (1988 and 1989).*

[a] *Estimated debt service payments to Paris Club creditors and principal payments to London Club creditors suspended since end-August 1987 pending Malawi's request for debt rescheduling.*

bank was forced to accumulate import-related arrears.

The balance of payments situation improved marginally in 1987. Although still negative, the deterioration in the trade balance was stemmed as export revenues rose with an increase in the volume of tobacco exported. The return to a positive balance on the capital account, meanwhile, was explained primarily by the reversal of the unidentified, short-term capital flows mentioned above. It was also due to the continued high levels of loans to the government. SAL-related funds constituted SDR 40.8 million of this or about 50 percent of the total credit. Consequently, a surplus was recorded on the overall balance in 1987, allowing the Reserve Bank to restock official reserves and to pay back accumulated arrears.

The continued improvement in the overall balance of payments in 1988 was due largely to new financial arrangements extended to Malawi by the nation's primary creditors. Associated with the World Bank industrial and trade policy reform program and the IMF enhanced structural adjustment facility (ESAF), long-term, net government transfers increased by 54 percent. SAL-related grants increased from SDR 6.4 million to SDR 44.3 million, and SAL loans brought in another SDR 30.4 million. Rescheduling agreements with both Paris and London Club creditors explain the large element of debt relief that also helped improve the balance of payments situation. These factors, however, hide the continued decline in the trade balance, estimated to have deteriorated by over 500 percent. The 1988 devaluation, together with the liberalization of foreign exchange allocation that year, led to a 34 percent increase in imports that was unmatched by exports.

The above recounting of the evolution of the balance of payments since the beginning of adjustment in Malawi clearly demonstrates that the measures taken have failed to provide sustained improvements. In exploring why, one can look more specifically at two broad policy areas: (1) export production policies and (2) exchange rate and trade policies.

Export Crop Production

As discussed earlier, adjustment-related policy undertaken in the 1980s has aimed at increasing export crop production within both the smallholder and estate sectors by getting prices right. The rationale has been three-fold. First, by eliciting increased production of tradables, the promotion of export crops in general was to earn increased foreign exchange and promote aggregate growth. Second, by reducing the implicit tax on these commodity exports, pricing policy was to encourage a diversification of exports, rectifying the developments of the 1970s and reducing vulnerability to international price changes. Third, by lowering the implicit tax on smallholder export production, producer price

increases were to improve the distribution of income by allowing smallholders to participate in an economy that was relying on export-led growth.

The record sheds doubt on whether policy has led to the desired results on any of the three counts. On the first one, export pricing policy changes have not led to unambiguous growth in exports. The quantum index for exports shows that exports started rising in 1981, jumped sharply in 1983 when the prices of many export crops were raised, but then fell dramatically in 1984 (table 16). Though increasing, they have never regained their peak of 1983. Meanwhile, due to escalated transport costs and a decline in the international prices of Malawi's export goods, export revenue has experienced no substantial growth.[121] Estimated export revenue f.o.b. (denominated in SDRs) was actually 3 percent lower in 1988 than it had been five years earlier.

These observations also raise the important issue regarding exchange rate elasticities for export goods in Malawi. There could be several reasons for the initial observation of a low response of exports to a devaluation. One is that exports have been restricted by quotas imposed by Malawi's trading partners. For instance, Malawi's sugar exports have been subjected to an exogenous change in demand. The United States' quota for sugar imports from Malawi was lowered by 52 percent, from 19,600 short tons in 1982/83 to 9,100 short tons in 1987 (United States General Accounting Office 1988). Furthermore, overseas markets for Malawi's exports may be satiated, given that other countries, such as Sri Lanka with respect to tea and the United States with respect to tobacco, already produce and sell large quantities of these commodities.

On the second count, export pricing policy changes do not appear to have led to significant diversification of exports; in fact, the most important export crop, tobacco, increased its share in total exports. Accounting for an average of 48 percent of all exports in the years 1979 through 1981, tobacco's share between 1986 and 1988 increased to 60 percent (table 15). The share of tea, the next most important export earner, rose from 13 percent in 1981 to an average of 20.5 percent over the next five years but fell back to an average of 12 percent between 1986 and 1988. Thus the gain in export share for tobacco is primarily due to decreases in share of other export crops: sugar, groundnuts, and cotton. The export concentration ratio for the three most important earners (tobacco, tea,

121 The aggregate terms of trade fell in all but one year between 1983 and 1987 (table 16), registering an average growth rate of -7 percent over the 5 year period. While there were some indications that in 1988 the terms of trade recorded an improvement (IMF 1989), it appears unlikely that it will be sustained.

and sugar), however, increased from 80 percent in 1981 to 85 percent by 1988.

Third, it is also apparent, as discussed earlier, that smallholder price incentives were not significantly affected by exchange rate devaluations. Increases in kwacha-denominated international prices of commodities such as tobacco were not followed by producer price increases but by increases in the implicit export tax accruing to government. In addition, although smallholder exports of crops via ADMARC have increased (table 25), questions remain as to the source of greater export crop growth. Did the smallest farmers partake in this production increase of export crops, or did the benefits accrue disproportionately to larger holders? Questions also arise with regard to the food security implications of increased export crop production. Did the switch from subsistence to export crop production increase or decrease the availability and accessibility of adequate household food supplies on a monthly basis? These issues need to be the focus of future research.

Exchange Rate and Trade Policies

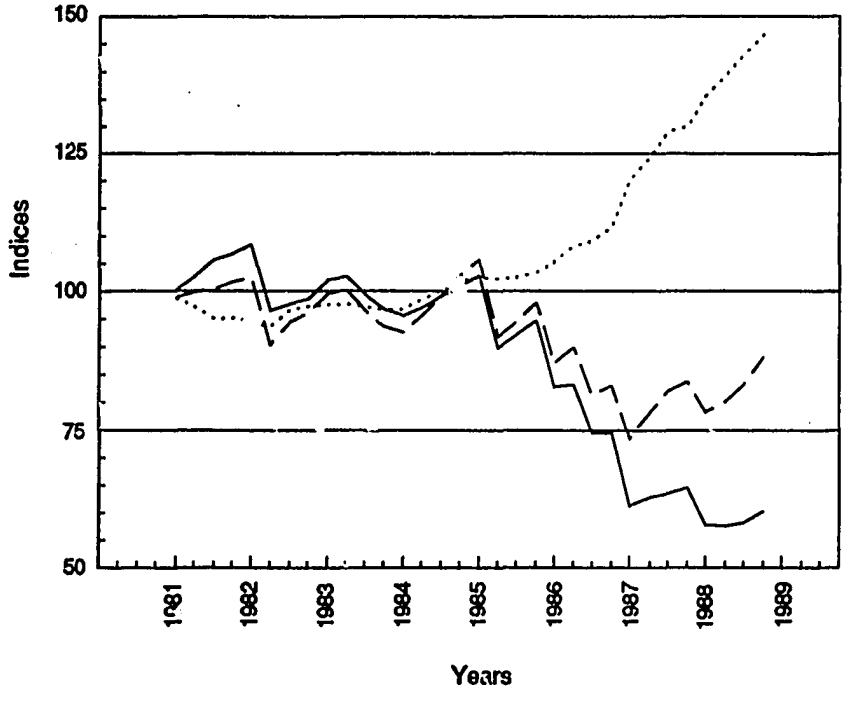
The Malawi kwacha was initially pegged to the British pound. In 1973 the peg was redefined on the basis of a weighted average of the United States dollar and the pound. Then, in 1975, the kwacha was pegged to the SDR, an arrangement that was still in place when the country initiated its stabilization and structural adjustment programs.

Since 1980 Malawi has engaged in active exchange rate management under its stabilization and adjustment programs. In particular, the reserve bank has frequently devalued the kwacha in an attempt to move the economy toward external balance. The movements in the kwacha's nominal and real effective rates are shown in figure 22.

In April 1982 the kwacha was devalued by 15 percent relative to its peg of that time, the SDR, and in 1983 it was gradually devalued by another 12 percent. The real effective exchange rate appreciated sharply after that point, reflecting, in part, an increase in domestic inflation. Malawi effectively devalued its currency again in January 1984, while modifying its exchange rate regime by pegging the kwacha to a weighted basket of the currencies of its major trading partners.[122] The move was more a refinement of Malawi's adjustable peg system, than a drastic break from the past. The inflation rate, however, was accelerating

122 In 1986, as measured by the value of imports, they were, in declining order of importance, Republic of South Africa (30.2%), United Kingdom (25.7%), Japan (9.6%), West Germany (6.6%), Zimbabwe (4.9%), and the United States (3.5%).

Figure 22 – Malawi: Trade Weighted Effective Exchange Rates, 1981 - 1989 (SDR/MK; 1980 = 100)



Source: *International Monetary Fund.*

and the kwacha was appreciating in real terms much faster than indicated by its nominal rate. In April 1985, Malawi devalued its nominal exchange rate again by 15 percent relative to its new basket so as to compensate for this factor. However, the sharp drop in the terms of trade commencing in 1985, the large outflows of short-term, unidentified capital in 1986, and the high foreign exchange costs of transportation throughout this period resulted in continued excess demand for foreign exchange.

By the end of 1985, due to the failure of numerous nominal devaluations to bring about a major devaluation of the real effective exchange rate and the growing length of the pipeline of requests for foreign exchange in what had been an open import allocation procedure, guidelines were developed to ration the limited foreign exchange. In particular, in 1986 the government made two changes. The first was to abandon the open allocation procedure whereby importers submitted requirements to a commercial bank, which in turn sent them to the reserve bank for approval. The bank routinely processed such requests without examining the goods to be imported. The new procedure, instituted in the middle of 1986, involved a reserve bank committee deciding on the allocation of foreign exchange, with the provision that forty percent of foreign exchange for import purposes be allocated to the public sector. In distributing the remaining 60 percent to the private sector, priority was given to foreign exchange financing the imports of spare parts, fuels, raw materials, chemicals, and medicines (IMF 1988). In that regard, six categories were identified and accorded priority in the following order: (1) fuel and fertilizer, (2) chemicals and pharmaceuticals, (3) industrial and raw materials, (4) motor vehicle spare parts, and (5) goods in the retail and wholesale sector. The committee met to review requests for foreign exchange and then gave out block allocations of foreign exchange to importers. With many applications for foreign exchange rejected as not essential, it is evident that discretionary policy not only served to compress imports but also contributed to the changing composition of imports. It appears to be partly accountable for squeezing out private-sector as well as import-oriented consumption.[123]

Concurrent with this measure, in an attempt to clear the pipeline of foreign exchange requests that had by now reached MK200 million, the government

123 Important too is the historically observed trend for import-substituting developing countries to initially substitute the consumer goods industry (see, for example, Little, Scitovsky, and Scott 1970). As a result, intermediate inputs required for the new domestic industry increase their share in the import bill. Concomitantly the share of final consumer goods declines in the import bill. Malawi thus follows a stylized pattern.

progressively devalued the nominal exchange rate throughout the year. The exchange rate fell by over 20 percent between the last quarter of 1985 and the last quarter of 1986. Malawi's annual inflation rate relative to its trading partners, however, continued to rise, registering 7.8 percent in 1986 and 18.9 percent through November of 1987. The real exchange rate in November 1987 was approximately 85 percent of its 1980 value, while the nominal exchange rate was only 64 percent of its value. Thus, domestic inflation in Malawi, generated in part by the exchange rate changes themselves, has eroded much of the effect of the nominal devaluation. With the continued appreciation of the real effective rate, the nominal kwacha was devalued again in January 1988, as the reserve bank continued to work to compensate for the declining competitiveness of the kwacha on the international market. However, this has not been enough to stem the real appreciation of the kwacha since 1987. Thus, although Malawi managed to bring about a real depreciation of the kwacha between 1981 and 1987,[124] the kwacha then appreciated in real terms from 1987 to 1989, although not back to its preadjustment level.

An examination of the movements in exchange rates and regulations must of course include an examination of increases in import quotas and import tariffs that raise the effective exchange rate for imports. Similarly, export taxes and other trade restrictions tend to lower the effective exchange rate for exports. If implicit tariffs have decreased over this adjustment period, the real effective exchange rate for imports (reflecting the real price of importables in Malawi) may have increased less than indicated by the official real exchange rate. If, on the other hand, implicit tariffs have increased, the real effective exchange rate for imports may have increased more than the official real exchange rate. While it is beyond the scope of this work to measure changes in implicit tariffs and effective exchange rates for imports, it is important to realize that the devaluation need not have had a large effect on the market prices of importable goods that are restricted by quotas.

Indications of the increased trade restrictions discussed earlier, in reinforcing the effects of the real depreciation in the kwacha, would seem to suggest a rapid rise in the domestic price of importables between 1985 and 1987. On the contrary, the more recent efforts at liberalization under the 1988 industrial and

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124 In fact, although the official and parallel market exchange rates were still out of line, the depreciation of the effective exchange rate appears to have initially reduced the spread between them during this period. The ratio of unofficial to official exchange rates declined from 2.1 in 1985 to 1.13 in 1987.

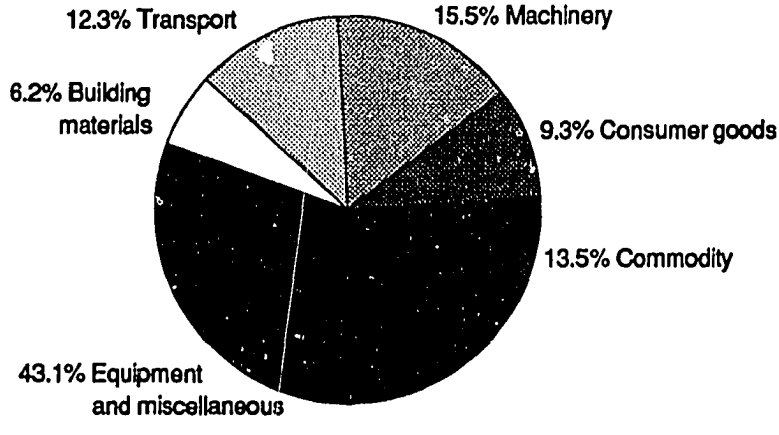
trade policy adjustment program (ITPAP) tell a different story. First, Malawi has initiated a tariff reform. The basic objective of this effort has been to broaden, rather than deepen, the base for collection of revenues. Second, the government has committed to the liberalization of the restrictive system of allocating foreign exchange that began in the mid-1980s, which was increasingly recognized as a hindrance to economic performance. The new procedure has in effect made it more convenient to gain access to foreign exchange than the approach employed before the crises of the mid-1980s.[125] Interestingly, the long pipeline for foreign exchange has not reappeared since the move toward liberalization, which is likely due in part to the credit ceiling that has been adopted. In fact, the credit squeeze is quite limiting, and importers are relying more on sales to finance imports, thus contributing to the high level of liquidity that now exists in the banking system in Malawi.

The current changes in exchange rate and trade regime signal the need for further research to determine how devaluation and changes in commercial policy are working together to affect relative prices and living standards. Nevertheless, upon surveying the evolution of Malawi's exchange rate and trade regime, a number of tentative conclusions can be highlighted.

First, the frequent nominal devaluations undertaken throughout the 1980s have increased the nominal prices of imported consumables in terms of domestic currency. In the stylized small open economy this is tantamount to increasing the general price level of tradables and thus raising the rate of inflation. Those segments of the population for whom such goods comprise much of the consumption bundle will be especially affected by devaluations. Second, devaluations also increase the price of imported inputs. In a country such as Malawi, where construction materials, machinery, and equipment inputs constitute such a large portion of imported goods (figure 23), devaluations will have an important economy-wide, supply-side effect. In the services, manufacturing, and industrial sectors, to the extent that aggregate production declines, the concern over low-income families emanates from the potential losses in wage labor opportunities. In the agricultural sector, more importantly, to the extent that devaluation contributed to the increased price of the fertilizer input, it is likely to adversely affect the income of smallholders and to contribute to the

125 In particular, February 1988 marked the beginning of the liberalization of the first two categories of foreign exchange use, and 25 percent of categories 3 and 4. This pattern of liberalization has continued, with the second phase in August 1988 involving liberalizing another 50 percent of categories 3 and 4, and the third phase, in July 1989 involving liberalizing all of categories 3 and 4 and a portion of category 5.

Figure 23 – Malawi: Import Composition, 1988



Source: *Reserve Bank of Malawi (1988).*

decline in production of fertilizer-intensive crops.

Third, the temporary distortions caused by the imposition of quotas on foreign exchange, likely engendered rent-seeking behavior which ran the risk of transferring welfare losses from those negatively affected by the cost increases to welfare gains for those with foreign exchange and import licenses. However, this episode was short lived and probably not a serious threat to the welfare of the poor.

Fourth, although a complete study of the welfare impact of tariff reform requires further research, some encouraging outcomes have developed in this regard. One is the reduction of excise taxes on goods likely to be in the consumption bundle of the poor and middle income households.[126] There is little question, however, that any further analysis of the effect of exchange rate policy must be complemented by a detailed analysis of commercial policy.

Fifth, while the price-mediated effects of exchange rate and trade policy may be expected to adversely affect vulnerable segments of Malawi's population in the short term, distributional consequences are difficult to discern. On the one hand, the effect of policy may be even worse for upper-income households who control productive enterprises using imported inputs. On the other hand, price increases of domestic goods, inflationary pressure from fiscal and monetary expansion, and import restrictions in conjunction with devaluations pose a threat to consumers, regardless of their position in the income distribution. The characteristics and effects of inflation are treated with more detail in the following section on monetary policy.

International Debt

Finally, any discussion of structural adjustment and the external sector must face the issue of debt. Structural adjustment programs are generally supported by large amounts of external financing, and Malawi is no exception. As discussed above, Malawi has relied heavily on government loans, both to strengthen its capital account and to compensate for the chronic current account deficits of the 1980s (table 34). Government loans credited to the balance of payments account averaged 6.6 percent of GDP annually between 1982 and 1988. This, coupled with the large debt accumulated prior to 1982 (much of it at commercial terms), has resulted in a high and rising debt for Malawi (table 35).

The debt-servicing burden in the short term, however, has not experienced such a precipitous increase, primarily because of rescheduling arrangements.

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126 These include soap, toilet paper, bicycles, and second-hand vehicles.

Table 35 – Malawi: Long-term Debt, Debt Composition, and Debt Burden, 1970-1987

	Multilateral	Bilateral	Other Foreign	Total	Multilateral	Bilateral	Other Foreign	Principal & Interest Payment to Export Ratio	Debt to GNP Ratio
	Nominal US $ Millions				Share of Total				
1970	0.0	83.8	21.7	105.5	0.000	0.794	0.206	0.077	0.377
1971	25.9	94.1	20.8	140.8	0.184	0.668	0.148	0.075	0.391
1972	36.7	100.0	23.0	159.7	0.230	0.626	0.144	0.076	0.399
1973	46.4	130.0	20.8	197.2	0.235	0.659	0.105	0.073	0.438
1974	54.3	150.0	28.1	232.4	0.234	0.645	0.121	0.075	0.415
1975	66.3	160.0	33.3	259.6	0.255	0.616	0.128	0.081	0.419
1976	77.8	170.0	51.7	299.5	0.260	0.568	0.173	0.089	0.461
1977	107.4	180.0	85.6	373.0	0.288	0.483	0.229	0.101	0.478
1978	142.0	220.0	136.6	498.6	0.285	0.441	0.274	0.174	0.530
1979	192.0	150.0	170.4	512.4	0.375	0.293	0.333	0.175	0.523
1980	237.4	210.0	192.1	639.5	0.371	0.328	0.300	0.193	0.581
1981	286.4	200.0	188.0	674.4	0.425	0.297	0.279	0.268	0.613
1982	338.2	210.0	162.4	710.6	0.476	0.296	0.229	0.230	0.646
1983	366.2	200.0	137.7	703.9	0.520	0.284	0.196	0.228	0.587
1984	450.9	160.0	7.5	618.4	0.729	0.259	0.012	0.215	0.562
1985	519.8	190.0	98.1	807.9	0.643	0.235	0.121	0.294	0.734

Table 35 – Continued

Table 35 — Continued

	Multilateral	Bilateral	Other Foreign	**Total**	Multilateral	Bilateral	Other Foreign	Principal & Interest Payment to Export Ratio	Debt to GNP Ratio
	Nominal US $ Millions				Share of Total				
1986	632.9	210.0	64.3	907.2	0.698	0.231	0.071	0.400	0.825
1987	813.0	293.0	49.0	1,155.0	0.704	0.254	0.042	0.234	0.927

Source: *World Bank (various years).*

Note: *Long-term debt is public and publicly guaranteed, outstanding and disbursed.*

Table 36 – Interest Rate, Maturity, and Grace Period of Malawi's Public Debt, 1970-1987

	Official Creditors	Private Creditors	Official Creditors	Private Creditors	Official Creditors	Private Creditors	Official Creditors	Private Creditors
	Interest Rate (%)		Maturity (years)		Grace Period (years)		Grant Element (%)	
1970	3.0	7.0	35.0	8.0	7.0	0.0	56.0	12.0
1971	1.0	8.0	33.0	11.0	6.0	1.0	65.0	9.0
1972	2.0	13.0	30.0	11.0	8.0	3.0	67.0	-27.0
1973	1.0	13.0	43.0	6.0	10.0	2.0	76.0	-11.0
1974	2.0	8.0	42.0	9.0	9.0	1.0	71.0	6.0
1975	1.0	7.0	41.0	5.0	9.0	1.0	73.0	8.0
1976	2.0	8.0	38.0	7.0	9.0	3.0	65.0	5.0
1977	4.0	9.0	31.0	7.0	7.0	3.0	48.0	2.0
1978	3.0	11.0	36.0	6.0	8.0	2.0	62.0	5.0
1979	3.0	13.0	32.0	7.0	8.0	2.0	53.0	-10.0
1980	4.0	13.0	29.0	6.0	7.0	3.0	45.0	-11.0
1981	4.0	15.0	36.0	6.0	8.0	2.0	48.0	-12.0
1982	1.0	12.0	40.0	6.0	8.0	1.0	71.0	-5.0
1983	3.0	12.0	25.0	6.0	8.0	1.0	54.0	-3.0
1984	4.0	10.0	40.0	8.0	9.0	1.0	57.0	0.0
1985	2.0	10.0	46.0	15.9	10.0	1.0	74.0	-1.0

Table 36 — Continued

Table 36 — Continued

	Official Creditors	Private Creditors	Official Creditors	Private Creditors	Official Creditors	Private Creditors	Official Creditors	Private Creditors
	Interest Rate (%)		Maturity (years)		Grace Period (years)		Grant Element (%)	
1986	3.0	0.0	27.0	0.0	8.0	0.0	51.0	0.0
1987	1.0	0.0	47.0	0.0	10.0	0.0	81.0	0.0

Source: *World Bank (various years c).*

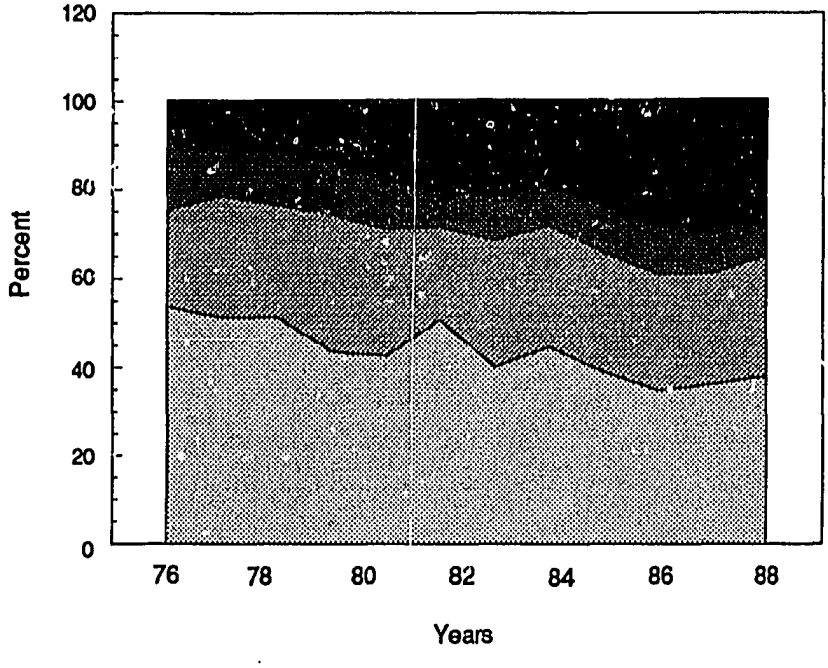
Notes: *The grant equivalent of a loan is its commitment (present) value less the discounted present value of its contractual debt service; conventionally future service payments are discounted at 10%. The grant element of a loan is the grant equivalent expressed as a percentage of the amount committed.*

The decline in the principal and interest payment to export ratio between 1981 and 1984 reflects the debt relief granted to Malawi by its creditors in those years. Both Paris and London Club creditors participated in rescheduling Malawi's debt. Debt relief amounted to SDR 16.9 million in 1982, SDR 55.3 million in 1983, and SDR 23 million in 1984 (table 34). In 1987 debt service payments were suspended pending rescheduling negotiations with London and Paris Club creditors, once again reducing the above ratio to 23 percent. The eventual rescheduling agreements, negotiated with Paris and London Club creditors in 1988, brought total debt relief for that year to SDR 46.7 million.

Malawi has also benefitted from the changing composition of its debt. The interest rate on debt from official sources fell from 4 percent in 1981 to 1 percent by 1987. The maturity on debt from official sources increased from 36 to 47 years over that period (table 35). The grant element on debt from official creditors also increased, from 48 percent in 1981 to 81 percent in 1987. Just as important has been the reduction of debt obligations to private creditors, whose loans usually involved higher interest rates and shorter maturity periods (table 36).

While the altered composition of long-term debt and the short-term rescheduling of this debt have assisted Malawi, growth in the volume of Malawi's debt signals the potential for serious consequences. Whereas in 1980 Malawi's debt (public and publicly guaranteed, outstanding and disbursed) in nominal US dollars was 639 million, it had risen to 1,155 million by 1986. As a result, the debt to GNP ratio climbed from 58 percent to 93 percent over that period. Over the long run this accumulation of debt is expected to severely strain the Malawian economy. Moreover, even the debt-servicing burden observed in recent years has begun to affect the poor through its impact on the composition of government recurrent expenditure (figure 24). The squeeze that interest payments have created on goods and services, as well as on wages and salaries, has manifested itself in both declining shares of expenditure going to social services and lower real wages in the public sector.

Figure 24 – Malawi: Government Recurrent Expenditure by Functional Component as a Percentage of Recurrent Expenditure, 1976 - 1988



Source: *International Monetary Fund (various years, b)*

MONETARY POLICY EFFECTS

Changes in monetary policy in Malawi have occurred in the context of a more sophisticated monetary system than that in many other sub-saharan african countries. The Reserve Bank of Malawi is responsible for monetary policy, monitoring the operation of other monetary institutions and managing foreign exchange and foreign reserves. Other financial institutions vary in function and nature and include two commercial banks, a savings bank, a development bank, a building society, and several insurance companies. In 1987 the commercial banks had 27 branch offices as well as 38 permanent and 92 mobile agents. The small enterprise development organization of Malawi (SEDOM), the Malawi union of savings and credit cooperatives (MUSCCO), and the ministry of agriculture also play important roles in the expansion of credit and other monetary activities.

The government has access to a range of policy instruments with which to change monetary policy. Of particular interest is policy reform with respect to the volume and distribution of domestic credit and the level of the interest rate.[127] Both have important implications with respect to the macroeconomy in general and to the poor, in particular.

Monetary Growth

Between 1980 and 1988 money supply, measured by cash and demand deposits (M1), has increased at an average rate of 20 percent (figure 25). Savings and time deposits grew even faster, possibly reflecting the lack of investment opportunities and higher interest rates.

The effects of such monetary expansion have been felt in two principal ways. First it has increased inflation. Second it has altered the distribution of credit within the economy. In both respects it could affect the welfare of lower income households.

Inflation

The rapid growth in money supply has contributed, along with the recent devaluations of the kwacha, to an increase trend in the rate of inflation (figure 26). Although the rate has fluctuated throughout the 1980s, inflation rates

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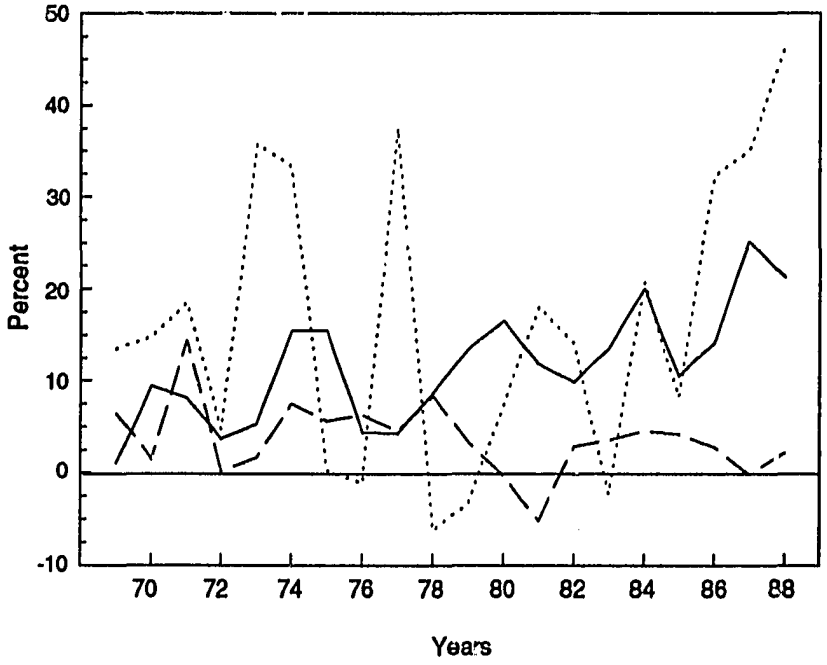
127 The government has also maintained a policy of setting a minimum liquidity ratio so as to constrain monetary expansion. This policy will not be discussed at great length. While effects on low-income households may have been tenuous at best, in practice the policy itself has not been implemented. Since 1979 the minimum prescribed ratio of liquid assets to total liabilities to the nonbank public was set at 30 percent. Yet between 1986 and 1988, for example, the ratio was consistently above 50 percent and sometimes surpassed 60 percent.

Figure 25 – Malawi: Changes in Money Supply, Prices, and Real GDP, 1970 - 1988



Source: *International Monetary Fund (various years).*

reached 25 percent in 1987 and 21 percent in 1988, compared to 12 percent in 1981 and 10 percent in 1982. The average rate of inflation between 1976 and 1981 was 9.87 percent. Between 1983 and 1988 it averaged 17.39 percent. The result of this escalation will likely be a deterioration in purchasing power of the more highly monetized groups in the economy for whom incomes have not kept pace.

Of particular concern, of course, is that the urban poor have been especially hurt by inflation as at least formal sector wages have not keep pace with price increases. The fact that the urban poor spend a larger portion of their market expenditure on foodstuff than any other group makes them more vulnerable to food insecurity. Aggregate urban price indices showed overall food costs rising by 123 percent in urban areas between 1985 and 1989 (table 37).[128] Additionally, price increases were obviously not limited to food items. Since 1985 prices of clothing and footwear increased by 105 percent, housing by 117 percent, household operations by 76 percent, and transportation by 178 percent.

Indications are, moreover, that on a more disaggregated level the low-income households were the most affected by this inflationary trend. This point is borne out by analysis of price indices by income category (table 38).[129] The aggregate price index by income group suggests that between 1983 and 1988 the aggregate price index for low-income households increased by 154 percent, for middle-income households by 140 percent, and for high-income households by 145 percent. Furthermore, between 1983 and 1988 the average annual rate of inflation faced by low-income urban households in Blantyre was 19.53 percent, compared to 19.15 percent for medium-income households and 18.43 percent for high-income households. To the extent that monetary policy has contributed to inflationary pressure, therefore, it may also have had some distributional consequences.[130]

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128 Data generated from prices recorded in Blantyre and Lilongwe.

129 The low-income indices cover households with monthly incomes of less than MK100. The medium-income indices cover households with monthly incomes of MK100 through MK399.99. The high-income indices cover households with monthly incomes of over MK400.

130 The increased cost of living faced by the urban poor in the 1980s is of particular concern since, as indicated earlier, there are indications that their earnings have not kept pace.

Table 37 – Malawi: The Composite Retail Price Index, 1980-1989 (1980 = 100)[a]

	All Items	Food Costs	Beverages and Tobacco	Clothing and Footwear	Housing	Household Operation	Transportation	Miscellaneous
Weight	100.0	32.9	6.4	10.7	13.3	9.6	17.6	9.5
1980	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981	110.4	112.7	109.5	108.6	109.3	106.3	110.2	111.0
1982	120.1	120.5	119.3	118.1	118.9	118.3	121.3	123.2
1983	136.2	140.3	131.4	133.6	136.7	136.1	131.6	136.0
1984	151.2	154.4	139.8	156.4	155.7	149.6	146.5	146.0
1985	173.8	177.0	160.6	178.3	177.0	173.8	176.1	158.0
1986	199.5	206.9	180.7	194.5	194.3	190.7	219.1	172.0
1987	252.9	259.2	229.9	225.5	239.5	234.9	307.2	213.7
1988	332.2	344.5	303.4	304.9	322.4	287.4	400.5	272.4
1989	384.4	394.4	326.6	364.8	383.7	306.2	489.4	296.2

Source: *Malawi Government, (various years c; 1988a; 1987a).*

[a] *Covers the cities of Blantyre and Lilongwe only.*

Table 38 – Malawi: Indices of Blantyre Retail Prices, by Income Group, 1982-1989 (excluding rent, 1980 = 100)

	All Items	Food Costs	Beverages and Tobacco	Clothing and Footwear	Housing	Household Operation	Transportation	Miscellaneous[d]
	Low Income Index[a]							
Weight	100.0	50.0	39.0	15.4	10.8	86.0	48	65.0
1982	122.8	114.6	123.3	135.4	132.0	129.7	139.1	119.4
1983	139.4	132.3	136.0	150.4	142.0	154.2	159.1	131.5
1984	167.3	153.1	148.4	196.2	205.6	172.0	181.0	140.2
1985	184.9	167.1	165.1	213.7	222.2	207.0	210.6	154.6
1986	210.7	193.3	188.4	244.1	241.9	236.7	236.9	175.4
1987	264.0	245.2	235.8	293.8	307.0	300.9	280.0	222.1
1988	353.5	323.7	303.5	400.8	456.4	371.2	365.3	297.0
1989	399.4	...	...	...	...	...	...	...
	Medium Income Index[b]							
Weight	100.0	35.7	42.0	13.7	15.3	88.0	13.0	93.0
1982	117.6	117.0	118.6	112.9	117.7	118.8	119.9	122.0
1983	138.0	144.8	131.7	132.4	135.9	139.2	130.2	121.0
1984	145.7	153.7	149.4	157.5	149.4	141.4	150.2	148.5
1985	178.2	181.0	162.6	178.0	185.6	165.0	190.5	158.5
1986	201.3	205.4	184.8	196.8	198.8	189.0	226.3	179.9

Table 38 — Continued

Table 38 — Continued

1987	251.5	256.4	234.4	226.8	255.0	228.7	302.9	220.8
1988	331.4	349.2	306.1	309.0	330.9	284.5	376.0	287.7
1989	...	...	...	...	-	...	...	...
	High Income Index[c]							
	All Items	Food Costs	Beverages and Tobacco	Clothing and Footwear	Housing	Household Operation	Transportation	Miscellaneous[d]
Weight	100.0	20.3	76.0	71.0	13.0	10.8	25.3	15.9
1982	120.4	128.4	117.9	113.4	121.3	114.0	117.2	122.9
1983	133.6	141.8	128.6	122.1	143.0	131.2	126.3	136.4
1984	143.1	150.7	132.5	136.0	150.0	136.6	145.9	144.9
1985	169.8	182.5	156.0	158.2	168.8	171.7	174.3	157.5
1986	195.1	219.7	176.9	170.8	185.9	179.7	217.4	165.6
1987	252.3	278.9	228.7	189.7	218.4	207.0	315.3	215.9
1988	327.0	355.0	308.5	248.1	291.0	261.1	408.7	279.2
1989	383.8	...	...	...	-	...	...	...

Source: *National Statistical Office.*

[a] *The low income indices cover households with monthly income of less than K100.00.*

[b] *The medium income indices cover households with monthly income of K100.00 - K399.99.*

[c] *The high income indices cover households with monthly income of K400.00 and over.*

[d] *This consists mainly of school fees personal services entertainment and travel.*

Note: *These are annual means based on arithmetic means of monthly indices.*

Credit Distribution

An examination of the composition of credit provides a better understanding of the source of Malawi's monetary growth, as well as some of its more immediate repercussions.

The need to finance large fiscal deficits (see following section) has been a driving force in the expansion of money supply in Malawi. Monetary growth, in fact, has been led by rapid expansion of public sector credit, which has itself more than offset the outflow of net foreign assets. The government's share of total domestic assets increased from 28 percent in 1980, to 46 percent in 1983, and to 60 percent in 1987 (table 39). While as much as 81 percent of net claims on government had been financed by monetary authorities, from 1985 to 1987 the government borrowed from domestic banks in order to assist the financially ailing ADMARC. Meanwhile, explicit credit to statutory agencies, having experienced an initial decline in share in the early 1980s, increased from 11 percent in 1983 to 16 percent in 1987.[131]

It is significant that increases in credit to the government and to official agencies came at the cost of credit to the private sector throughout most of the decade. This crowding-out phenomenon is clearly evident in table 39. Garnering 55 percent of total domestic assets in 1980, the private sector saw its share decline continuously. In 1987 credit to the private sector was only 24 percent of total domestic assets. This phenomenon also revealed itself in decreased domestic investment possibilities coupled with more restricted access to imports and foreign exchange. The figures show a reversal in this trend in 1988, however. The government's share of domestic credit fell from 60 percent to 39 percent between 1987 and 1989 while the private sector's share almost doubled from 24 percent to 46. It is unknown if this reversal will be sustained.

If nonprice rationing of credit occurs, it will probably put the smaller firms, the self-employed, and small farmers at a disadvantage in accessing credit (Scobie 1989). These actors, moreover, are least likely to have access to foreign credit if they are squeezed out. Thus, the real, implicit interest rate (either through the formal credit market or through the informal market, where the excess demand for credit might also raise interest rates) in the face of increased private sector credit rationing throughout much of the 1980s was probably greater for these groups. Higher costs to borrowing and lower levels of invest-

131 Most of this credit, as well as the fluctuations, were a result of ADMARC borrowing. For example, the serious financial plight of ADMARC in 1985/86 (see appendix B) resulted in a MK31.2 million increase in net credit to statutory bodies, also reflected in its increased share.

Table 39 – Malawi: Assets and Credit Shares, 1980-1989

	Total Assets	Net Foreign Assets	Domestic Assets	Credit to Government	Credit to Official Agencies	Credit to Private Sector
	MK millions			In Proportion to Total Domestic Assets		
1980	252.75	-80.62	333.37	0.28	0.17	0.55
1981	310.45	-119.67	430.12	0.41	0.14	0.45
1982	337.53	-168.61	506.14	0.44	0.13	0.43
1983	373.48	-219.25	592.73	0.46	0.11	0.43
1984	461.63	-144.62	606.25	0.49	0.14	0.38
1985	442.92	-242.35	685.27	0.53	0.16	0.31
1986	456.98	-378.45	835.43	0.58	0.14	0.28
1987	589.24	-257.55	846.79	0.60	0.16	0.24
1988	735.16	22.55	712.61	0.48	0.15	0.37
1989	805.73	-20.05	825.78	0.39	0.14	0.46

Source: *International Monetray Fund (various years a).*

ment among these groups will have distributional consequences. As discussed earlier, both farmers and small-scale entrepreneurs face credit constraints at input markets that adversely affect their production, income, and welfare. The diminishing share of credit directed to the private sector in aggregate in recent years is likely to have tightened the constraint specifically for these parties. The extent to which the restraint of credit and aggregate demand has rested specifically upon the poor requires further study, although the direct effects are likely small, since farmers and small-scale entrepreneurs were not likely the major users of credit.

Interest Rates

Of additional specific interest vis-à-vis monetary policy's effect on the economy, of course, are the policy-induced movements in interest rates throughout adjustment. Conforming to guidelines set forth by IMF, Malawi's monetary reform has focused on raising nominal interest rates with the objective of ensuring positive real rates. Deposit rates, for example, were negative at the commencement of the adjustment period (figure 26).

While nominal deposit and lending rates have been increased since 1982, however, they have not kept pace with inflation (figure 26).[132] In fact, while real interest rates have remained volatile throughout the 1980s, deposit rates were positive only in 1985. In 1987 the real deposit rate, at -10.87 percent, and the lending rate, at -5.62 percent, were the lowest recorded figures for the decade.

July 1987, however, marked the change of the system of interest rate management in Malawi. Whereas until then the reserve bank had dictated deposit rates and the band within which commercial banks could set lending rates, from this point onward maximum lending rates were deregulated. Moreover, deposit rates were increased by three percentage points (IMF 1988). The deregulation of lending rates was expected to lead to its sharp increase. Initial evidence bore this out: real lending rates rose by 6.7 points in 1988. However, once again inflation eroded this increase. Real lending rates fell by 2.4 percent in 1989 and real deposit rates dropped by 3.9 percent.

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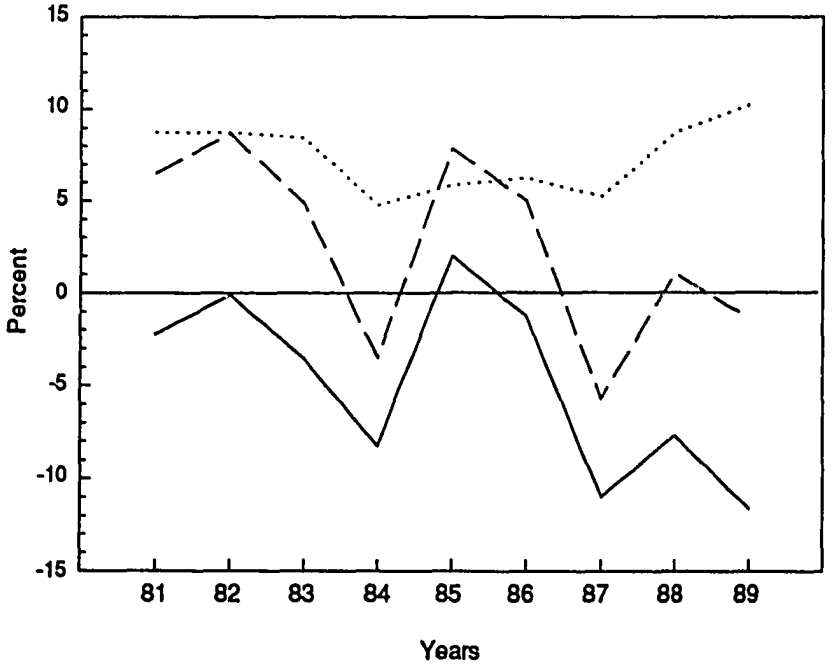
132 Thus, while the nominal maximum lending rate on loans of commercial banks has risen progressively from 18.5 percent in 1981 to 19.5 percent in 1987, the corresponding real rate dropped from 6.7 percent to -5.62 percent in those years. Similarly while the deposit rate at commercial banks experienced an increase in nominal rates from 9.75 percent in 1981 to 14.25 percent in 1987, the corresponding real rate eroded from -2.05 percent to -10.87 percent during that period. As a result, not only were both rates negative in 1987, but the spread between the real lending and deposit rates had dropped from 8.75 percent to 5.25 percent between 1981 and 1987.

Figure 26 – Malawi: Real Rates of Interest, 1981 - 1989



..... Spread

— — Lending rate

——— Deposit rate

Source: *International Monetary Fund (various years).*

While the expected increase in real rates has not yet materialized, such increases could, as noted earlier, make it more difficult for smallholder farmers and small-scale entrepreneurs to purchase needed inputs in a timely fashion. To the extent that these groups do not rely on formal credit markets, interest rate reform may still have a short-term deleterious impact through the pressure it puts on parallel rates in the informal credit market. However, the possibility also exists that the cost of credit in rationalized markets will be less than the parallel rate. Thus, it is not immediately clear whether small farmers, traders, and entrepreneurs will experience an increase in their cost of production, should reform raise official real lending rates. Furthermore, to the extent that reform affects the cost of funds without investments to improve smallholder access to credit, the expected impact of financial reform to the poorest smallholder households will be limited.

FISCAL POLICY REFORMS AND FISCAL BALANCE

Until 1975 Malawi's record with respect to fiscal management was impressive. This period was characterized by fiscal discipline, high direct taxes, high government investment, and public sector expansion. Fiscal policy had been actively pursued to generate the resources to pay for the investment and to cover the operating expenses required for rapid growth. At the same time, it had been used as a means of maintaining economic stability. The development of critical fiscal imbalance, in contrast, has characterized the 1980s. It led to attempts at policy reform to restore equilibrium. Public enterprises (PEs) that once generated surplus and promoted investment became dependent on the Treasury to meet their obligations. Tax revenue lagged because of the poor financial performance of PEs. The government was unable to pay for questionable public investments and began to slip on its record of sound financial management. Policies adopted by default, or with little analysis, produced adverse effects on the operation of some sectors and the general macroeconomic health. The fiscal deficit, MK113 million in 1981, was at a historic high.

The macroeconomic and structural policies implemented by the government under the adjustment program have aimed at rectifying the fiscal imbalance. In addition to creating a conducive atmosphere for the private sector, the policies have focused on the government's own operation in order to address the above problems. Changes have therefore been initiated to narrow the government sector, to reorganize the government administrative machinery, to strengthen the planning and control system, and to properly manage revenues, expenditure, the fiscal deficit, and the public debt. Attempts have been made to institute a clearer, more structured government-PE relationship.

The budget of the Malawi Government is delineated along the lines of a recurrent and a development account. In principal the revenue account pays for the operating expenses of the government. Thus recurrent expenditure covers purchases of goods and services, the salaries of civil servants, grants and subsidies, durable goods needed for normal government operations, and interest payment on debt. The account is funded by tax and other revenues, income from the sale of government services, and the amortization of debt. The development account, meanwhile, funds development projects generating capital formation. It also is the source of equity loans to public enterprises and other government organs. The development account is financed by external loans and grants and domestic borrowing. While the development and recurrent accounts are technically separate, in practice there has historically been a degree of fungibility, with revenues from one account having funded expenditure on the other.

The record in terms of fiscal performance has not been consistent although the budget deficit has declined from its level of over 10 percent of GDP recorded in 1981 (table 40). Between 1982 and 1987 the deficit fluctuated between 4.05 and 8.75 percent of GDP, averaging 6.6 percent of GDP. These fluctuations were explained in large part by the recurrent account, which switched frequently between positions of surplus and deficit. In 1988 with an increase in total revenue of 32 percent and a decline in total expenditure of 12 percent, Malawi recorded its first budget surplus. Given past fluctuations, however, it is not clear that this achievement will be sustained.

The evolution of the fiscal sector can be examined in more detail with respect to changes in the levels of government revenue and expenditure on both the development and recurrent accounts. Pertinent to this has been the specific focus of the structural adjustment program on public enterprise reform. On the macroeconomic stage this has been important in dictating the level of the fiscal deficit. With regard to our focus on the poor, moreover, the resulting allocation of government resources has been especially important in that it has affected the provision and cost of social services to the Malawian population. Thus, upon

Table 40 – Malawi: Government Revenue and Expenditure (in nominal MK 1,000), 1967-1988

	GDP	Revenue			Expenses			Recurrent Account Surplus		Budget Deficit	
		Recurrent	Develop-ment	Total	Recurrent	Develop-ment	Total	(MK 1,000)	(% of GDP)	(MK 1,000)	(% of GDP)
1967	215,500	...	...	30,400	38,900	10,100	49,000	...	...	18,600	8.63
1968	225,400	...	...	33,700	40,300	14,000	54,300	...	...	20,600	9.14
1969	224,400	...	...	45,000	52,400	21,300	73,700	...	...	28,700	12.79
1970	267,100	...	...	43,900	46,900	35,200	82,100	...	...	38,200	14.30
1971	334,900	...	...	50,300	50,400	31,200	81,600	...	...	31,300	9.35
1972	359,100	...	...	56,900	57,000	26,700	83,700	...	...	26,800	7.46
1973	401,600	...	...	63,100	61,700	30,300	92,000	...	...	28,900	7.20
1974	487,100	...	...	78,700	73,600	40,800	114,600	...	...	35,900	7.37
1975	567,400	78,153	3,434	81,587	75,410	41,740	117,134	2,743	0.48	35,547	6.26
1976	652,600	81,538	11,810	93,348	81,080	45,670	126,755	458	0.07	33,407	5.12
1977	769,300	100,392	7,212	107,604	93,740	42,270	136,008	6,652	0.86	28,404	3.69
1978	800,700	133,042	15,520	148,562	129,100	73,070	202,169	3,942	0.49	53,607	6.70
1979	864,500	157,062	25,748	182,810	155,270	97,150	252,427	1,792	0.21	69,627	8.05
1980	1,005,100	199,881	31,849	231,730	176,270	133,470	309,739	23,611	2.35	78,009	7.76
1981	1 108,100	216,612	40,360	256,972	217,080	153,130	370,209	-468	-0.04	113,237	10.22
1982	1,244,000	232,758	24,380	257,136	208,110	115,940	324,051	24,648	1.98	66,915	5.38
1983	1,435,900	274,184	22,658	296,842	293,490	128,670	422,158	-19,306	-1.34	125,316	8.73

Table 40 — Continued

Table 40 — Continued

	GDP	Revenue			Expenses			Recurrent Account Surplus		Budget Deficit	
		Recurrent	Develop-ment	**Total**	Recurrent	Develop-ment	**Total**	(MK 1,000)	(% of GDP)	(MK 1,000)	(% of GDP)
1984	1,705,300	313,346	19,093	332,439	331,410	138,220	469,628	-18,064	-1.06	137,189	8.04
1985	2,024,300	386,587	37,771	424,351	379,790	160,920	540,713	6,797	0.34	116,362	5.75
1986	2,275,100	464,468	36,569	501,037	456,590	136,800	593,399	7,878	0.35	92,362	4.06
1987	2,756,500	552,321	38,687	591,008	619,935	188,841	808,776	-67,614	-2.45	217,768	7.90
1988	3,699,300	696,030	82,710	778,740	539,575	171,108	710,683	156,455	4.23	-68,057	-1.84

Sources: *Reserve Bank of Malawi,, 1987 and 1988; World Bank (1982).*

a brief overview of recent developments in public enterprise reform and the evolution of aggregate fiscal revenues and expenditure, this section turns specifically to reform, social services, and the poor.

Public Enterprise Reform

The structural adjustment program called for a number of specific measures in the institutional reform of Malawi's key public enterprises.[133] As discussed in section 3, Malawi's 24 nonfinancial public enterprises were suffering substantial losses at the onset of the 1980s. The establishment of the Department of Statutory Bodies to oversee and coordinate the parastatal sector, combined with increased tariffs and the reorganization of certain parastatals, has helped to improve the situation.

Estimates have put the 1982/83 to 1987/88 average growth rate of total revenue of the 10 major enterprises at 9.5 percent per annum (IMF 1988). Much of the gains are due to tariff increases and asset rationalization. The Electricity Supply Commission (ESCOM) enacted frequent rate increases averaging close to 12 percent a year since 1983, which have contributed to improved net profits. The Malawi Development Corporation (MDC) registered extraordinary profits in 1984 and 1985 due to the streamlining of its investment portfolio, which led to a divestment from 13 of its 32 subsidiary and associated companies. Several parastatals, such as MDC, have also upgraded their management capabilities. While Air Malawi continues to experience operating losses, these losses have declined from a peak of MK11.5 million in 1984. These achievements too have resulted from improved management capability, staff reductions, and tariff increases, including a 12.8 percent across-the-board fare hike in 1986.

Revenue growth, however, has not completely offset the increasing costs incurred by the parastatal sector. Malawi Railways suffered from the disruption of its major rail routes to Beira and Ncala, for example. Consolidated debt-servicing obligations, moreover, began to rise again after 1985. This coincides with increases in gross investment. After a braking of investment in the early 1980s, gross investment of the parastatal sector tripled between 1984/85 and 1987/88. As a result, come 1987 the parastatal sector as a whole, continued to register net

133 This complex set of organizations and institutional links between the government and the enterprises makes a clear delineation between private and public enterprises a difficult task. It expects some to operate as commercially sound entities. Others are expected only to break even, while the third type are privileged to receive government financial support. Noncommercial entities with only regulatory functions are setup as autonomous units while others that are more commercial than regulatory operate under close public monitoring. In other cases, the stipulations of the relationships are not respected.

losses (IMF 1988).

Much of the movement of the consolidated accounts is explained by the experience of ADMARC, the most important parastatal in the country. ADMARC's revenue accounts for 50 percent of total parastatal revenue. Its net losses registered in 1985/86 and 1986/87 almost exactly match the large losses experienced in those years on the consolidated account for all parastatals. The experience of ADMARC, given its special focus within the structural adjustment program, is the subject of more detailed discussion in appendix B.

Government Revenue

Government revenue has risen steadily since the initiation of the adjustment program, partly due to increased revenue from the public enterprise sector. Between 1982 and 1988, total revenue grew at an average annual rate of 20.5 percent (table 40). Responding to increased revenue mobilization efforts reflected in new measures that were announced in the context of every annual budget, total revenue increased by 28 percent in 1985 and as much as 32 percent in 1988.

The source of much of this increase has been the recurrent account, which has increased at an annual average rate of 20 percent since 1983.[134] Traditionally contributing the majority of government revenue, the recurrent component of revenue actually increased its share in total revenue during the 1980s, from 84 percent in 1981 to 93 percent in 1986 and 1987, specifically through direct and indirect taxes (Reserve Bank of Malawi 1987).[135] It also reflects the government's gain through an increased implicit tax on petroleum in 1986, the result of maintaining high domestic petroleum prices constant despite a fall in world prices in 1986. The increases on these accounts compensated for the relative fall in the contributions from customs revenues, foreign grants, and appropriations.[136]

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134 The 32 percent increase in total revenue in 1988, however, was largely explained by the 114 percent increase in development revenue in that year.

135 Direct taxes increased from 28.6 percent of total recurrent revenue in 1981 to 32.8 percent in 1986, while nontax revenue increased from 7.5 percent to 20.6 percent, reflecting an increase in fees and charges for government services.

136 Customs revenue as a share of total revenue in effect declined from 50.2 percent to 43.9 percent between 1981 and 1986, largely reflecting the constriction of imports due to foreign exchange shortages. The share of foreign grants in recurrent revenue also saw a sharp fall from 11.1 percent to 0.1 percent between 1981 and 1986. Finally appropriations had declined from 12.6 percent to 2.6 percent during that five-year period (Reserve Bank of Malawi 1987).

It is unclear whether and to what extent these resource mobilization measures may have been regressive. Also of interest are the measures to be instituted under the ongoing tax reform program. Excise tax rates were increased from 5 percent in 1970 to 35 percent in the mid-1980s, for example (IMF 1988). The sales tax experienced yearly increases in its rate since 1982/83, compensating for the slowdown in domestic demand by continuing to bring in revenue. With current tax reform measures to shift the tax target from international trade sources and production sources to domestic trade and consumption sources, low-income groups may be hurt, especially insofar as they are adversely affected by decreased income from domestic enterprises and have a greater marginal propensity to consume domestic goods than importables. It is also questionable as to whether intentions to replace the current, layered tax schedule by a flat tax on all imports and domestically manufactured goods would benefit these poorer groups.[137] However, to the extent that the implicit tax levied on smallholder production of exportables has declined, many poorer individuals have gained. Taxes on the self-employed and income taxes are also of interest in this respect. Within the direct tax, company profit tax and tax on self-employed people make close to 90 percent of the contribution. Personal income tax accounts for less than 10 percent of direct tax revenue. However, an examination of specific tax rates, a more accurate understanding of the income profile of self-employed entrepreneurs, and an assessment of the actual effectiveness of tax collection from lower income groups is required in order to determine the regressiveness of these measures.

Government Expenditure

On average, the growth of government expenditure has slowed since the commencement of reform. From 1978 to 1980 the average annual growth rate of government expenditure was 32 percent, but from 1981 to 1988 it slowed to only 12.2 percent (table 40). However, the structure as well as the magnitude of expenditure has varied considerably on a yearly basis. While growth rates in excess of 30 percent were experienced in 1983 and 1987, expenditure actually fell in 1982 and 1988.

Development expenditure. In contrast to the high levels of investment that required large scale external financing, which led to the crisis in the early 1980s, expenditure on the development account has experienced a relative decline.

137 Current surtaxes and customs duties, for example, called for higher rates on luxury goods that presumably are not consumed as much by lower income individuals.

Whereas the share of development expenditure in total expenditure averaged 39 percent between 1978 and 1982, it had declined to an average of 27 percent between 1983 and 1988 (table 40). Negative growth rates in development expenditure of 24 percent, 15 percent and 9 percent were recorded in 1982, 1986, and 1988, respectively. Forced to cut back on its investment agenda, the government thus reduced the public investment rate in 1988 to 7.5 percent of GDP, its level of the late 1960s, in contrast to levels closer to 17 percent recorded in the late 1970s and in 1980.

Under reform, development expenditure has been guided by the implementation of a three-year rolling public sector investment program (PSIP) in 1983/84. Revised annually in consultation with the World Bank, it is based on implementation experience to date and on the new budget. Although the program was designed to cover all the development expenditure of the public enterprise, in practice it has addressed only that part financed by equity or loans. Also, the government has had difficulty in closely adhering to PSIP guidelines in the sectoral allocation of development expenditure. The large budget revisions with respect to the interest item, for example, reflects continuous budgeting problems.

Several items have been mainly responsible for expenditure overshooting (table 41). In particular, development expenditure on transportation and communication usually surpassed targeted levels, and now this item constitutes the most important item on the development budget. High levels of investment on transportation have been largely driven by the construction of a new trade link through the port of Dar-es-Salaam and exacerbated by the increased cost of foreign components due to recent devaluations.

Increased development expenditure on government buildings, although temporary, also contributed to expenditure overshooting. This increase was principally associated with the shift of the national capital from Zomba to Lilongwe and perhaps with the construction of the airport in Lilongwe. This item took about 21 percent of the capital expenditure in other economic services (excluding agriculture) in 1982/83 but declined continuously (table 41). In 1986/87 its share was about 5.2 percent, and it is expected to shrink gradually. It has been said that this expenditure item, together with other construction expenses that are not clearly separated in the data, are mainly responsible for the decline in the efficiency of investment in recent years (Roe and Johnston 1988).

Cost increases and overruns on the above accounts have come at the cost of development expenditure on agriculture and social services. The share of development expenditure allocated to agriculture, for example, declined from

21 percent in 1977 to 13 percent in 1986/87 (table 41).[138] Reduced public investment in agriculture, to the extent that it led to a deterioration in rural infrastructure and services (such as irrigation and roads; extension and credit), would have negatively affected agricultural production. Indeed, slippage with respect to development spending during adjustment may have largely offset the growth potential of concurrent pricing policy changes within the sector (Mosley and Smith 1989).

Similarly, reductions effectuated in the per capita allocation of resources to social services since 1980 would also have had a direct negative impact on the welfare of the poor. The decline in social service expenditure is particularly disconcerting, given the relatively low levels of investment under this item prior to adjustment and the increased influx of refugees from Mozambique. Thus, as will be discussed in more detail in the next section, some of the macroeconomic, fiscal imperatives of the recent crisis may have had an adverse effect specifically on vulnerable groups due to such redistributions of public resources.

Also noteworthy is the increasing share of funds allocated to the interest payments since 1981. Indeed, the unallocable line item which includes interest payments, rose as a share of total development expenditure (table 41). Representing an average of 18.5 percent of the total development budget between 1977 and 1978, the unallocable line item rose to an average 46.7 percent between 1984/85 and 1986/87.

Recurrent expenditure. The composition of expenditure within the recurrent account has been undergoing significant changes (figure 24). Specifically, the burden of interest payments has increased dramatically here as well. In 1976 interest payments amounted to approximately MK8.7 million, or about 10 percent of recurrent account expenditure for that year. By 1981 interest payments had increased to approximately MK53.8 million, or 20 percent of recurrent expenses. In 1986 the government allocated over MK152 million to interest payments, an amount that came close to 28.5 percent of total recurrent account expenditure.[139]

The increases in interest payments came in the face of continued high

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138 It should be noted that the numbers used in this and the next paragraph are derived from two different series as cited in the table.

139 The recent acceleration of interest payments was partly due to the assumption by the government of the domestic debt of the Press holding company in 1984/85.

expenditure on subsidies and current transfers. Between 1984 and 1986 about an average of 10.3 percent of the recurrent budget was allocated to this item. While this is an increase over the average share that went to subsidies and transfers during the early 1980s, it represents a lower level than those registered in the latter 1970s, prior to the commencement of the adjustment program.[140] Wages and salaries, however, have experienced some squeezing out. In 1986 wages and salaries claimed 25 percent of recurrent expenditure, compared with its average share of 29 percent in the 5 years preceding the formal adjustment program. Larger reductions in the wage bill were forestalled by across-the-board wage adjustments made during the period (contrary to the direction laid out by the policy reform program) and also by an expansion in military recruitment. The cost of maintaining the military force was estimated at MK50 million a year (Malawi Government 1988b).[141]

The growing interest burden, therefore, has come principally at the cost of a declining share of recurrent payments to the purchase of goods and services (excluding wages and salaries) by the government. Indeed, while this item claimed 51 percent of recurrent expenditure in 1981, only 36.5 percent of recurrent expenditure was allocated to goods and services (excluding wages and salaries) in 1986. Following a period of somewhat higher government sector investment in the early 1980s, this scaling back has implied a scarcity of recurrent payments needed to maintain these investments. In so doing, it may have contributed to the low efficiency of public investment and to the general economic slowdown experienced in 1986. In particular, the underfunding of recurrent expenses relative to prior development expenditures has been especially severe in health and education (World Bank 1989a). As with development expenditure, the allocation of recurrent expenditure on health and education at first glance appears to have suffered in the postadjustment period. If so, the welfare of those employing these services may also be harmed. Given the direct relevance of social service provision to the well-being of more vulnerable segments of a population, we now turn specifically to the evolution and state of the health and education sectors in Malawi over the reform period to date.

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140 The average annual level of subsidies and transfers as a percentage of recurrent expenditure was 12.14 between 1976 and 1980; 8.89 between 1981 and 1983; and 10.34 between 1984 and 1986.

141 Comparative figures from government statistics (IMF various years b) puts the share of defence at 6 percent and that of general public service at 19.1 percent of total expenditure in 1985. The latter includes police and prison administration.

Table 41 – Malawi: Sectoral Allocation of government's Development Expenditure, 1977-1987

	1977	1978	1982/83	1983/84	1984/85	1985/86	1986/87
	Share of Total Development Expenditure						
General public services	0.03	0.11	...	...	...	...	...
Defense	0.01	0.00	...	...	...	...	...
Social services	0.10	0.12	0.11	0.12	0.10	0.08	0.07
Education	0.08	0.09	0.09	0.09	0.07	0.07	0.05
Health	0.01	0.01	0.02	0.03	0.04	0.01	0.02
Housing & comm. services	0.01	0.02	0.00	0.00	0.00	0.00	0.00
Economic services	0.58	0.46	0.55	0.53	0.41	0.49	0.44
General administration, research, regulation	0.02	0.01	...	...	...	...	...
Agriculture, forest, fish	0.21	0.15	0.14	0.17	0.11	0.16	0.13
Electric, gas, steam & water	0.02	0.07	...	...	...	...	...
Roads	0.24	0.01	...	...	...	...	...
Inland, coastal waterways	0.01	0.01	...	...	...	...	...
Transport. & communication	0.08	0.19	0.16	0.14	0.18	0.19	0.15
Power	...	...	0.01	0.00	0.01	0.02	0.01
Government building	...	...	0.08	0.06	0.05	0.06	0.02
Water & sanitation	...	...	0.04	0.03	0.03	0.02	0.02
Finance	...	...	0.10	0.10	0.02	0.05	0.05

Other economic services	...	0.01	0.02	0.02	0.02	0.06	0.06
Other purpose	0.17	0.04	...	...	...	...	...
Unallocable	0.11	0.26	0.34	0.35	0.48	0.42	0.50
Interest	...	...	0.28	0.25	0.40	0.34	0.41
Other	...	...	0.06	0.10	0.08	0.09	0.09
Total	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**

Source: *International Monetary Fund (various years b); World Bank (1989a).*

Reform, Social Services, and the Poor

Policy reform can be expected to have its most direct effects on vulnerable segments of a population through its impact on social service financing and expenditure, especially in a country such as Malawi, where most health, education, and other social services are government provided. The changes in the level of social sector spending will therefore provide considerable insight into whether and how policy reform is affecting living standards.

Since the first adjustment loan in Malawi, there has been no trend in terms of the share of total spending on social services. Despite some yearly fluctuations, 19.4 percent of the total expenditure, including extra budgetary expenditures, has been allocated to social spending during the period 1982/83 to 1988/89, a figure that is seemingly higher than the share that prevailed between 1975/76 and 1981/82, when the average was 15.7 percent.[142]

However, in per capita terms, it is evident that Malawi has not done as well after the adjustment period began in 1981 (figure 27). This is primarily due to population growth rather than a decline in real expenditure levels. In the three years preceding implementation of SAL I (1979/80 - 1981/82) real per capita expenditure on social services averaged 8.88 kwacha. In the subsequent three years (1982/83 - 1984/85) average real expenditure dropped to 8.74 kwacha per capita. The 1985/86 - 1987/88 average was lower still, dropping to 8.34 kwacha per capita.[143] The 1987/88 figure of 7.83 kwacha is the lowest recorded since 1976/77.

Perhaps of greater interest are the government's budgetary projections (Malawi Government 1988b) that show a steady increase in the share of total recurrent expenditure over the next few years. Clearly, efforts planned to reform public expenditure do not appear to be at the expense of the social sector per se.

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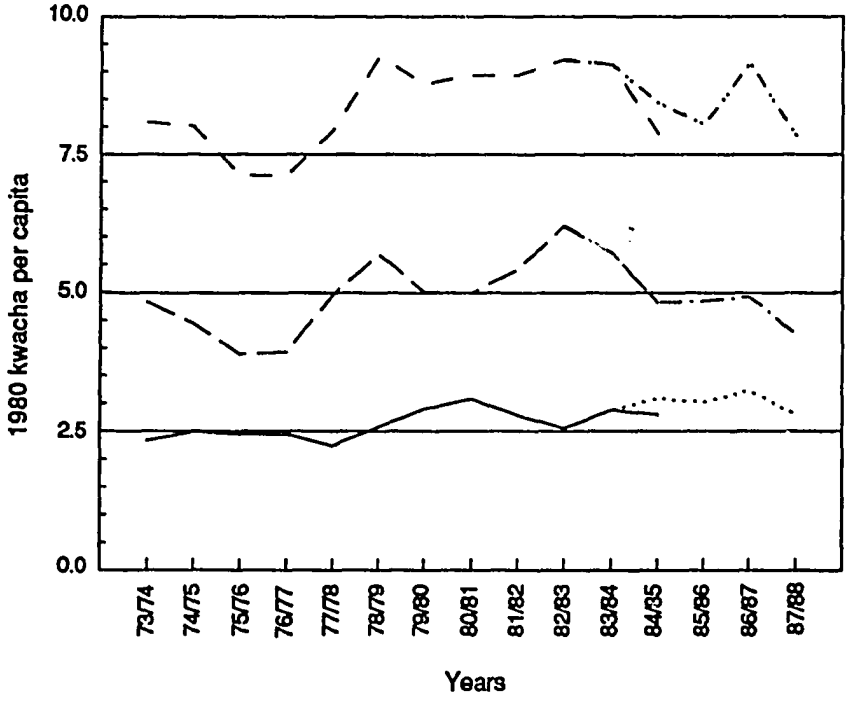
142 The figures from the previous period are from another data series and do not correspond exactly to the series of data from the 1980s. This is shown by the two sets of numbers for 1983/84 and 1984/85 in figure 27. Given that this discrepancy is largely due to differences in the denominator (eg, the level of total expenditure), it is possible to examine real per capita expenditure on social services. Also it should be noted that these figures are not necessarily consistent with Reserve Bank of Malawi data on development expenditure on social services (table 41).

143 The series was extended to these last three years by using the World Bank *Malawi Public Expenditure Review* figures (1989a). Yet there should be no problem in comparing the average of this last period to that of the previous two. As noted above, while the *Public Expenditure Review* figures on *total* public expenditure for the overlapping years (1981/82 - 1983/84) differ from the *Malawi Economic Recovery* figures (World Bank 1985a), the figures on public expenditure on social services are close to identical.

Figure 27 – Malawi: Public Expenditure on Social Services, 1973 - 1986



— — Total (MER)

– ·· – ·· Total (MPER)

— — Education (MER)

— · — · Education (MPER)

——— Health (MER)

····· Health (MPER)

Sources:
MER (Malawi Economic Recovery): World Bank (1985a);.
MPER (Malawi Public Expenditure Review): World Bank (1989a).

Given the potential for social services to provide basic needs to large segments of a country's population, however, a closer examination of social service provision on a more disaggregated basis is in order. The need to consider these issues in greater detail leads us to address in turn the evolution and state of each of the two most important social service subsectors: health and education.

Health. The public portion of the health delivery system in Malawi is comprised of four tiers, all funded and controlled by the Ministry of Health (MOH). The top tier contains six central government hospitals. The second tier contains 21 district hospitals, and the third tier is comprised of 162 health centers and 19 rural hospitals (clinics with a few beds). Locally, village health committees and health surveillance personnel provide basic assistance. Village health workers, formerly paid by the MOH, work on a voluntary basis in cooperation with the MOH.

Healthcare is generally provided without charge, except by some wards at the central hospitals. Fees are levied for drugs, although the current margins appear insufficient for self-financing. An essential drug list is in use (World Bank 1988c).

One estimate places the number of facilities at 1 per 10,000 people, and the number of beds at 1.7 per 1,000. Seventy percent of the population is reported to live within 8 kilometers of a facility. These numbers compare favorably with other sub-saharan african nations.

From 1983/84 to 1987/88, just after the adjustment process began, expenditure on health averaged 6.6 percent of total government spending. This figure is up from the period 1975/76 to 1981/82, when the share of spending on health averaged only 5.0 percent. The overall real increases in government spending on health have been just enough to keep pace with the rapid rate of growth in population, and real per capita health expenditure in 1987/88 remained nearly the same as 1983/84 levels, despite considerable yearly fluctuations (figure 27).

The per capita expenditure on health compares quite favorably with that of other sub-saharan african nations, particularly Tanzania. Some have suggested that this level of expenditure indicates that Malawi's worse health problems do not necessarily reflect weaknesses in the health system, but broad household food insecurity (World Bank 1988c). This hypothesis, however, would require a more detailed examination of both the intrasectoral distribution of health expenditure and of household access to health services.

Spending on curative health services was 76.6 percent of the total between 1984/85 and 1987/88, with no clear pattern of change emerging in recent years (table 42). The share of the total health budget on preventative services fluctuated from 6.8 to 14.5 percent during the same period, with no trend observed.

Table 42 – Malawi: Health Expenditure by Program

	Capital Expenditure				Recurrent Expenditure				Total Expenditure			
	84/85	85/86	86/87	87/88	84/85	85/86	86/87	87/88	84/85	85/86	86/87	87/88
	Percentages of Total											
Administration and Training	4.77	3.08	16.35	17.57	12.63	13.34	8.81	20.96	10.74	12.48	10.17	20.05
Preventative	31.06	20.02	50.20	3.47	5.44	6.16	6.56	8.01	11.61	7.33	14.46	6.79
Curative	64.17	76.90	33.45	78.96	81.92	80.50	84.64	71.03	77.65	80.19	75.37	73.16
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: *World Bank (1989a).*

Nonetheless, they remain meager in comparison to curative expenditure. The figures from the development budget show large fluctuations, ranging from 50 percent being devoted to prevention in 1986/87 to only 3.5 percent in the following year.

These figures underestimate the share of the budget going to preventative services. For example, health education and immunization programs run by hospitals are included as curative services. It does appear, however, increasing expenditure on preventative, relative to curative, services might be warranted. In addition, the doubling of expenditure on administration and training between 1984/85 and 1987/88 suggests the need to examine the bureaucratic structure of the ministry in order to determine the feasibility of reducing the high overhead.

It is also instructive to distinguish between recurrent and development expenditure. In particular, a recent report argues persuasively that the past level and future projections for recurrent spending are grossly inadequate for existing health infrastructure and planned investment (World Bank 1989a). This clearly suggests a need to reconsider allocating a greater share of the overall health budget to recurrent expenditure, with a focus on essential drugs, and supplies, and prevention, such as family planning classes and education. New methods to increase revenues to fund recurrent expenditure are also needed.

There does appear to be scope for charging fees for services, which, except for selective services in certain wards in central hospitals, are currently free. While it has been argued that the low quality of services does not warrant reimbursement from the client (World Bank 1988c), this reasoning becomes self-perpetuating. Low quality services follow a shortage of financial resources that occurs when services are provided for free. In addition, there is little question that the range of financial constraints facing the health sector, especially the underfunding of recurrent expenditure, will remain in the years ahead, given the projections of only small increases in total government spending. Therefore, a detailed outline of an efficient system of cost recovery based on careful analysis is needed. This outline should ensure that cost recovery is not distributionally biased against low-income groups, and excludes fees for services with large externalities and broad benefits to society, such as the control of communicable diseases. This should result in a reallocation of resources toward high payoff health services, such as nutrition, communicable disease prevention, family planning, and mother and child health programs.

Education. While poverty and vulnerability are important short-term concerns that require immediate attention, the longer-term welfare of a household is largely conditioned by the quality of its human resources. Education has long been recognized as the key to raising productivity and incomes and, consequent-

Table 43 – Malawi: Student Enrollment Numbers 1969-1989

	Primary	Secondary	Technical	Teacher Training	University
1969/70	333,102	9,686	236	1,079	977
1970/71	362,561	10,285	260	984	987
1971/72	430,504	12,840	260	1,081	1,040
1972/73	481,524	13,421	369	1,321	1,073
1973/74	537,301	13,728	480	1,306	1,086
1974/75	611,671	13,843	529	1,283	1,228
1975/76	641,708	14,403	461	1,050	1,292
1976/77	663,930	14,774	502	1,350	1,178
1977/78	675,741	15,043	913	1,435	1,152
1978/79	705,954	15,500	775	1,563	1,386
1979/80	779,676	16,431	694	1,856	1,620
1980/81	809,948	17,885	674	1,751	1,723
1981/82	882,902	19,073	619	1,757	1,829
1982/83	868,849	19,769	514	2,208	1,810
1983/84	847,157	21,769	522	1,890	1,961
1984/85	899,459	23,330	500	1,919	1,964
1985/86	942,539	24,918	510	1,954	1,974
1986/87	1,012,033	25,904	...	1,902	2,168
1987/88	1,066,642	26,396	...	2,504	2,284
1988/89	1,202,836	28,074	...	2,880	2,330

Sources: *Ministry of Education and Culture (Malawi (1990) and unpublished data).*

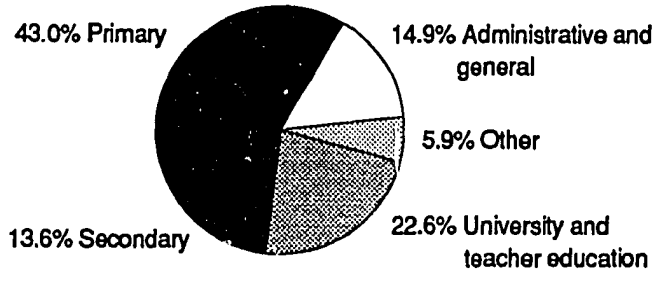
ly, to alleviating poverty in the long term.

Policy reform in education in Malawi becomes all the more relevant when it is known that the Ministry of Education and Culture (MOEC) is responsible for all public education, which enrolls 90 percent of all primary students and 87 percent of all secondary students. In this British-style educational system, collected nominal fees meet less than 10 percent of the recurrent costs.

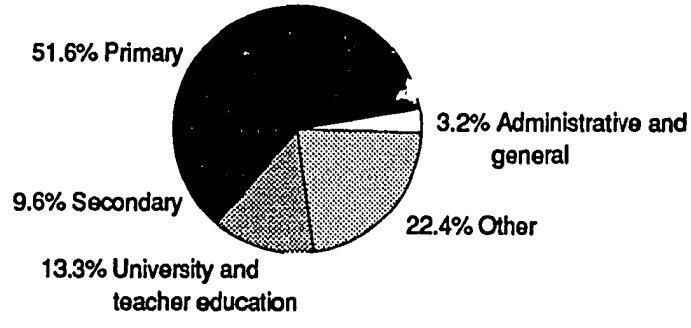
In terms of the performance of the educational sector, indications are that Malawi has raised primary school enrollments since independence. For example, enrollments in primary schools have increased by 87 percent between 1975/76 and 1988/90 (table 43). However, this increase has been only enough to keep pace with the expanding population. The share of the population served

Figure 28 – Malawi: Average Annual Percentage Shares of Education Expenditure by Program, 1984/85 - 1986/87

Recurrent



Capital



Source: *World Bank (1989a).*

has not risen. According to the most recent estimate, the gross enrollment ratio at the primary level has not risen since the mid-1970s (Pryor 1988). Large, regional disparities are in evidence. The net enrollment rates are markedly higher in urban areas and in the northern part of the country (Malawi Government 1988b).

Before drawing conclusions from data on the level of enrollments, it is necessary to note the serious deficiencies in the quality of Malawi's schools. Shortages of desks, other furnishings, and reasonable quality textbooks are compounded by the shortage of teachers. Despite the dramatic increase in the number of teachers from 1973/74 to 1985/86, from nearly 11,000 to nearly 15,500, the swelling of the demand for schooling has resulted in an increase in the student/teacher ratio to around 68:1. The training of teachers has simply not kept pace with the increase in enrollment (ibid.).

Only approximately 28,000 student are enrolled in secondary school, less than 3 percent of primary school enrollees. Higher education in turn has less than 5,000 pupils, including university, technical, and teacher training (ibid.). On the expenditure side, education has received a higher share of the total expenditure budget in the mid-1980s than in preceding years. However, per capita spending on education has fallen slightly since its peak years from 1982/83 to 1983/84, owing primarily to the rapid rate of population growth. In the past few years, between 20 and 30 percent of the total education expenditure has been for higher education, roughly half the expenditure on primary education (figure 28). The subsidy per pupil is orders of magnitude greater for secondary and especially for higher education than for primary education. On both economic and distributional grounds there once again appears to be considerable additional scope for reducing the subsidy to higher education in lieu of more funding for primary education.

Less than three percent of the recurrent costs of education are paid for by recipients in the form of fees and other income (World Bank 1989a). While the scope for cost recovery, especially at the primary level, may be limited by the low-income levels of most Malawians, increasing fees for secondary and university students certainly merits consideration. In addition, reducing the costs of higher education through either increased efficiency or related financial controls would allow a greater share of the education budget to be allocated to basic education.

While these data on health and education expenditure provide some insight into changes that have occurred in recent years, their actual implications for living standards and welfare are far less clear. One confounding issue is that the role of private fees for services are not accounted for. Neither are any local

expenditure and subsidies that may be important. In a similar vein, without knowledge of basic behavior of households, such as their price responsiveness to healthcare services, and how their actual patterns of utilization have changed, the expenditure information is difficult to interpret. More important, information on net incidence of transfers received by functional classification of households in the form of education, health, and social services, and the efficacy of these services in terms of curing and preventing disease and raising educational attainment is lacking. This makes it difficult to reach firm conclusions without further study of household behavior and the social sectors.

6. Conclusion

This paper has surveyed many issues relating to Malawi's economy, focusing on the recent experience with macroeconomic and sectoral policy reforms. The emphasis has been on the evolution of the country's economic performance, its economic structure, the functioning of markets, the behavior of households, and the role of policy in shaping outcomes as measured by macroeconomic aggregates and household living standards. Illustrated was an economy that since independence has followed the tenets of an export-oriented, outward-looking economy with limited market distortions and trade restrictions. Unlike most of sub-Saharan Africa, Malawi did not favor industrialization and relegate agriculture to a secondary role; it did not encourage labor and capital to flow to the cities; it did not view rural areas as a source of cheap food for the urban workers; and it did not grossly overvalue its currency and engage in extensive rationing of foreign exchange. However, Malawi has suffered in common with other countries in Africa due to the neglect of agricultural research, the restrictions on trade, the distortions of the market mechanism through administration of prices, the failure to invest in human resources, the inability to make investments with high returns, and the inability to forestall environmental degradation, especially the destruction of the forests. There is little question that these shortcomings, coupled with increasing population pressures, have played an essential role in Malawi's economic falterings. Fundamental structural features are primarily responsible for making Malawi susceptible to the crippling blows of exogenous shocks during the past decade. To the extent that many of these constraints to growth have not been addressed by adjustment, policy reform has failed to reverse many of the weaknesses that characterized the Malawian economy. The freedom of policy makers to mitigate the impact of problems such as declining export commodity prices, soaring transport costs, declining competitiveness of exports and increasing costs of imports, and diminishing opportunities for migrant employment in neighboring countries has in fact proven limited. Consequently, there has been a continued and growing reliance on external financing to cope with the persistent disequilibria in the country's internal and external accounts and to mitigate the impact of such economic problems on the living standards of the population.

In general, the conditionalities set for receiving such financial support, which has taken the form of IMF stand-bys, World Bank adjustment loans, and related

bilateral policy based lending, cannot be characterized as austere or harsh in terms of their potential human consequences. At the same time, Malawi has, by and large, moved, albeit slowly, toward adopting the reforms required as part of the adjustment process. The successive devaluations, movements toward market liberalization, increased accountability and efficiency of public enterprises, containment of government expenditures and the reform of the system of revenue collection and expenditures, all point to Malawi being indeed a strong reformer *relative* to other nations in sub-Saharan Africa.

In examining the macroeconomic aggregates and limited household level data, especially from the 1980s, since policy reform began, it is nonetheless difficult to be sanguine about the results of policy reform. Economic growth, which showed initial signs of recovery in the period from 1982 to 1985, stagnated thereafter. The slowdown in agricultural domestic product has been especially noteworthy, as neither smallholder nor estate exports nor domestic food production showed signs of substantial increases. This likely reflect slow elasticity of aggregate supply and the greater public inputs required to induce a sizable supply response in land-constrained Malawi. In the market for tobacco, Malawi's predominate export crop, Malawi is not a price- taker, which further constrains production and discourages efforts to raise output. The growth of the service sector has outpaced agriculture and industry during adjustment, an indication that despite a modicum of success at devaluation, the expected shifts in relative prices and rising output among traded goods show little sign of materializing. Similarly, no substantial improvement in the overall balance of payments has been observed during adjustment, and the budget deficit has likewise indicated no sustained reduction, although the surplus recorded in 1988 holds some hope that Malawi has begun to address its fiscal imbalances. At the same time, indications of food security such as maize per capita availability show no signs of improvement. Real wages fell through most of the adjustment years, and the pressures on land grew unabated. Meanwhile technological change in agriculture shows no significant sign of progress. Likewise, the limited information on social indicators, such as infant and child mortality, show that initially high levels continue.

It is impossible now to clearly distinguish the relative importance of endogenous and exogenous factors in contributing to Malawi's slow rate of growth and low living standards. It is, however, incontestable not only that the combination of the structural rigidities of the economy (as well as the social and political systems) and exogenous shocks have played a paramount role in terms of explaining the poor economic performance in the 1980s, but also that policy reform has worked only at the margins in attending to the constraints and weaknesses in both these areas. Quite simply, the major structural impediments

to growth that make Malawi acutely susceptible to exogenous shocks—a limited resource base and looming environmental problems, a high concentration of exports, dependence on imports of intermediate goods and energy, high transportation costs and poor market access, regional political instability, rapid population growth, low level of human resource development, and the dualities in agriculture—have not been effectively addressed through the policy reform process.

Our interest in Malawi's economic performance arises from our concern with the welfare of the population. It was shown that poverty in Malawi is not limited to a small, disparate subset of the population, but appears to be prevalent among a large proportion of households in all economic sectors. In particular, it was shown that poverty and malnutrition are endemic among smallholder households. However the practice of using landholding size alone as a welfare indicator is seriously flawed; it does not account for household size and the importance of nonfarm incomes in rural Malawi. In fact, using small landholdings as a proxy for poverty has undermined the quality of the debate on the causes of the problem, encouraging a disproportionate emphasis on the issues related to the land constraint, rather than on the broader issues relating to the slow pace of agricultural transformation, the stagnation of wage earnings, and the low-level of profits from enterprises and other income sources.

Among the smallholder households, one group that was clearly distinguished by its vulnerability was female-headed households, other than those with a spouse working in South Africa. As for workers on estates, the low wages offered certainly contributed to their low living standards, just as did the poor working conditions and small share of the auction prices received by tenants. It seems clear that employment creation in the estate sector has mitigated the impact of increasing land pressures to poverty among smallholder households, who now find employment as wage earners and tenants on estates. However, it is equally apparent that the poverty problem in Malawi partially emanates from the dualistic structure of the rural productive sector and the historical evolution of policy and law. Any effort to alleviate poverty will have to result from the reformulation of both macroeconomic and sectoral policies and also of the rules and regulations that govern the economy in which they are applied.

In terms of the process of policy reform, it is therefore important to emphasize that the level and distribution of welfare is a consequence of the structural characteristics of the economy prior to adjustment. Unquestionably, the concurrent external shocks that precipitated the need for adjustment have adversely affected the economy and likely exacerbated the poverty problem. However few, if any, aspects of the reform program can be held responsible for the poverty

problem or be persuasively argued to have worsened the income distribution. While there is doubt as to how Malawi's poor would have fared in the absence of changes in policy indicated by adjustment, there is little question that the financing and resource transfers from donors have been vital not only to protecting the poor, but also to sustaining the economy in the short-term. Understanding with any confidence how various policies filter through the economy to affect marginal and vulnerable households, however, awaits the results of further research. The links between macro and sectoral policies and market level outcomes, the characteristic of poverty and the markets in which the poor participate as consumers and income earners, as well as the behavioral responses of households to changes in the micro environment, all need to be explored more completely.

Pursuit of knowledge concerning the important linkages and parameters in the economy is a prerequisite to improving the process and outcomes of policy reform. But it must be recognized that the constraints faced by the poor in terms of their limited assets, tenuous involvement in markets, and limited receipt of services dramatically reduces the potential for adjustment to induce major strides in welfare. This potential can be captured only upon modifying the operation of markets and the nature of government services. As a beginning, further work is required to understand how policy reform is affecting the prices, incentive structures, and the efficiency of markets. Also needed is further study to identify the differential response of households to such changes, as indicated by a wide range of behavioral parameters that guide decisions regarding the use of inputs, consumption of products, level and pattern of production and marketing, the supply of labor, and the wage offer.

While the purpose of these concluding remarks is not to recount or summarize the salient issues raised throughout this paper, a few final points are emphasized in order to set the stage for the modeling efforts to follow. These efforts will eventually examine in more detail the market interactions and intersectoral and macro-micro linkages that will condition the impact of policy reform on economic performance in general and on poverty in particular. Specifically, this review has elucidated some avenues for raising living standards, some of which are directly related to the process of adjustment. Others, although not necessarily classified as policy reform measures per se, will clearly condition how the process filters down to affect the poor.

The first issue highlighted throughout this paper is that, beyond price-related adjustment, there remains considerable scope for a variety of fundamental changes in the control and use of assets and resources that fall in the domain of reform. For example, there is a need to consider policies that will increase access

to land and control of assets by smallholders. Precisely how policy reform will affect land tenure and the control of other factors and vice versa, needs to be further researched and given prominence in the policy dialogue. This being said, it appears that policy may be exacerbating the food security problem among smallholders in Malawi by contributing to the reduction of holding sizes among smallholders. In particular, at least two measures may have promoted expansion of estates into the pool of customary land. First, the Customary Land (Development) Act legally permits the privatization of customary land.[144] Moreover, informal arrangements between village headpersons and estate owners apparently have allowed the extension of estate-style tenure onto what once was customary land. Second, while this fluidity has been evident, several economic factors have further motivated the expansion of estates. The conjunction of low lease rents, which all too often go uncollected, estate-owners' easier access to financial capital and credit, and increased price incentives for export crop production and the legal monopoly of estates on some of these crops, have been incentives for the expansion of the estate sector.[145]

These trends, a priori, are expected to be detrimental to the well-being of smallholders for a number of reasons. In particular, the trend from customary holdings to estate leaseholds reduces the security of land tenure among smallholders, adversely affecting tenurial and food security in this group. A further shrinkage in holding sizes raises the concern, as intimated above, that most holdings will be unable to generate a critical level of income and make a substantial contribution to household food-energy intake.

It would therefore seem that initiatives such as raising and periodically reassessing rents paid by leasehold estates should be considered concurrently with improving the ability to collect rents. In addition, legislative efforts to limit the total area of the estate sector, to make renewal of leases contingent upon some certification that the land is being used as proposed, and to halt the transfer of land in areas of high population pressure, also warrant consideration.

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144 In practice, the Customary Land Development Act has only been applied to the Lilongwe Agricultural Development Division (LADD), and only about 0.25 million hectares have been privatized (World Bank 1987a).

145 To the extent that smallholders have moved onto previously uncultivated, public lands, they have found an escape valve that lessens somewhat the pressure on customary land generated by the expansion of estates. More importantly, to the extent that they are subsumed as cultivators under the estate tenure system they may well continue to cultivate the same land, but under different arrangements.

A related area of policy reform that will immediately affect the welfare of the poor concerns the restriction that banned smallholders from growing certain export crops (eg, burley tobacco). The removal of the prohibition against the production of remunerative crops will further enable the poor to participate more fully in the expected growth of exports that adjustment is designed to induce. It should be cautioned, however, that changing the rules that govern the production of export crops, especially burley tobacco, is not a panacea for the ills of the smallholder sector. Only limited impact in terms of redistributing and increasing the expected profits over the medium and long-term are expected. Quite simply, the future for tobacco exports is clouded by growing health concerns. In addition, other considerations, such as the need to ensure that the quality of the tobacco is maintained and that the auction prices are sustained, represent a challenge when policy matters consider issuing licenses to smallholders. While solutions to such potential problems exist, they may require a new institutional structure (such as the development of cooperatives) or an expanded and redefined role for existing parastatals. This would help ensure the provision of extension and credit services as well as the improved allocation of quotas and improved marketing. This, of course, raises a whole set of concerns and indicates that such a strategy is not a short-term palliative.

In the final analysis, there is a need to reduce the growing demand for leasehold estates at the expense of customary land. The fact that the level of cultivation and utilization of estate lands is low and that estates have not proven any more amenable to technological change than the smallholder sector provides some impetus to reverse the policies that have promoted the duality in agriculture.

These conclusions regarding reforms in the rules and regulations that govern the dualistic nature of Malawi's agriculture sector should not in anyway be construed as being consonant with the viewpoint that the estate sector has not played a vital role in generating employment and income. Likewise, suggesting some moderation of the rules that perpetuated agricultural duality is not to be misinterpreted as indicating that cash-cropping is necessarily a nutritional risk factor. It would seem quite to the contrary in Malawi, where potential benefits from the increased commercialization of smallholder agriculture that can raise incomes of producers as well as agricultural laborers are substantial. This is in addition to the likely positive effects that commercialization may be expected to have on nonfarm income through added forward and backward economic linkages. Therefore, while food self-sufficiency is a reasonable proposition in landlocked Malawi, it must not be confused with food security, given that self-sufficiency can be achieved at low levels of effective demand. As such, the objective of policy reform should be framed around increasing smallholder

production of cash crops as a means of generating rural income synchronous with marketing arrangements so that relative policies to raise productivity and impose increases in effective demand can be met by and large from domestic production of food crops.

A second broad area of linkage between policy reform and poverty will revolve around the pricing of inputs and of the crops produced by the poor. This paper has cast some doubt on the effectiveness of policy reform in reducing the levels of direct and indirect taxation of major cash crops. At the same time, the level of subsidy that the smallholder is likely receiving in the form of fertilizer has remained quite significant, although it does appear that the level of uptake among the lower-income households is small. Nonetheless, this analysis should make clear that what price-oriented adjustment toward border pricing and privatization can be expected to accomplish in terms of raising incomes of the smallholders has serious limits, especially since world prices of important cash crops show little sign of reversing their downward trend.

Third, because most of the poor in Malawi are net consumers of maize, our attention has focused on consumer prices of maize. Just as price-oriented adjustment is not expected to confer large benefits on producers, the losses to consumers as a consequence of reducing both the implicit subsidy on producers and the explicit subsidy implied in ADMARC's small margin between producer and consumer prices are also expected to be limited. Not only does a large share of transactions take place in the retail market, where prices are far in excess of the official ADMARC consumer prices, but the scarcity introduced by rationing of maize at the official price possibly results in a higher margin between private market producer and consumer prices.

Fourth, the limited scope of price-related adjustment initiatives in raising output and productivity, and consequently incomes, indicates that they must be accompanied by measures to raise and improve public inputs into the production process. That is, any program that purports to increase output and promote a supply response must not ignore the reality that public inputs, whether for education, physical infrastructure, agricultural research, or credit institutions, are essential for ensuring the success of incentive policies to raise the level and productivity of private inputs.

To amplify, there is profound need to raise labor productivity, especially among the smallholder sector. Low yields, stemming from the depletion of nutrients in the soils and cultivation of marginal lands as population pressures grow, coupled with primitive technology, including the choice of technique and seeds, is both cause and manifestation of the stagnation of Malawi's economy and the poverty of its people. This is true both on estates and on customary lands.

In the case of the former, the underutilization of estate lands, coupled with stagnation in productivity, is evidence of the need for improved extension services. Similarly, the need to remove constraints to fertilizer use among smallholders is an important complement to strategies aimed at reforming land policy and removing production and marketing restrictions. Indeed, the green revolution has to date failed in Malawi. While the battle should continue, perhaps the promise of the future lies in genetic engineering. Biotechnology offers considerable hope for circumventing the shortcomings of traditional efforts at plant breeding and reducing the costs of related investments, such as irrigation, that are often required complements to the use of improved seeds.

Once again, however, initiatives such as improved technology or more credit should not be construed as magic bullets that will transform on-farm agricultural activities into the major source of incomes for the poor. Despite the need for improved access to credit in order to enhance fertilizer uptake and the adoption of improved agricultural practices among smallholders, the limitations of this strategy should be recognized. For a large number of smallholders, those with less than 1.0 hectare of land, for example, there is little prospect of generating a sustained surplus above and beyond their own food requirements. This will not enable the borrower to payoff any loans. Thus, careful consideration should be given to formulating efforts to increase rural credit without introducing rent-seeking behavior and without requiring continuous government subsidization.

Fifth, there is a need to recognize that removing government regulation as an obstacle to raising productivity is not incompatible with defining anew and active role to promote the more efficient utilization of resources. For example, policies of liberalizing production and marketing in agriculture must be accompanied by other initiatives that may require increased government participation and action. There is a role for government in maintaining strategic grain reserves, in providing increased extension services, in setting and defending price floors, and in mitigating the risks faced by the farmer during the period of agriculture transformation.

The success of market liberalization may depend on an increased role of government, at least in the short-term. Indeed, given risk and uncertainty, farmers' allocation decisions may suggest that their response to price reform and other market signals may be tempered. Therefore, even if Malawi follows the prescriptions for price-related adjustment, the small landowner may well be driven to partially base his cropping and production decision on avoiding the risk of catastrophic crop failure, rather than on the basis of relative output and factor prices. Thus, faced with little margin for error, the higher risk of crop failure for hybrid maize in most instances may deter the farmer from switching

out of low-yield traditional varieties. A consumption credit scheme for example, to address the risk factor directly, would also make price reform more effective as a consequence.

In a similar vein, as privatization and liberalization of marketing proceeds and state-owned enterprises are abolished or their roles redefined, one must recognize that there may arise a need for the active involvement of the government in achieving various social and developmental objectives that may require support by the treasury. Perhaps this is best illustrated by the case of ADMARC, which, under its new and reduced mandate as buyer and seller of last resort, cannot be reasonably held to the standards of private sector profitability.

Sixth, increased attention has to be focused on raising rural wages, both in the traditional arena of hired labor on large smallholder plots and estates, as well as through the identification and development of nontraditional and alternative employment opportunities. The large and growing role of wage employment as a source of income for the poor, partially precipitated by the increasing land pressures, sets the stage for Malawi to follow the pattern of other countries whereby the economic transformation raises the importance of wage labor. As population pressures grow and the competition between producing for home consumption and for exports mount, the answer to the poverty problem will increasingly be found in investment that raises productivity of the land and encourages the development of nonfarm enterprises that generate employment and rural incomes. This is especially the case for the small landholders and the landless, for whom equity-enhancing off-farm employment is especially important. In addition, the fact that nonfarm income is often countercyclical to agricultural incomes is another important dimension of raising food security, given the pronounced seasonalities of agricultural employment, earnings, and prices. Whether it be in areas such as food preparation and processing, or marketing and traditional crafts, there is little question that enhanced employment and higher wages through rural enterprise is based on the increased commercialization and growth of agriculture.

The importance of generating employment opportunities and raising urban wages, both in the formal and informal sector is the seventh and related point. There is little dispute that the role of manufacturing and industry will increase as the agricultural transformation occurs, commercialization increases, and land resource constraints are reached in Malawi. Likewise, export-oriented manufacturing in Malawi will not only reduce dependence on the vagaries of international markets for poorly performing primary commodities, but will serve to both supply inputs to a fledgling commercialized agricultural sector, generate a demand for marketed surplus that is not competitive on world markets because

of transport costs, and generate employment for a labor-surplus agricultural sector. While the data on employment suggest that Malawi was successful in increasing formal-sector employment during the years under adjustment, the decline of wages dampens some of the enthusiasm concerning the effect on living standards. Furthermore, the slow rate of growth of manufacturing GDP, both before and after adjustment, raises questions concerning Malawi's commitment to and strategy for promoting industrialization. Thus, it is important not to relegate industrial development to a secondary pursuit by virtue of the concentration of the poor in agriculture. In fact, it is precisely for that reason that the role of industrialization to provide jobs, consumer goods, and a market for agricultural products must be pursued.

While Malawi endeavors to promote continued growth in the formal and informal sectors outside agriculture, it is increasingly evident from experiences in other countries that it is the forward and backward linkages from a healthy and dynamic agriculture that fuel economic growth and expansion in cities and smaller towns. For example, growth in agricultural incomes will lead to increased demand for nonfoods supplied by urban areas and towns. But fostering these potential growth linkages, promoting small-scale enterprise development, and enhancing the role of private merchants and traders implies a need to overcome impediments that are similar in nature to those that limit agricultural productivity in Malawi. Whether it be to improve access to credit, to invest in infrastructure, to improve labor-intensive technologies, or, most important, to improve quality of human capital, much remains to be done to promote expansion of the labor force through small-scale enterprises in Malawi.

In that regard, efforts to better service the needs of the informal sector is the eighth point. At present, the informal sector in Malawi appears to be much smaller than in other African countries. But if lessons elsewhere be our guide, in order to foster growth and productivity in the informal sector and smallholder enterprises, there is a need to end the implicit discrimination in the favoring of the formal modern sector. The steps to facilitate small-scale business development are similar to the efforts required to encourage adoption of improved agricultural technology. They are to improve infrastructure and access to capital, to develop a system of advice and services to the small-scale entrepreneur, to end excessive regulatory constraints, and to stimulate private sector initiatives in areas previously controlled by parastatals or dominant private entrepreneurs.

Ninth, the role of government fiscal policy and the impact of adjustment on both revenue and expenditure measures will have important direct and indirect effects on poverty. Obvious areas where fiscal policy decisions will have direct effects include changes in the structure of taxes and efforts at cost recovery.

Social sector spending on health, education, and other social programs, as well as subsidy and transfer policy, all need to be reconsidered. There is little question that greater priority should be accorded to improving the quality of human capital through improvements in health and education, and to the related area of family planning. The need for some tangible reforms were identified. These might include a raise in the share of social sector spending that is allocated to primary services and a move toward further cost recovery, especially for services that are used primarily by wealthier households and/or have relatively fewer externalities. In promoting such reforms, however, the role of secondary and university education to provide the skills necessary to foster entrepreneurship and to move Malawi into a competitive position in the 21st century should not be relegated to a less important position. However, new avenues and approaches to higher education to develop necessary skills must not be taken at the expense of basic literacy and primary education.

The tenth and related point concerns the issue of the variety of explicit and implicit subsidies that affect households in their roles as consumers and producers. Some subsidies, or portions thereof, are implicit, not being paid from the Treasury. They consequently do not manifest themselves directly in the form of the budget deficit. Of course lost revenues and the dead-weight losses that result from implicit subsidies are generally not desirable. Maintaining market distortions through administered prices also leads to the growth of parallel markets and to related inefficiencies. In addition, little evidence was presented to suggest that existing subsidies and rationing, such as for food grains and fertilizer, have been advantageous to the poorest groups. Quite simply, the poor generally do not receive the rents from such distortions. Nonetheless, when one examines the pricing of inputs and products in Malawi and structural constraints to production and marketing, one must consider that there may be justification for only slowly removing existing subsidies, such as that on fertilizers. Given the rapid increase in the cost of inputs and the decreasing competitiveness and prices of potential exports, such subsidies may be justified if the external shocks that have hit Malawi so hard in recent years prove to be a transitory phenomenon. One must temper the recommendations to get prices right with the realization that Malawi has been operating in an economic environment riddled by market failures and dislocations. Yet, short-term strategies and pricing policy must keep an eye to the future when the deleterious impacts of regional conflicts will be reduced.

Eleventh, the potentially constructive role of subsidies also includes targeted welfare measures. In particular, greater attention should be paid to the role of explicit subsidies and transfers, such as direct feeding programs and labor-intensive public works, for example. In moving in that direction, however, the

limited social infrastructure and management capacity to operate such efforts at any meaningful level of coverage should be considered. In addition, there is a need for vigilance to ensure that donor support for helping the poor in the short term does not foster the development of inefficient and unsustainable social programs that Malawi cannot afford.

While the above points provide some avenues to rapid progress in raising living standards in Malawi, we again conclude that the fundamentally weak productive resource base, primitive technology, and limited investment in human capital represent the key obstacles to progress. In addition, Malawi's structural weaknesses make the country extremely susceptible to external events and contribute to bottlenecks in domestic production. These factors suggest that in order for Malawi to return to the high growth rates of the 1960s and early 1970s, more and better investments in both physical and social infrastructure will be required in the years ahead to diversify and expand exports and the competitiveness and efficiency of the production of import substitutes and home goods.

To meet that challenge, two additional requirements must be addressed. The first is to increase concessionary financing focused on such goals as improving the quality of Malawi's human resources; furthering agricultural research and extension as well as family planning programs; overcoming structural impediments to trade including improving infrastructure and fostering efforts at regional integration; and promoting a variety of initiatives to enhance the private sector and rationalize public enterprises. Concurrently, policy makers must be made more aware of the impact of their decisions. This will require going well beyond the basic prescription of getting prices right, which, although necessary, is not sufficient to foster economic development and transformation.

It will also require going well beyond the general analysis that has been the scope of this background paper. It calls for the closer examination of intersectoral linkages and multiplier effects, of linkages between credit factor and product markets, and of the behavioral characteristics of households in their roles as consumers and producers. It will require development of a model to address the counterfactual, to formulate policy simulations of the impact of alternative policies as they work their way through the economy, and to provide a framework for reconciling some of the policy dilemmas hinted at in this review. This, then, coupled with work to improve the quantity and quality of data available, represents the next step on the research agenda for Malawi.

Appendix A I Computation of Export and Import Parity

Prices and Nominal Protection Coefficients

In order to compute nominal protection coefficients and associated levels of implicit taxation or subsidization, we must compare domestic prices and costs with world prices. To do this we must compute relevant "world" or "border" prices. For such purposes, export parity prices (EPP) are the relevant world reference prices for exports, and import parity prices (IPP) are the relevant world reference prices for imports. EPPs are world prices valued at domestic farmgate by adjusting for (subtracting) cost of transport to export market, storage and handling, insurance and other marketing costs. IPP are world prices valued at domestic farmgate, by adjusting for (adding) cost of transport from import market, storage and handling, insurance and other costs. The parity prices (EPP and IPP) used in this report have either been measured on the basis of domestic trade statistics (case one) or of international price data (case two).

In both cases, one and two, internal marketing costs have been estimated as a percentage margin of the commodity's producer price. Margins used were 30% for maize and rice, 20% for tobacco, and 10% for groundnuts. Margins were estimated by examining ADMARC cost records for the mid-1980s (together with equivalent data for Zimbabwe in the case of maize).[146]

In the first case, EPP is measured as the unit export value of Malawian exports f.o.b., and IPP as the unit import value of Malawian imports c.i.f. The EPPs for groundnuts and tobacco were computed in this fashion. For groundnuts, these measurements were based on quantity and value data from the Malawi Government's *Annual Statement of External Trade* (various years b). For tobacco, average auction prices were used instead, since auction data permitted the disaggregation and use of prices specific to smallholder varieties. In case one no adjustment is made for international transportation or handling costs since the relevant adjustments are captured in f.o.b. and c.i.f. figures.

In the second case, EPP and IPP calculations are based on the commodity's

146 ADMARC data from Kandoole et al. (undated). Zimbabwe data from World Bank (1987b).

f.o.b. price (when available) or sale price (otherwise) at the relevant export/import market. Thus the international reference price used for EPP calculations of rice was the f.o.b. price at Bangkok. The f.o.b. price of yellow maize at the US Gulf, as well as the domestic retail price of white maize in Zimbabwe and the domestic retail price of white maize in South Africa provide three sets of f.o.b. prices for maize.[147]

This second case in which an international market price is used as the reference point, moreover, required adjustments for international transportation and handling from the relevant export or import market. Hence, in case two, port handling costs were calculated at 10% of landed value at the port. International grain shipping cost data came from the *Food Outlook Statistical Supplement* (FAO various years a) for maize (sourced at the US Gulf) and from *World Wheat Statistics* (International Wheat Council, various years) for rice (sourced at Bangkok). Regional rail costs per commodity were based on cost data from Louis Berger (1986) for 1984 to 1986 and from the Ministry of Agriculture for 1987 to 1988. The data was extrapolated to earlier years on the basis of a spliced index based on both Malawi-Durban transportation costs from the World Bank and also on c.i.f. margins from the IMF. One series was estimated for South Africa (Durban) to Malawi transportation costs, and another for Zimbabwe (Harare) to Malawi transportation costs.[148]

As noted above, three alternative export/import markets were considered for maize: Zimbabwe, South Africa, and the USA. These were the three highest ranking exporters of maize to Malawi over the period 1980 to 1985 (Malawi Government various years b). They represent, alternatively, a close subregional trade partner, a more distant regional trade partner, and an intercontinental trade partner. The three highest ranking importers of Malawian maize over the period 1980 to 1985 were Zambia, Zimbabwe, and Mozambique. Price and transportation data for Zambia and Mozambique are currently unavailable. For present purposes, however, the South Africa and Zimbabwe analyses are

147 Bangkok f.o.b. rice price data from FAO *Monthly Bulletin of Statistics* (various years c). Note that Bankgok prices have been deflated by 20 percent to compensate for the quality differential between Thai and Malawian rice. US yellow maize #2 f.o.b. Gulf prices from FAO *Food Outlook Statistical Supplement* (various years a). South African white maize selling prices from Republic of South Africa, Department of Agricultural Economic Trends (1988), *Abstract of Agricultural Statistics*. Zimbabwe white maize selling prices from Agricultural Marketing Authority (1984/85 and 1987/88).

148 IMF data from IMF (1988). World Bank data, from the project to monitor agricultural incentives and policy in sub-Saharan Africa.

assumed to be transferable to these markets given their subregional proximity.

For rice, two sets of EPP calculations were estimated: one based on unit export values from Malawian trade statistics and one based on rice prices f.o.b. Bangkok (ie, case one and two methodologies, respectively). The greater volatility of the former EPP estimate, and its higher level, are probably attributable to the fact that Malawi, when it exports rice, exports to geographically protected markets (such as in Zambia) or regions isolated by war (such as in Mozambique), and at short notice (such as during the unexpected occurrence of rice shortages). Each of these factors would lead to higher subregional prices relative to average f.o.b. Bangkok prices. The divergence of the two series, nevertheless, also signals the difficulties inherent in computing and determining a relevant international price series for Malawian commodities.

Estimates for every IPP and EPP calculated were expressed in Malawi kwacha. Estimates were made using both the official exchange rate and the shadow exchange rate.[149] Shadow exchange rate estimates were derived using the methodology outlined in Krueger, Schiff, and Valdes (1988). The shadow rate (or equilibrium real exchange rate) e^* was computed as:

$$e^* = \left(\frac{Q_1 + Q_o}{E_s Q_s + E_d Q_d} \right) e^o$$

where e^o = the official real exchange rate, Q_d = demand for foreign exchange computed as export value, Q_s = supply of foreign exchange computed as import value, $-E_d$ = elasticity of demand for foreign exchange assumed equal to 2, E_s = elasticity of supply for foreign exchange assumed equal to 1, $Q_1 = (t_m/(1 + t_m))Q_d E_d - (t_x/(1+t_x))Q_s E_s$, or the supplementary demand for foreign exchange as a result of removing (estimated) import duties (t_m) and export taxes (t_x), Q_o = unsustainable portion of the balance of payments deficit, assumed to be the deficit in excess of 5% of GDP.

Since the official $/MK is found to be overvalued, EPP and IPP estimates converted at the shadow exchange lie consistently above those converted at the official exchange rate.

149 Note that only those charges paid for in international currency were converted at the shadow rate (ie, f.o.b. price and freight costs).

Appendix A II
Computation of Fertilizer Subsidy

On the following four pages are worksheets giving data for the five years from 1983/84 to 1988/89 from which the fertilizer subsidy for those years may be calculated.

Appendix A.II. Corporat'on of Fertilizer Subsidy

FERTILIZER SUBSIDY WORKSHEET
(MK/MT unless otherwise stated)

	1983/84				1984/85				1985/86			
	CAN	20:20:0	S/A	Total	CAN	20:20:0	S/A	Total	CAN	20:20:0	S/A	Total
FOR	333.91	383.72	223.32		179.49	224.73	322.43		226.85	329.79	414.54	
freight	N/A	N/A	N/A		167.00	167.00	N/A		178.00	178.00	N/A	
insurance	N/A	N/A	N/A		2.37	1.77	N/A		1.83	2.29	N/A	
commission	3.34	3.84	N/A		3.47	3.92	N/A		4.05	5.08	N/A	
custom levy	16.87	19.38	N/A		17.33	19.59	N/A		20.25	25.39	N/A	
sub-total	354.12	406.94	223.32		369.66	417.01	322.43		430.98	540.55	414.54	
depot & storage	9.94	9.94	9.94		13.22	13.22	13.22		10.54	10.54	10.54	
internal transport	28.09	28.09	28.09		36.58	36.58	36.58		30.99	30.99	30.99	
rebagging	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
delivered to market cost (per MT)	392.15	444.97	261.35		419.46	466.81	372.23		472.51	582.08	456.07	
delivered to market cost (per 50 kg bag)	19.61	22.25	13.07		20.97	23.34	18.61		23.63	29.10	22.80	
sale price (MK/50 kg bag) nominal	14.00	14.50	12.00		15.50	17.50	13.5		19.00	20.50	17.50	
subsidy (dmc-sp/dmc) disagg. by type	28.60%	34.83%	8.17%		26.10%	25.02%	27.46%		19.58%	29.56%	23.26%	
total quantity purchased/donated (MT)	21,461	20,000	13,770	55,231	37,000	29,994	N/A	66,994	37,998	26,494	6,433	70,925
total quantity sold (MT)	31,964	21,813	3,232	57,009	36,965	26,813	5,444	69,222	35,547	24,845	3,585	63,977
sales by type (% of total sales)	56.07%	38.26%	5.67%		53.40%	38.73%	7.86%		55.56%	38.83%	5.60%	
delivered-to-mkt cost of quantity sold (MK)	12,534,738	9,706,176	844,688	23,085,603	15,505,260	12,516,444	2,026,411	30,048,115	16,796,397	14,461,797	1,635,020	32,893,214
sales value (MK)	8,949,920	6,325,770	775,680	16,051,370	11,459,150	9,384,550	1,469,880	22,313,580	13,507,860	10,186,450	1,254,750	24,949,060
SFRF trading deficit (MK)				7,034,233				7,734,535				7,944,154
net interest received (MK)				94,961				471,768				639,892
net subsidy required (MK)				6,939,272				7,262,767				7,304,262
net subsidy as a % of budget deficit (surplus)				5.06%				6.24%				7.91%
aggregate fertilizer subsidy rate				30.47%				25.74%				24.15%
FSRP target subsidy rate												22.60%

	1986/87						1987/88					
	CAN	20:20:0	Urea	DAP	S/A	Total	CAN	20:20:0	Urea	DAP	S/A	Total
FOR	210.60	292.05	298.91	346.48	506.66		250.20	343.40	296.96	436.04	353.46	
freight	180.99	180.99	180.99	180.99	N/A		253.00	253.00	253.00	253.00	N/A	
insurance	1.77	2.13	2.16	2.37	N/A		3.40	3.40	3.40	3.40	N/A	
commission	3.92	4.73	4.80	5.27	N/A		5.04	5.97	5.50	6.89	N/A	
custom levy	19.58	23.66	24.00	26.37	N/A		46.65	36.93	36.60	41.28	N/A	
sub-total	416.86	503.56	510.86	561.49	506.66		558.29	642.70	595.46	740.61	353.46	
depot & storage	12.10	12.10	12.10	12.10	12.10		14.56	14.56	14.56	14.56	14.56	
internal transport	41.74	41.74	41.74	41.74	41.74		38.21	38.21	38.21	38.21	38.21	
rebagging	N/A	N/A	N/A	N/A	N/A		5.95	5.95	5.95	5.95	5.95	
delivered to market cost (per MT)	470.70	557.40	564.70	615.33	560.50		617.01	701.42	654.18	799.33	412.18	
delivered to market cost (per 50 kg bag)	23.53	27.87	28.23	30.77	28.02		30.85	35.07	32.71	39.97	20.61	
sale price (MK/50 kg bag) nominal	19.50	21.00	26.00	24.00	18.00		24.50	27.00	27.00	31.50	23.00	
subsidy (dmc-sp/dmc) disagg. by type	17.14%	24.65%	7.92%	21.99%	35.77%		20.59%	23.01%	17.45%	21.18%	-11.60%	
total quantity purchased/donated (MT)	27,500	15,000	7,843	5,271	7,727	63,341	30,000	21,717	19,499	7,335	3,810	82,361
Total quantity sold (MT)	32,433	21,924	5,435	811	6,700	67,303	28,316	20,273	16,089	5,530	3,292	73,500
sales by type (% of total sales)	48.19%	32.58%	8.08%	1.20%	9.95%		38.53%	27.58%	21.89%	7.52%	4.48%	
delivered-to-mkt cost of quantity sold (MK)	15,266,054	12,220,382	3,069,137	499,035	3,755,328	34,809,936	17,471,382	14,219,953	10,525,086	4,420,272	1,356,902	47,993,593
sales value (MK)	12,648,870	9,208,080	2,826,200	389,280	2,412,000	27,484,430	13,874,840	10,947,420	8,688,060	3,483,900	1,514,320	38,508,540
SFRF trading deficit (MK)						7,325,506						9,485,053
net interest received (MK)						1,347,284						2,937,079
net subsidy required (MK)						5,978,222						6,547,974
net subsidy as a % of budget deficit (surplus)						2.75%						-9.59%
aggregate fertilizer subsidy rate						21.04%						19.76%
FSRP target subsidy rate						17.00%						12.00%

1988/89

	CAN	20:20:0	23:21:0+4s	23:23:0+4s	Urea	DAP	S/A	Total
FOR	402.54			583.22	467.93	590.50	637.97	
freight	296.00			296.00	296.00	296.00	N/A	
insurance	2.25			2.83	2.46	2.85	N/A	
commission	6.99			8.79	7.64	8.87	N/A	
custom levy	0.00			0.00	0.00	0.00	N/A	
sub-total	707.78			890.84	774.03	898.22	637.97	
depot & storage	46.59			46.59	46.59	46.59	46.59	
internal transport	45.00			45.00	45.00	45.00	45.00	
rebagging	2.00			2.00	2.00	2.00	2.00	
delivered to market cost (per MT)	801.37	876.21	876.21	984.43	867.62	991.81	731.56	
delivered to market cost (per 50 kg bag)	40.07	43.81	43.81	49.22	43.38	49.59	36.58	
sale price (MK/50 kg bag)	27.50	32.50	32.50	31.50	30.00	34.50	27.00	
nominal subsidy (dmc-sp/dmc)	31.37%	25.82%	25.82%	36.00%	30.85%	30.43%	26.19%	
disagg. by type								
total quantity purchased/donated (MT)								
total quantity sold (MT)	27,987	4,356	13,666	100	24,547	8,129	4,097	82,882
sales by type (% of total sales)	33.77%	5.26%	16.49%	0.12%	29.62%	9.81%	4.94%	
delivered-to-mkt cost of quantity sold (MK)	22,427,942	3,816,778	11,974,308	98,443	21,297,468	8,062,423	2,997,204	70,674,566
sales value (MK)	15,392,850	2,831,400	8,882,900	63,000	14,728,200	5,609,010	2,212,380	49,719,740
SFRF trading deficit (MK)								20,954,826
net interest received (MK)								
net subsidy required (MK)								
net subsidy as a % of budget deficit (surplus)								
aggregate fertilizer subsidy rate								29.65%
FSRP target subsidy rate								0.00%

Appendix A II

Sources: *Malawi Government (various years b, 1989b, and 1990); FAO (various years a); World Bank (1988b); Robert R. Nathan Associates (1987); Smallholder Farmers' Fertilizer Revolving Fund (SFFRF); International Fertilizer Development Center (1989); Reserve Bank of Malawi (1987 and 1989).*

Notes: *The cost of maize sold in a given year is valued at the landed costs for that year. Storage costs are therefore implicitly assumed to be equal to the general cost increase. We have disregarded both interest earned by SFFRF and also interest paid on working capital. We have also not included losses, SFFRF overhead, and ADMARC selling cost, which are calculated as residuals. The "net subsidy required" figure is derived by subtracting sales revenue for a given year (determined by multiplying the quantity of fertilizer purchased by the sale price to farmers) from the cost of delivering to the market the quantity of fertilizer sold that year. The "delivery to market cost" is the cost of all fertilizer (both purchased and donated) sold to smallholders nationally in a given year at the going c.i.f. cost that year, plus customs levy, depot and storage costs, internal transport charges and rebagging costs. We refer to this difference between the sales revenue and cost of delivery to the market as the trading deficit. From this trading deficit is subtracted the net interest earned by SFFRF on accumulated funds on deposit with the Reserve Bank of Malawi to arrive at the net subsidy.*

Appendix B: ADMARC Reform

As discussed in the section on fiscal reform, ADMARC is the most important parastatal in the country. ADMARC's revenue accounts for 50 percent of total parastatal revenue. Its net losses registered in 1985/86 and 1986/87 almost exactly match the large losses experienced in those years on the consolidated account for all parastatals. The experience of ADMARC, moreover, is particularly important given the special attention it has received as a target of reform under the adjustment program.

ADMARC's multiple mandates have had much to do with its financial distress. Established as the successor to the Farmers Marketing Board (FMB), ADMARC's charge, de facto, has extended well beyond the export crop marketing function of its predecessor. In addition to having the monopoly on cotton and tobacco marketing, the state agricultural marketing board has engaged in a number of other roles. First, it maintains a food crop trading account. Under this, its most important mandate, ADMARC has overseen the functions of price stabilization in the important food commodity markets, ensured pan-territorial pricing for the purposes of regional equity, and extended producer and consumer subsidies as well. Second, ADMARC has been entrusted with the import and subsidized distribution of farmer inputs such as chemical fertilizers. In this capacity it has also played an important role by extending credit to the agricultural sector. Fourth, ADMARC has acted as an investor in both the agricultural and nonagricultural sectors. Fifth, with the objective of overseeing national food security, ADMARC has been entrusted with the task of maintaining the nation's strategic grain reserve.

ADMARC's financial crisis is spawned from the very nature of its misssion. Reform prescriptions, outlined in a study undertaken under SAL I (but yet only partially implemented), recognized this reality. ADMARC has been classified as a commercial entity required to operate on a self-sustaining basis. Subsequent policy changes have addressed several key problems and instituted a number of important reforms.

First was the recognition that ADMARC's subsidization of both producers and consumers has meant a serious drain on the parastatal's resources (table 26). Indeed ADMARC's producer price has often exceeded the price at which maize is offered to consumers (figure 14). At other times, the margin between

the two prices has remained below 25 percent, a margin inadequate to cover rising marketing expenses.[150] The total cost overrun has invariably exceeded the consumer's price by 23 percent to 81 percent for the period between 1978 and 1986.

While such subsidization had been financially feasible previously, it no longer was so. Through the 1970's, high profits obtained from the export marketing of tobacco, which commanded highly remunerative prices in the international market, and the implicit taxation of exports generated a financial surplus which permitted such cross-subsidization. In the 1980s, however, the export price index for tobacco had fallen drastically, contributing to the liquidity crisis that hit the corporation in 1985. The crises forced ADMARC to go into debt, restrict its imports of fertilizer and delay the opening of some of its markets.

In the interest of ADMARC's financial well-being, the study sponsored under SAL I thus suggested that subsidy costs, to the extent that they persist, be met by the government rather than ADMARC. The establishment of the Smallholder Farmers' Fertilizer Revolving Fund (SFFRF) by allowing for the tracking and accounting of funds in a seperate fertilizer account, was a step taken toward quantifying the resource cost of subsidies for this purpose. The study, furthermore, called for a "review of subsidies." Under FSRP, as discussed earlier, this ultimately led to the prescription for the outright removal of the input subsidy. Price reform, meanwhile, addressed the removal of subsidies on outputs.

Second, ADMARC has been called upon to rationalize its asset portfolio in line with what should be its specific focus on marketing. Indeed reflecting a diffusion of its mandate, ADMARC had become more than a marketing board. For example, the corporation ran over 50 enterprises in which it acquired share interest, and managed about 20 estate farms that it had started. These investments and the associated institutional sprawl lowered returns, reduced liquidity, and strained management capacity. Hence under SAL II measures were to be taken toward the streamlining of ADMARC's portfolio. Divestiture has extended to the sale of several estates as well as the sale of shares in a number of agro-processing firms, industrial enterprises and financial institutions (Christiansen and Southworth 1988). More recently, in the face of continuing financial

150 Christiansen and Southworth (1988) present figures on the increasing unit costs of marketing due to increases in "direct" costs, "administrative" costs and "finance" costs. These subcomponents account too for increases in transportation and staffing costs. The study estimates the average total marketing cost per ton of crop purchases for 1972/73 to 1978/97 to be MK85.73. This figure had increased to average MK172.89 between 1980/81 and 1986/87.

and management difficulties, the government purchased both the grain and the silos that constituted the strategic grain reserve.

Third, along these same lines, measures were to be taken to reduce the number of ADMARC marketing outposts. Indeed the 60 permanent and 732 temporary markets at which ADMARC purchased agricultural produce in 1973 had stretched to 92 permanent and 1058 temporary sites in the mid-1980s. This emphasis on the procurement and distribution of maize and fertilizer had driven up unit costs. The number of markets had increased; the geographical area covered had increased; and so too had transportation costs. Thus in many less densely populated areas, revenue generated by these outposts did not pay for the cost of keeping them open. In 1986, therefore, the government commenced shutting down those outposts with less than 60 tons annual through-put.

As discussed earlier, to compensate for the reduction in ADMARC's role and to improve crop marketing and distribution in general, moreover, the role of the informal sector was to be increased. The government has thus taken specific steps since 1986/87 to clarify that all crops other than cotton and tobacco can be traded by private entrepreneurs.

Finally, several management related measures were also prescribed. ADMARC balance sheets were to be reconstructed, for example, and staffing reduced.

The jury is still out on the effect of ADMARC reform. The reform's effect on the parastatal itself, on the fiscal budget, and on the macro-economy is unclear. Yet several observations and issues can be raised in this regard. The first is on the extent of such reform. It is unclear how far actual implementation has gone. For instance, the number of permanent staff members, although cut between 1982 and 1983, had actually increased from about 12,000 in 1981 to about 15,600 in 1985. Similarly, as discussed in the section on privatization above, although some markets have closed, the total number of ADMARC marketing outposts may actually have increased since 1985. Progress with divestiture too has gone slowly as a result of difficulties associated with attaching values to assets for sale and with locating potential buyers (Christiansen and Southworth 1988).

Second, ADMARC's experience since the initiation of the structural adjustment program has been dictated not only by reform of ADMARC alone, but also by the sequencing of agricultural reform in general, and by external events.[151] Subsequent to the 1981 drought, the producer price raise for maize

151 See Harrigan (1988) for an extensive presentation of this argument.

in 1982 resulted in large sales of the crop to ADMARC. With marketed volume surpassing domestic sales, ADMARC was subject to two effects. In exporting some of the surplus to maize deficient neighbors, the marketing corporation benefitted. However, as it also began the accumulation of a reserve grain stock, ADMARC felt the cost impacts of fulfilling its development functions. Indeed the sale price of maize was unable to cover the purchase, distribution and storage costs of the commodity.

Thus, even though bouyed by profits on the tobacco trading account, ADMARC continued to experience financial difficulties. The increase in ADMARC's purchases tied-up the corporation's funds. Since a substantial amount of the working capital was financed by short-term loans (from the domestic banking sector), financial costs also started to rise. Moreover, the construction of a chain of silos in Lilongwe for the storage of maize was financed by foreign borrowing at commercial rates of interest. Together with the interest on working capital, the interest payments on the debt for silos construction led to an increasingly severe financial cost implication. These factors contributed to the evolution of overall deficits in both 1983 and 1985.

In 1986, ADMARC's vulnerability to external factors also became all too evident. Shouldering the burden of decreased trading margins resulting from higher producer prices in the face of continued subsidization of consumer prices, the maize trading account experienced a severe loss. While losses on the domestic side had been bolstered by export revenue to drought-ridden neighbors in the past few years, exports now dropped as the weather in neighboring countries improved. Concurrently the tobacco account also faced large losses as the export price index for tobacco fell to record low levels for the second year in a row.

In 1986/87, in an attempt to relieve ADMARC of one of its financial burdens and inject urgently needed working capital, the government purchased the strategic grain reserve from the beleaguered parastatal. Yet ADMARC continued to register large losses on its crop trading accounts. Firstly, high transportation costs were incurred as stocks had to be moved to drought-stricken regions in the southern part of the country. Second, the cost burden was further exacerbated by marketing developments. With the increase in fertilizer prices that made hybrid maize less viable as a cash crop, together with the concurrent increase in groundnut prices that increased the attractiveness of this crop, ADMARC's purchases of groundnuts rose significantly. As a result, so did ADMARC's stocks of this commodity. The 20,000 metric tons increase in groundnut stocks resulted in a cost of MK15.3 million to ADMARC that year (Harrigan 1988). Third, the outstanding level of debt undertaken to finance past

deficits continued to strain the parastatal in the form of large interest payments.

ADMARC's experience in the 1980's offer insight into the continued contradiction of the parastatal's de facto development mandate and its de jure commercial status. First, ADMARC's maintaining large stocks for the purposes of intervening as a seller of last resort is not commercially viable given the cost implications of construction, transportation and storage, witnessed above. Second, ADMARC's joint objectives of defending food security while maintaining financial self-sustainability are incompatible, given the marketing agency's further insistence on pursuing pan-territorial pricing. The costs, including marketing, of selling to households in outlying regions will invariably exceed the price and drain resources. Moreover, private traders cannot be expected to fill the gaps. They will only be players if they can more than cover their costs, namely by selling at a much higher price than offered by ADMARC. To the extent that this price is prohibitive or to the extent that ADMARC continues to sell at a subsidized price below the price traders offer, the private sector will not participate in these markets. Third, the maintenance of outposts to distribute subsidized inputs such as credit and fertilizer is also incompatible with commercial viability given that marginal revenue will be less than the marginal costs of operation. Losses will be particularly great at outposts, if any, where fertilizer distribution may have become the only revenue generating source due to the closing down of maize marketing functions.

ADMARC's financial viability thus rests upon the seperation of its commercial functions from its development ones. More importantly, in the recognition that it is only ADMARC's commercial functions that are self-sustaining, the government will have to support the development functions out of its own budget. The purchase of the strategic grain reserve by the government is a step in that direction.

References

Acharya, N., and B. Johnston. 1978. *Two Studies of Development in Sub-Saharan Africa.* World Bank Staff Papers. Washington, DC: World Bank.

Agricultural Marketing Authority. Various years. *Grain Situation and Outlook Report, 1987/88 and 1984/85.* Harare: Zimbabwe: AMA.

Alderman, H. 1989. "Nutritional Status in Ghana and Its Determinants." Washington, DC: Cornell Food and Nutrition Policy Program. Mimeographed.

Atukorala, V., A. Batchelder, G. Gardner, and T. Ware. 1990. *The Malawi Fertilizer Subsidy Reduction Program: The Impact of the African Economic Policy Reform Program.* Washington, DC: USAID.

Carr, S. J. 1988. "Modification and Extension of the National Rural Development Program." Paper presented at the Symposium on Agricultural Policies for Growth and Development, Magnochi, Malawi.

Centre for Social Research (CSR). 1988. "The Characteristics of Nutritionally Vulnerable Sub-Groups within the Smallholder Sector of Malawi: A Report from the 1980/81 NSSA." Zomba: Centre for Social Research, University of Malawi.

———. 1986. "Nutritional Problems in Malawi: Situation Analysis." Paper prepared for the Interministerial Symposium on Nutrition and Development. Magnochi, Malawi.

Chilowa, W., and G. Shively. 1989. "The Nutritional Status of Malawi's Urban Poor: Results from the Baseline Survey Working Paper (No. 2)." Washington, DC: Cornell Food and Nutrition Policy Program and University of Malawi Centre for Social Research. Draft.

Chipande, G. Undated. "Socio-Economic Aspects of Female Headed Households and Rural Development Efforts: With Special Reference to the Phalomba Area of Southern Malawi." Zomba: Chancellor College, University of Malawi. Mimeographed.

Christiansen, R. 1984. "The Pattern of Internal Migration in Response to

Structural Change in the Economy of Malawi 1966-77." *Development and Change* 15: 121-151.

Christiansen, R. E., and J. G. Kydd. 1987a. *The Political Economy of Agricultural Policy Formulation in Malawi, 1964-1985.* MADIA Working Paper. Washington, DC:World Bank. Mimeographed.

———. 1987b. *Malawi's Agricultural Export Strategy and Implications for Income Distribution.* Washington, DC: United States Department of Agriculture, Economic Research Service.

Christiansen, R. E., and V. R. Southworth. 1988. "Agricultural Pricing and Marketing Policy in Malawi: Implications for a Development Strategy." Paper presented at the Symposium on Agricultural Policies for Growth and Development. Magnochi, Malawi.

Christiansen, R. E., and L. A. Stackhouse. 1987. *The Privatization of Agricultural Trading in Malawi.* Working Paper. Cambridge, MA: Center for Business and Government, Kennedy School.

Colman, and Garlett. 1976. "Socio-Economic Survey—Lower Shire Agricultural Development Project."

Dean, E. Robinson. 1966. *The Supply Responses of African Farmers: Theory and Measurement in Malawi.* Amsterdam.

Department of Economic Planning and Development. 1989. *Food Security and Nutrition Bulletin* (1 and 2). Lilongwe: DEPD.

Dickerman, C. W., and P. C. Bloch. 1989. "Land Tenure and Agricultural Productivity in Malawi." Madison: Land Tenure Center, University of Wisconsin.

Dorosh, P., and A. Valdes. Forthcoming. "Effects of Exchange Rate and Trade Policies on Agricultural Incentives and Output, Trade, and Farm Income in Pakistan." IFPRI Research Report. Washington, DC: International Food Policy Research Institute.

Duncan, A. 1990. "The Impact of Pricing Policy on Tobacco Tenancy in Malawi." Oxford: Food Studies Group. Draft.

Ettema, W. 1984. "Small-Scale Industry in Malawi." *Journal of Modern African Studies* 22 (3): 487-510.

Evans, J. 1989. "Report on the Phalombe Rural Development Project."

Mimeographed.

Food and Agriculture Organization. Various years a. *Food Outlook Statistical Supplement*. Rome: FAO.

———. Various years b. *Food Balance Sheets*. Rome: FAO.

———. Various years c. *Monthly Bulletin of Statistics*. Rome: FAO.

French, D. 1986. "Confronting an Unsolvable Problem: Deforestation in Malawi." *World Development* 14 (4).

Gulhati, R. 1989. *Malawi: Promising Reforms, Bad Luck*. Economic Development Institute Development Policy Case Series. Analytical Case Studies No. 3. Washington, DC: World Bank.

Habicht, J. P. et al. 1974. "Height and Weight Standards for Preschool Children. How Relevant are Ethnic Differences in Growth Potential?" *Lancet*.

Harrigan, J. 1988. "Malawi: The Impact of Pricing Policy on Smallholder Agriculture 1971-1988." Paper presented at the Symposium on Agricultural Policies for Growth and Development, Mangochi, Malawi.

Hawksley, E., B. Kaluwa, and B. Kandoole. 1989. "The Impact of Economic Recovery Programmes on Smallholder Farmers and the Rural Poor in sub-Saharan Africa. Working Paper No. 5. Lilongwe: International Fund for Agricultural Development/Overseas Development Institute. Mimeographed.

Herrera, M. G. 1989. "Nutrition, Morbidity and Household Agro-Economic Characteristics, Malawi: A Case Study." A paper contributed to the policy workshop of the International Food Policy Research Institute (IFPRI) in cooperation with the Institute for Nutrition in Central America and Panama (INCAP) in Antigua, Guatemala.

International Fertilizer Development Center (IFDC). 1989. "Malawi Smallholder Fertilizer Marketing Survey." Prepared for Ministry of Agriculture, Government of Malawi. Muscle Shoals, Alabama: International Fertilizer Development Center.

International Fund for Agricultural Development (IFAD). 1986. "Malawi Rural Credit and Farm Club Development." IFAD Reconnaissance Mission Report. Rome: IFAD.

International Monetary Fund (IMF). 1989. "Malawi - Recent Economic Developments". Washington, DC: IMF.

———. 1988. *Malawi - Recent Economic Developments*. Washington DC: IMF.

———. Various years a. *International Financial Statistics*. Washington DC: IMF.

———. Various years b. *Government Finance Statistics Yearbook*. Washington DC: IMF.

International Wheat Council. Various years. *World Wheat Statistics*. London: IWC.

Kandoole, B. F. 1990. "Structural Adjustment in Malawi: Short-Run Gains and Long-Run Losses." Paper presented at a workshop on the effects of structural adjustment programme in Malawi, Club Makokola, Mangochi, Malawi.

Kandoole, B., B. Kaluwa, and S. Buccola. 1988. "Market Liberalization and Food Security in Malawi." In *Southern Africa: Food Security Policy Options*. Proceedings of the 3rd Annual Conference on Food Security Research in Southern Africa, November, 1-5, 1987. University of Zimbabwe. R. Mandivamba and R. H. Bernsten, eds. Harare: Department of Agricultural Econ ics and Extension.

Kandoole, B. F., S. J. Nankumba, G.G. Chipungnu, A.B. Jeremiah, and M J. Phiri. Undated. "ADMARC's Cost Structure." Lilongwe. Malawi Government/World Bank Study. Mimeographed.

Kingsbury, D. S. 1989. *An Analysis of Price and Non-Price Barriers to Agricultural Marketing and Trade in Southern Africa*. Reprint Paper AEE 1/89. Harare: Department of Agricultural Econ nics and Extension, University of Zimbabw

Kinsey, B. H. 1978. "Agricultural Pricing and Marketing of Smallholder Crops in Malawi: A Policy Review." Norwich: Overseas Development Group, University of East Anglia. Mimeographed.

Kirchner, J. W., and B. Kandoole. 1986. "The Effects of Fertilizer Subsidy Removal in Malawi: A Preliminary Analysis." Lilongwe: Paper commissioned by the World Bank/Malawi. Mimeographed.

Kirchner, J., I. Singh, and L. Squire. 1985. "Agricultural Pricing and

Marketing Policies in Malawi: A Multi-Market Analysis". CPD Discussion Paper. Washington, DC: World Bank.

Koester, U. 1986. *Regional Cooperation to Improve Food Security in Southern and Eastern African Countries*. Research Report 53. Washington, DC: International Food Policy Research Institute.

Krueger, A. O., M. Schiff, and A. Valdes. 1988. "Agricultural Incentives in Developing Countries: Measuring the Effect of Sectoral and Economywide Policies." *The World Bank Economic Review* 2 (3): 255-271.

Kydd, J. 1988. "Policy Reform and Adjustment in an Economy under Siege: Malawi 1980-87." *IDS Bulletin* 19 (1): 31-41.

Kydd, J., and A. Hewitt. 1986. "The Effectiveness of Structural Adjustment Lending: Initial Evidence from Malawi." *World Development* 14 (3): 347-365.

Kydd, J., and R. Christiansen. 1982. "Structural Change in Malawi since Independence: Consequences of a Development Strategy based on Large-Scale Agriculture." *World Development* 10 (5): 355-375.

Lele, U. 1988. "Structural Adjustment, Agricultural Development and the Poor: Some Lessons from the Malawian Experience." Paper presented at the Symposium on Agricultural Policies for Growth and Development. Mangochi, Malawi.

———. 1987. "Structural Adjustment, Agricultural Development and the Poor: Some Observations on Malawi." Washington, DC: World Bank. Mimeographed.

Lele, U., and M. Agarwal. 1989. *Smallholder and Large-Scale Agriculture in Africa: Are There Tradeoffs between Growth and Equity?* MADIA Discussion Paper 6. Washington, DC: World Bank.

Little, I., T. Scitovsky, and M. Scott. 1970. *Industry and Trade in Some Developing Countries: A Comparative Study*. London: Oxford University Press.

Louis Berger International. 1986. "Southern Africa Regional Transportation Strategy Evaluator: Data Base Update". Washington, DC: Prepared for USAID Southern Africa Region.

———. 1985. *Southern Africa Regional Transportation Strategy Paper:*

Final Report. Washington, DC: USAID Southern Africa Region (March).

Malawi Government. 1990. *Economic Report 1990*. Lilongwe: Office of the President and Cabinet, Department of Economic Planning and Development.

———. 1989a. *Economic Report 1989*. Lilongwe: Office of the President and Cabinet, Department of Economic Planning and Development.

———. 1989b. *Guide to Agricultural Production*. Lilongwe: Ministry of Agriculture.

———. 1988a. *Malawi Statistical Yearbook 1986*. Zomba: National Statistical Office.

———. 1988b. *Statement of Development Policies (DEVPOL)*. Lilongwe: Economic Planning Division.

———. 1988c. *Crop Industry Economic Studies*. Vol. 2. Lilongwe: Ministry of Agriculture.

———. 1987a. *Malawi Statistical Yearbook 1985*. Zomba: National Statistical Office.

———. 1987b. *Malawi Population and Housing Census 1987: Preliminary Report*. Zomba: National Statistical Office.

———. *National Sample Survey of Agriculture (NSSA)*. 1980/81. Zomba: National Statistical Office. (See Centre for Social Research.)

———. 1987c. "A Production Cost Survey of Smallholder Farmers in Malawi". Report No. 55. Lilongwe: Planning Division, Ministry of Agriculture.

———. 1985. *Economic Report 1985*. Lilongwe: Office of the President and Cabinet, Department of Economic Planning and Development.

———. 1984. *Family Formation Survey*. Zomba.

———. 1983. "Urban Household Expenditure Survey, 1979-80."

———. 1977. *Population Census 1977 Administrative Report*. Zomba: National Statistical Office.

———. 1971. *Statement of Development Policies (DEVPOL) 1971-1980*. Zomba: Economic Planning Division.

———. Various years a. Annual Agricultural Survey (ASA). Summary Tables (Computer printouts).

———. Various years b. *Annual Statement of External Trade. Zomba: National Statistical Office.*

———. Various years c. *Monthly Statistical Bulletin.* Zomba: National Statistical Office.

———. Various years d. *Public Sector Financial Statistics*. Lilongwe: Ministry of Finance.

———. Various years e. *Reported Employment and Earnings Annual Report*. Zomba: National Statistical Office.

———. Undated. Food Pricing Policies and Their Implications on Nutrition." Interministerial Symposium on Nutrition and Development for Principal Secretaries. Lilongwe: Ministry of Agriculture, Planning Division. Mimeographed.

Malawi Government/United States Agency for International Development. 1987. "New Directions for Promoting Small and Medium Scale Enterprises in Malawi: Constraints and Prospects for Growth." Lilongwe: Malawi/USAID Rural Enterprises and Agrobusiness Development Institutions (READI) Project.

Malawi Government UNICEF. 1987. *The Situation of Children and Women in Malawi.* Lilongwe: Malawi Government/UNICEF.

Mann, C. K., H. Mapondo, and J. Mhango. 1988. "Food Security Policy Including the Role of ADMARC in Price Stabilization." Paper presented at the Symposium on Agricultural Policies for Growth and Development. Mangochi. Processed.

Ministry of Education and Culture. See Malawi Government. 1990.

Mkandawire, R., S. Jaffee, and S. Bertoli. 1990. "Beyond 'Dualism': The Changing Face of the Leasehold Estate Sub-Sector of Malawi." Lilongwe: Bunda College and the Institute for Development Anthropology.

Mkandawire, R., and G. Chipande. 1988. "Smallholder Agricultural Development in Malawi: The Case for a Targeted Approach, With Special Reference to Cases from Selected Agricultural Development Division." Paper presented at the Malawi Symposium on Agricultural

Policies for Growth and Development. Mangochi, Malawi.

Mkandawire, R., and C. D. Phiri. 1987. "Land Policy Study: Assessment of Land Transfers from Smallholder to Estates." Lilongwe: Bunda College of Agriculture. Mimeographed.

Mkwezalamba, M. M. 1989. "The Impact of the Liberalisation of Smallholder Agricultural Produce Pricing and Marketing in Malawi". Zomba: Chancellor College.

Mosley, P. and L. Smith. 1989. "Structural Adjustment and Agricultural Performance in Sub-Saharan Africa 1980-87." *Journal of International Development* 1 (3): 321-355.

Mtawali K. M. 1989. "An Analysis of Characteristics of Households Facing Food Insecurity in Malawi." East Lansing, MI: Kellogg International Programme in Food Systems. Mimeographed.

Muir, K. 1982. "Agricultural Marketing and Price Policy in Malawi". Working Paper 5/82. Harare: Department of Land Management, University of Zimbabwe.

Nankumba, J. S. 1990. *A Case Study of Tenancy Arrangements on Private Burley Tobacco Estates in Malawi*. African Rural Social Science Series, Research Report No. 4. Morrilton, Arkansas: Winrock International Institute for Agricultural Development.

———. 1985. "Tenancy Arrangement and Rural Development in Malawi: A Study of Mitundu (Burley Tobacco) Estate." Paper presented to the National Workshop on Rural Development Projects and Agrarian Change in Malawi.

Nyanda, M. E. 1989. "The Labour Market in Malawi's Estate Sub-Sector." Zomba: Centre for Social Research.

Nyanda, M., and G. Shively. 1989. "Sources of and Factors Influencing the Incomes of Tenants on Agricultural Estates: The Case for Malawi." Washington, DC: Cornell Food and Nutrition Policy Program.

Peters, P. E., and M. G. Herrera. 1989. "Cash Cropping, Food Security and Nutrition: The Effects of Agricultural Commercialization Among Smallholders in Malawi". USAID/HIID Study. Cambridge, MA: Harvard Institute for International Development. Mimeographed.

Pinstrup-Andersen, P., M. Jaramillo, and I. Stewart. 1987. "Impact on

Government Expenditure." In *Adjustment with a Human Face.* G. A. Cornia, R. Jolly, and F. Stewart, eds. Oxford: Oxford University Press.

Pryor, F. L. 1988. *Income Distribution and Economic Development in Malawi: Some Historical Statistics.* Discussion Paper No. 36. Washington, DC: World Bank.

Quinn, V., M. Chiligo, and J. P. Gittinger. 1988. "Household Food and Nutritional Security in Malawi." Paper presented at Symposium on Agricultural Policies for Growth and Development.

Republic of South Africa. 1988. *Abstract of Agricultural Statistics.* Pretoria: Department of Agricultural Economics and Marketing.

Reserve Bank of Malawi. 1988. *Financial and Economic Review* 20 (4). Lilongwe: Rserve Bank of Malawi.

———. 1987. *Financial and Economic Review* 19 (2). Lilongwe: Reserve Bank of Malawi.

Robert R. Nathan Associates. 1987. "The Impact of the Fertilizer Subsidy Removal Program on Smallholder Agriculture in Malawi: Annexes." Washington, DC: Presented to Ministry of Agriculture, Malawi Government and United States Agency for International Development.

Roe, A. R., and M. Johnston. 1988. "Malawi: The Social Dimensions of Structural Adjustment - Background Paper". Mimeographed.

Sahn, D. E. 1990. *Fiscal and Exchange Rate Reforms in Africa: Considering the Impact Upon the Poor.* Cornell Food and Nutrition Policy Program Monograph 4. Ithaca, NY: CFNPP.

———. 1987. "Changes in the Living Standards of the Poor in Sri Lanka during a Period of Macroeconomic Restructuring." *World Development* 15 (6): 809-830.

Sahn, D. E., and C. Delgado. 1989. "The Nature and Implications for Market Interventions of Seasonal Food Price Variability." In *Seasonal Variability in Third World Agriculture: The Consequences for Food Security.* David E. Sahn, ed. Baltimore: Johns Hopkins University Press.

Sahn, D. E., and G. Shively. 1990. "Determinants of Household Welfare and Agricultural Production in Southern Malawi." Washington, DC:

Cornell Food and Nutrition Policy Program. Draft.

Sarris, A. 1990. *A Macro-Micro Framework for Analysis of the Impact of Structural Adjustment on the Poor in Sub-Saharan Africa*. Cornell Food and Nutrition Policy Program. Monograph 5. Ithaca, NY: CFNPP.

Scandizzo, P. L., and C. Bruce. 1980. *Methodologies for Measuring Agricultural Price Intervention Effects*. Staff Working Paper 394. Washington DC: World Bank.

Scobie, G. M. 1989. *Macroeconomic Adjustment and the Poor: Towards a Research Strategy*. Cornell Food and Nutrition Policy Program. Monograph 1. Ithaca, NY: CFNPP.

Stobbs, A. R., and J. N. R. Jeffers. 1985. *Land Use Survey of Malawi, 1965-67*. London: LRDC.

Timmer, C. P. 1986. *Getting Prices Right: The Scope and the Limits of Agricultural Price Policy*. Ithaca, NY: Cornell University Press.

Timmer, C. P., Walter P. Falcon, and S. R. Pearson. 1983. *Food Policy Analysis*. Baltimore, MD: Johns Hopkins University Press.

UNICEF. 1986. "Malnutrition Among Smallholder Farmers in Malawi: Situation Analysis." Lilongwe: Mimeographed.

United States Department of Agriculture. 1988a. *World Tea Situation*. Washington DC: USDA.

United States Department of Agriculture. 1988b. *World Tobacco Situation*. Washington DC: USDA.

United States General Accounting Office. 1988. *Sub-Saharan Africa: Factors Affecting Export Capabilities*. Report to the Chairman, Subcommittee on Africa, Committee on Foreign Affairs, House of Representatives.

Vaughan, M., and G. H. R. Chipande. 1986. "Women in Estate Sector of Malawi: The Tea and Tobacco Industries". World Employment Programme Research Working Paper. Geneva: ILO.

World Bank. 1989a. "Malawi Public Expenditure Review". Washington, DC: World Bank. Draft.

———. 1989b. "Malawi Country Economic Memorandum: Growth Through Poverty Reduction". Washington, DC: World Bank. Draft.

———. 1988a. "Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit in an Amount Equivalent to US$ 70 Million to the Republic of Malawi for an Industrial and Trade Policy Adjustment Program," May 25. Washington, DC: World Bank.

———. 1988b. *Commodity Trade and Price Trends, 1987/88 Edition.* Washington DC: World Bank.

———. 1988c. "Human Resources Development in Malawi: Issues for Consideration: Labor and Employment." Washington, DC: World Bank. Mimeographed.

———. 1988d. *Country Briefs*. Washington DC: World Bank.

———. 1988e. *World Development Report - 1988.* Washington DC: World Bank.

———. 1988f. "Malawi - Policy Framework Paper, 1988/89 - 1990/91." Washington, DC: World Bank. Mimeographed.

———. 1988g. "Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Industrial and Trade-Policy Adjustment Credit in an Amount Equivalent to US$ 85 million to the Government of Malawi." Washington, DC: The World Bank.

———. 1987a. "Malawi: Land Policy Study". Washington, DC: World Bank. Draft.

———. 1987b. *Zimbabwe: A Strategy for Sustained Growth.* Washington, DC: World Bank.

———. 1986a. *Malawi Population Sector Review.* Washington, DC: World Bank.

———. 1986b. *World Development Report 1986.* New York: Oxford University Press.

———. 1986c. "Improving Agricultural Marketing and Food Security Policies and Organization - A Reform Proposal." Washington, DC: World Bank. Draft.

———. 1985a. *Malawi Economic Recovery: Resource and Policy Needs - An Economic Memorandum.* Washington, DC: World Bank.

———. 1985b. "Report and Recommendation of the President of the International Bank for Reconstruction and Development to the Executive Directors on a Proposed Credit of SDR 28 Million and a Proposed African Facility Credit of SDR 37.4 Million to the Government of Malawi for a Third Structural Adjustment Operation," November 25. Washington DC: World Bank.

———. 1983a. "Report and Recommendation of the President of the International Bank for Reconstruction and Development to the President of the International Development Association on a Proposed Credit of SDR 51.9 Million to the Republic of Malawi for a Second Structural Adjustment Project," November 29. Washington DC: World Bank.

———. 1983b. *Accelerated Development in Sub-Saharan Africa: An Agenda for Action*. 3rd Printing. Washington DC: World Bank.

———. 1982. *Malawi Growth and Structural Change: A Basic Economic Report - Statistical Appendix*. Washington DC: World Bank.

———. 1981. "Report and Recommendation of the President of the International Bank for Reconstruction and Development to the Executive Directors on a Structural Adjustment Loan to the Republic of Malawi." Washington DC: World Bank.

———. Various years a. *Commodity Price Data, 1980-1990*. Washington DC: Commodity Studies and Projections Division, World Bank.

———. Various years b. *Social Indicators*. Washington DC: World Bank.

———. Various years c. *World Debt Tables*. Washington DC: World Bank.

World Bank and United Nations Development Programme. 1989. *Africa's Adjustment and Growth in the 1980s*. Washington DC: World Bank.

World Health Organization. 1983. *Measuring Change in Nutritional Status*. Geneva: WHO.

Zulu, J. B., and S. M. Nsouli. 1985. *Adjustment Programs in Africa: The Recent Experience*. Occasional Papers 34. Washington, DC: IMF.